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NOTE TO THE FILE

Subject: Standard of living and economic growth in rural areas and their main determinants by type of regions

ABSTRACT

This note provides a comparative analysis of the economic conditions of rural areas in the EU, of their evolution over recent years and of their main determinants. It is part of the Directorate General for Agriculture and Rural Development analytical framework for taking stock of the socio-economic conditions of EU rural areas, in preparation of the Rural Development Policy post-2013.

The analysis reveals a striking heterogeneity of economic conditions in the rural areas of different Member States and groups of Member States. Overall, rural areas show a lower degree of economic development in comparison to urban areas.

The income per capita of the inhabitants of rural regions in the different Member States is generally well below their respective national averages. This is particularly evident in the New Member States, where the income per capita of the vast majority of rural areas is lower than 50% of the EU average.

Different patterns of economic development are observed in different rural regions. Over the last years, the rate of economic growth in rural regions has been in many cases lower than in other types of regions. This has led to an increased disparity between rural regions and other regions, especially in the New Member States.

Labour productivity appears as the main determinant to the economic growth of rural areas, and has driven the economic development of the most dynamic regions over recent years.

EXECUTIVE SUMMARY

GDP per capita (GDP pc in the rest of the document) in Predominantly Rural (PR) regions reached 69% of the EU-27 average GDP pc, this ratio has remained stable over the period "1999"- "2005"¹. Despite having grown faster than the average, GDP pc in PR regions of EU-12 makes up for just 38% of the EU-27 figure. In contrast, GDP pc in PR regions of EU-15 reaches 89% of the EU-27 average, approximately the same ratio as in "1999".

GDP pc in Intermediate Regions (IR) represents 84% of the EU-27 average. In EU-12, it is close to 50%, having grown at a higher rate than the EU-27 average during the reference period. In EU-15 GDP pc represents 97% of the EU-27 average, 3 percentage points lower than in "1999".

Predominantly Urban (PU) regions present the highest GDP pc, around 125% of the EU-27 average. PU regions in EU-12 grew faster than the EU-27 average and its GDP pc represents 90% of the EU-27 average, whereas in "1999" this was 75%. The relative GDP pc in PU regions of EU-15 is around 130% of the EU-27 average.

GDP pc of PR regions is below the national average in all Member States. Belgium, Estonia, Latvia and Lithuania present the highest differences, whereas Sweden, Czech Republic, Slovenia and Finland present smaller differences. Despite the fact that rural regions are growing, this increment is in many cases insufficient to catch up with the richest regions.

95 million people, i.e. 19% of the EU population, live in PR regions. The rate of rural population is higher in EU-12 than in EU-15 (37% versus 14%, 37 millions and 57 millions respectively). 85% of the PR population in EU-12 live in regions whose GDP pc accounts for less than 50% of the EU average. 70% of the PR population of EU-15 live in regions whose GDP pc ranges from 70% to 110% of the EU-27 average.

180 million people, i.e. 36% of the population of the EU, live in IR. The figure for EU-12 is 49 million (almost 50% of its population), whereas in EU-15 it reaches 131 million (33% of its population). 90% of EU-12 population in IR lives in a region whose GDP pc ranges from 20% to 70% of the EU-27 average and in EU-15 an equal ratio of population lives in regions whose GDP pc ranges from 60% to 120% of the EU-27 average.

220 million people or 45% of the EU population live in PU areas. 92% of them, more than 200 million, belong to EU-15.

¹ All the results presented in this note refer to the average of 3 years (e.g. the data of 1999 is the average of 1998, 1999 and 2000, whereas 2005 refer to 2004, 2005 and 2006).

To analyse which factors have the stronger positive or negative influence on the GDP pc development between "1999" and "2005", especially in rural areas, GDP pc of the EU regions has been decomposed into three different components²:

- GDP per employee: labour productivity.
- Employment rate: the number of employed persons as a share of the active population³
- Activity rate: the active population as a share of the total population⁴.

The main contributor to GDP pc growth in PR regions is labour productivity. The joint result of the other two components of the formula, -employment over active population and active population over total population-, is almost neutral; the negative contribution of the employment rate is equivalent to the positive effect of the activity rate.

The contribution of labour productivity to growth in GDP pc is slightly lower in IR regions than in PR regions. The increase in the employment rate had a negative effect on growth, whereas the increment in the activity rate had a positive impact on the growth of IR regions.

Labour productivity is the largest contributor to the growth in GDP pc of PU areas (around the same level as for PR regions). The evolution of the employment rate had a negative impact on the growth of urban areas. The activity rate increased over the last years and contributed positively to growth.

A direct and positive relationship between GDP pc and labour productivity becomes visible when plotting both series in a graph. This high level of correlation is more evident when shown by type of region (PR, IR, and PU). After comparing the functions adjusting to the plotting of GDP pc and labour productivity in PR and PU, it is shown that for the same level of labour productivity there is on average a difference of 6 000 PPS between the GDP pc in PR and PU regions. Moreover, this differential in GDP pc between both types of regions tends to be higher as the level of labour productivity increases.

There is also a direct and positive relationship between the growth in GDP pc and growth in labour productivity. For relative low levels of growth, as it is the case in EU-15 regions, GDP pc and labour productivity grow faster in PR regions than in PU areas. However, as the rates of growth in GDP pc and labour productivity increase, urban regions tend to grow at a higher pace than PR regions, as it is the case in EU-12.

PR and IR areas have lower employment rates than PU regions. However, the difference with urban areas has slightly decreased over the last years.

The activity rate –active over total population- in PR and IR regions is lower than, and growing more slowly than that in PU areas.

² Due to availability of data, the results of the decomposition of GDP pc growth refer to NUTS-2 regions. At this level, the identification of rural areas is rougher and differs from the definition of rural areas at NUTS-3 level (see maps in the Annexes).

³ This ratio is not the "usual" employment rate which is calculated as a percentage of the total population from 15 to 64 years old and not as a percentage of the active population.

⁴ This ratio differs from the "usual" activity rate which is presented as a percentage of population from 15 to 64 years old.

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List of acronyms and abbreviations

| | |
|-------|--|
| EU-27 | European Union after the enlargement on 1 January 2007 |
| EU-25 | European Union after the enlargement on 1 May 2004 |
| EU-12 | All Member States that have joined the EU since 1 May 2004 |
| EU-15 | Member States of the European Union before 1 May 2004 |
| GDP | Gross Domestic Product |
| IR | Intermediate regions |
| NUTS | Nomenclature of Territorial Units for Statistics |
| OECD | Organisation for Economic Co-operation and Development |
| PR | Predominantly Rural regions |
| PU | Predominantly Urban regions |
| PPS | Purchasing Power Standard |

1. INTRODUCTION

1.1. Purpose of the note

The "Europe 2020 strategy for smart, sustainable and inclusive growth" sets the enhancement of a high-employment economy delivering social and territorial cohesion as one of the main future priorities of the Community. In this context, this note provides a comparative analysis of the distribution and evolution of the Gross Domestic Product (GDP) per capita (pc) at regional level. A study of the distribution of the population by ranges of relative income and its evolution over the last years is also presented, together with an analysis of the main determinants of economic development by types of regions.

This paper is part of the Directorate General for Agriculture and Rural Development analytical framework for taking stock of the socio-economic conditions of EU rural areas, in preparation of the Rural Development Policy post-2013.

1.2. Data sources, definitions and data limitations

EU regions are classified into PR (predominantly rural), IR (intermediate regions) and PU (predominantly urban) following the OECD method of classification⁵ (see Box 1.1 and Maps 1 and 2 in Annex 1). Although the results of applying this methodology are generally considered as imperfectly reflecting the rural character of areas, particularly in densely populated regions, they allow a provisional analysis of the designation of regions.

The OECD method is applied at the level of NUTS-3 regions when data is available at this level of disaggregation. The application of the OECD method at the level of NUTS-2 regions leads to less accurate results: due to the aggregation at a higher geographical level, the population and territory in IR tend to be over-estimated, at the expense of PR and PU regions.

The series of GDP and employment were obtained from the Economic Accounts. Data on population and active population are derived from the Regional accounts and Labour Force Surveys (LFS), respectively. All these series are managed and made available by Eurostat.

Data series on GDP are provided in Purchasing Power Standard (PPS). The conversion of aggregated monetary values at Member States level into PPS is the result of a statistical method for deflating these monetary values, thus making them fully comparable.

The employment series cover all persons – both employees and self-employed – in a specific region. Active persons are those aged 15-64 who are either employed or unemployed. Employed people are those aged 15-64 who worked at least one hour during the reference week or who were temporarily absent from such work.

⁵ DG AGRI, Eurostat, the Joint Research Centre (JRC) and DG REGIO are finalising a new method for classifying regions according to their degree of rurality. However, the results of this new method were not available when drafting this note.

2. ANALYSIS OF THE GDP PC AT COUNTRY LEVEL AND BY TYPE OF REGION

2.1. Overall context

Methodological note, graph 1:

Graph 1 shows the relative GDP pc in the different types of regions with respect to the EU-27 average (all regions included), which is taken as a benchmark (EU-27 average = 100). The two reference periods considered in the graph correspond to an average of three years around the reference year (e.g. GDP pc in "2005" corresponds to the average of GDP pc over the period 2004-2006).

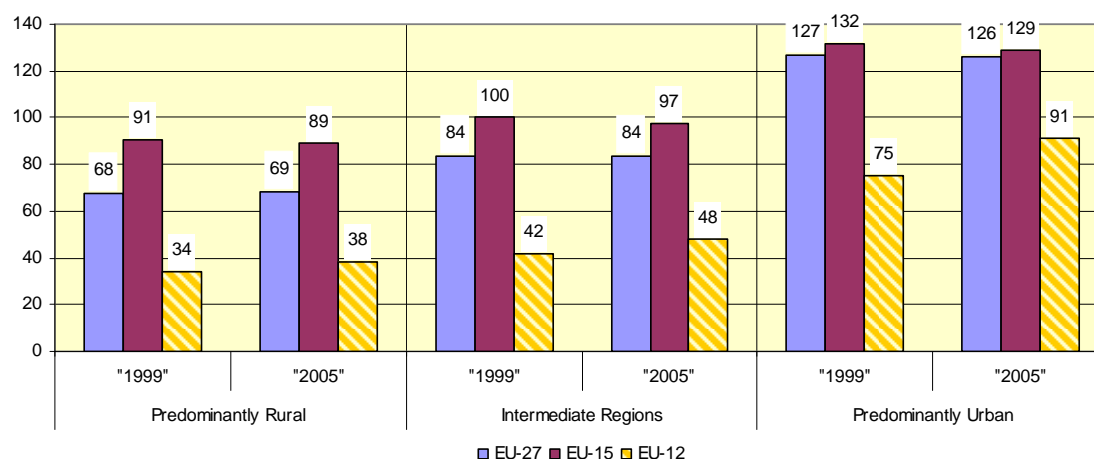
Figures are provided at NUTS 2 level for Bulgaria. Data for Denmark is not available.

(Graph 1) The higher the degree of rurality, the lower is the GDP pc in both EU-15 and EU-12. In "2005", the GDP pc in EU-27 PR regions accounted for only 69% of the EU average, 15 percentage points lower than in IR, and hardly reached half of the GDP pc of PU regions.

The economic gap between urban and rural areas is higher in EU-12 than in EU-15. In "2005", the GDP pc in PU areas of New Member States was twice as high as in IR regions and was about three times higher than that of PR regions.

In the period "1999"- "2005", GDP pc in both PR and IR regions of EU-12 grew less than in PU areas, implying that the economic gap between rural and urban areas has increased. In EU-15, in contrast, PR, IR and PU regions show similar rates of GDP pc growth, a fact which keeps the gap between different types of regions relatively unchanged.

Graph 1: Relative GDP per capita in PPS by type of region

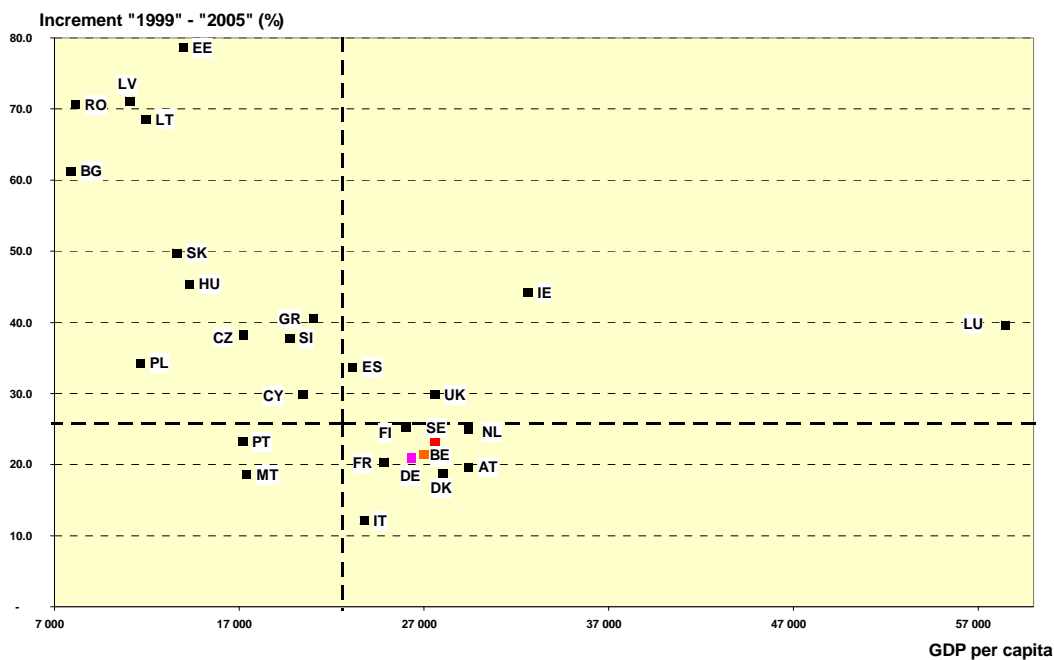


2.2 GDP pc in PPS at national level

(Graph 2): There are wide differences in GDP pc and its evolution among Member States. For instance, GDP pc in Luxembourg is more than six times higher than in Romania and Bulgaria, whereas the rate of change "1999"- "2005" oscillated between 72% in Latvia and hardly 12% in Italy⁶. According to these two indicators and using the average of the whole Union as a benchmark, EU countries can be split into four groups. First, countries whose GDP pc and its percentage of change are above the EU-27 average. Only 4 countries (Spain, UK, Ireland and Luxembourg) fall into this category. Portugal and Malta show an opposite situation, with levels of GDP pc and rates of growth below the EU average. Almost all EU-12, with the only exception of Malta and including Greece, present relatively low levels of GDP pc, but rates of change which are higher than the EU average. The remaining countries from EU-15 present relatively high levels of GDP pc, but rates of growth below the EU average.

Some differences stand out when comparing groups of countries. EU-15 countries tend to be more homogeneous than EU-12 countries. With the exception of Italy, their GDP pc range between 25.000-29.000 PPS and the rate of growth between 20% and 30%. By contrast, EU-12 countries show a great variation in terms of GDP pc and, even more, in their rates of growth.

Graph 2: National GDP per capita in PPS, "2005" and growth "1999"- "2005"



⁶ The results refer to an average of 3 years (e.g. the data of 1999 is the average of 1998, 1999 and 2000).

2.3. GDP pc and growth relative to the EU average at national level and by type of region

Methodological note, graphs 3 to 6:

The graphs below show the GDP pc at national level and by type of region relative to the EU average (all regions included) in "2005" (abscissas axe) and "1999" (ordinate axe). "1999" and "2005" represent an average of three years around the referenced year (e.g. GDP pc in "2005" corresponds to the average of GDP pc over the period 2004-2006). Both axes are divided in ranges of 10% and the same scale is kept in all graphs for allowing comparison.

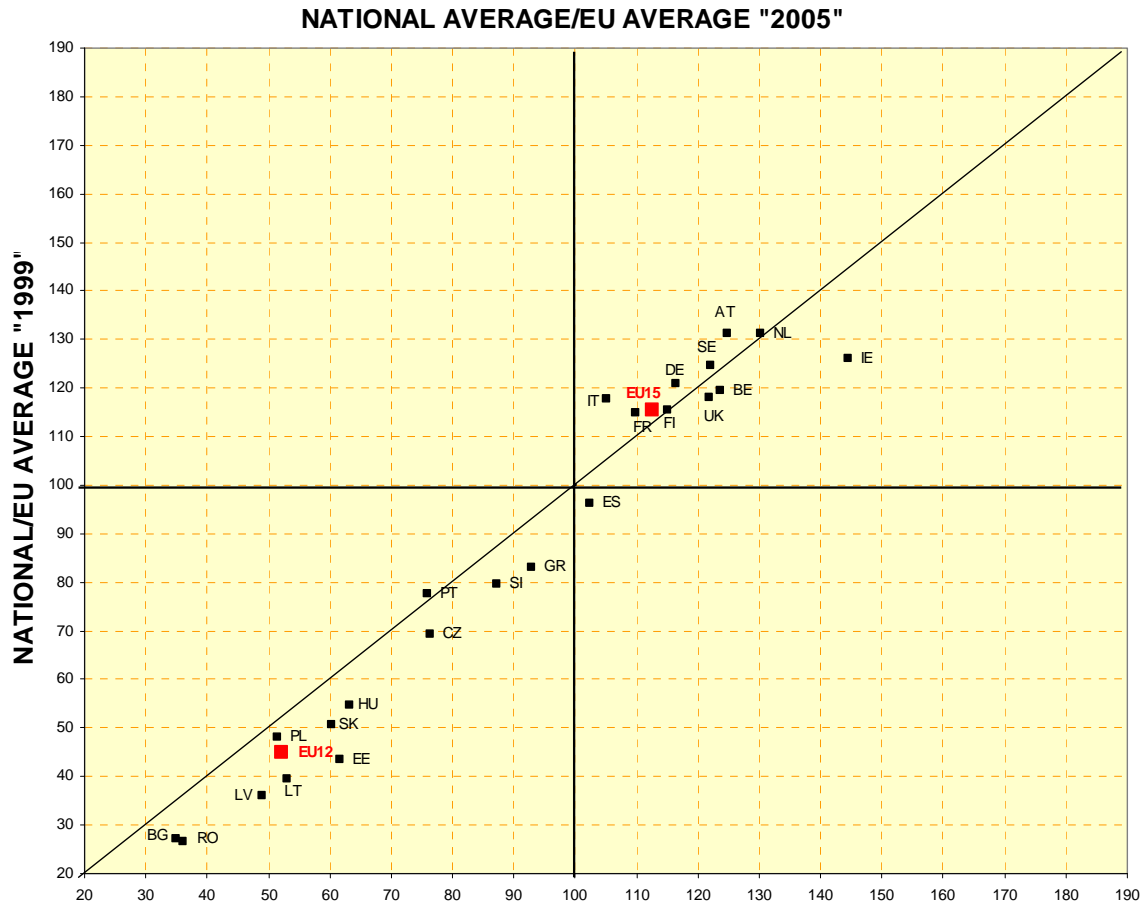
A country experienced a relative improvement with respect to the EU average when it is located on the right hand side of the diagonal.

2.3.1. GDP pc and growth relative to the EU average at country level

(Graph 3): The GDP pc in EU-12 as a whole increased from 45% of the EU average in "1999" to 52% in "2005". Many countries contributed to this increment, in particular those showing the lowest absolute values, namely Latvia, Romania, Lithuania and Bulgaria. Lithuania and Estonia show particularly high levels of growth, with an increment of more than 10 percentage points in both cases over the reference period.

Overall, EU-15 shows a limited variation of the GDP pc in the reference period, implying that its relative position with respect to the EU average remains stable. As for the two countries with the lowest level of income, Portugal and Greece, the former keeps its relative position whereas the latter gets closer to the EU average. Spain and especially Ireland are the countries that have improved their relative position most strongly. None of the remaining countries see remarkable relative improvements; on the contrary, Belgium, Germany, France, Austria and especially Italy grew at lower rates than the EU average, which provoked a fall in their relative GDP pc to the EU average.

Graph 3: GDP per capita relative to the EU average (EU-27=100) "1999" (vertical axe) and "2005" (horizontal axe) at national level



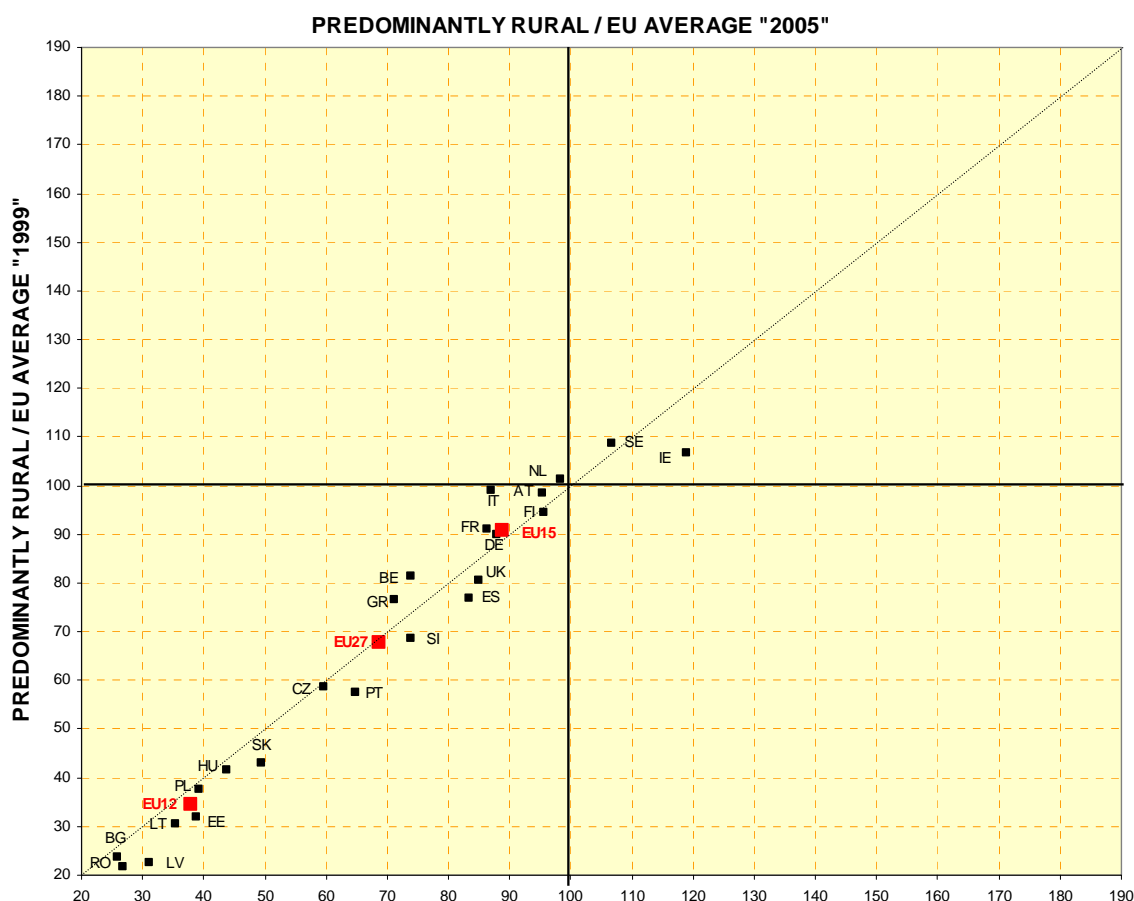
2.3.2. GDP pc and growth relative to the EU average in Predominantly Rural regions

(Graph 4) Overall, the GDP pc in PR regions represents 69% of the EU-27 average and this figure has not changed over the last years. Only PR areas of Ireland and Sweden present a GDP pc higher than the EU average and only the former has improved its relative position.

GDP pc in PR regions of EU-12 accounts for 38% of EU-27 average, despite the 4 percentage point rise during the reference period. Bulgaria, Romania, Latvia and Lithuania present the lowest GDP pc, though their rates of growth are well above the average rate of growth of the EU. PR regions in the other Member States of EU-12, with the only exception of the Czech Republic, performed worse despite having all improved their relative position to the EU average

The GDP pc in PR regions of EU-15 has grown, but at a slower pace than the EU-27 average. Besides Ireland, only Spain, Portugal, Finland and the UK have improved their relative position, while the remaining countries, especially Italy and Belgium, have stepped back.

Graph 4: GDP per capita relative to the EU average (EU-27=100) "1999" (vertical axe) and "2005" (horizontal axe) in PR regions



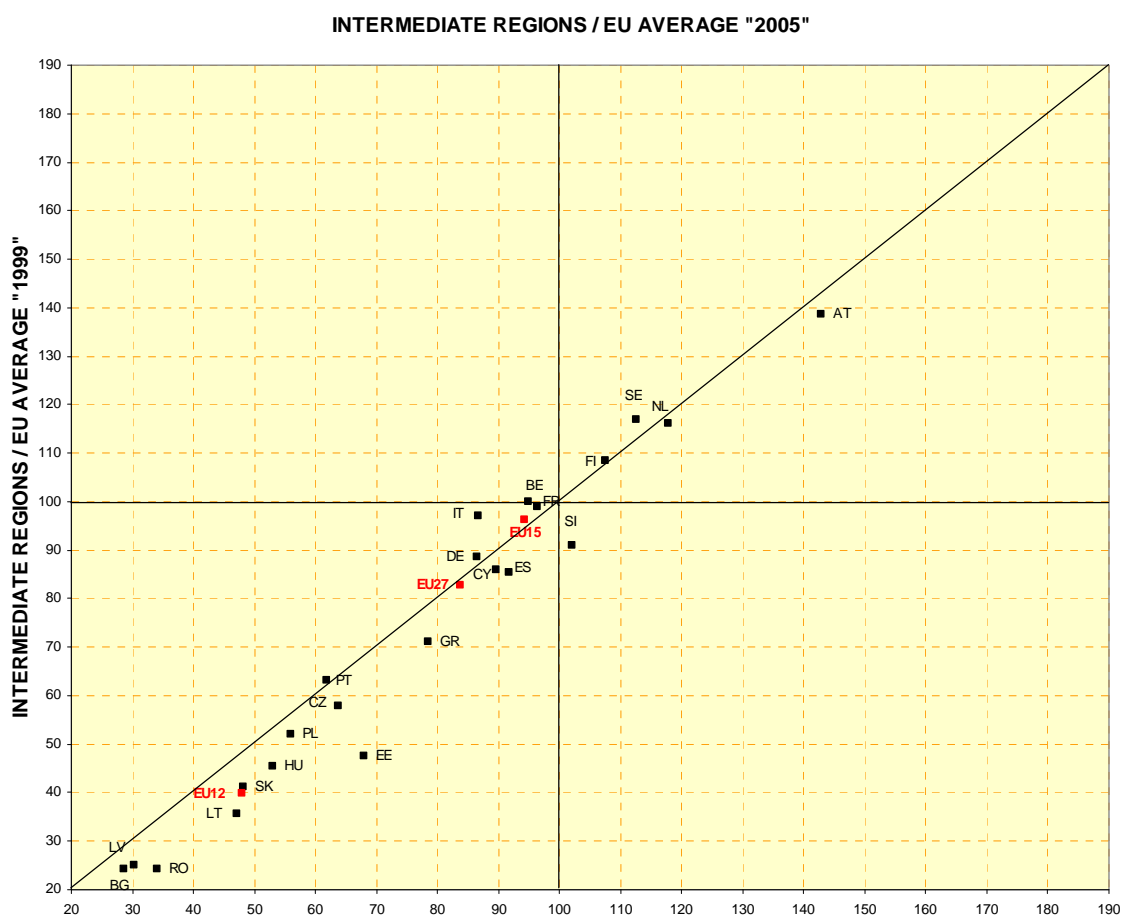
2.3.3. GDP pc and growth relative to the EU average in Intermediate Regions

(Graph 5) The GDP pc of IR represents 84% of the EU-27 average. This percentage is 17 points higher than the one of PR regions, and has remained stable over the last years.

The GDP pc in IR of EU-12 is close to 50% of the EU-27 average. It has grown well over the EU-27 average, leading to an overall increase of 6 percentage points. All the countries of EU-12 are located on the right hand side of the diagonal; the relative improvement has been particularly high in Estonia, Latvia, and Slovenia, and smaller in Poland.

GDP pc in IR of EU-15 represents 97% of the EU-27 average, 3 percentage points lower than the one at the beginning of the reference period. The biggest relative fall took place in Italy and Belgium, whereas Spain presented the highest increment. The number of countries whose GDP pc in IR regions exceeds the EU average is higher than in PR regions: Finland, Sweden, The Netherlands and, by far, Austria.

Graph 5: GDP per capita relative to the EU average (EU-27=100) "1999" (vertical axe) and "2005" (horizontal axe) in Intermediate Regions



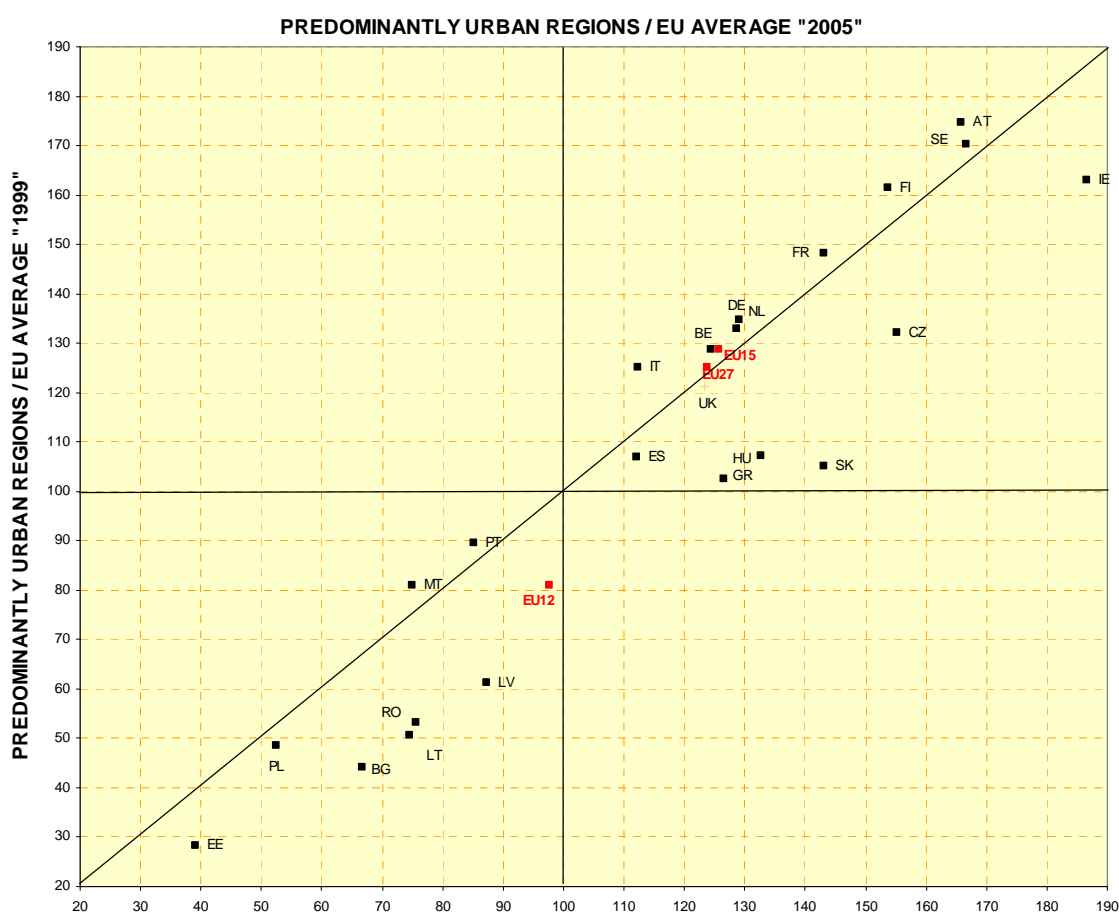
2.3.4. GDP pc and growth relative to the EU average in Predominantly Urban regions

(Graph 6) PU regions of EU-27 present the highest level of GDP pc, around 125% of the EU-27 average. Their rate of growth in the reference period has been equivalent to the average one of EU-27 (all regions included).

The relative position of PU regions in EU-12 improved from 70% of the EU average in "1999" to 90% in "2005", ranging from 40% in Estonia to 155% in Czech Republic. As for the relative growth, the most important changes took place in Slovakia, moving from 108% to 141% of the EU average, Hungary, from 104% to 130%, and Romania, moving from 50% to almost 80%.

By contrast, the relative GDP pc in PU areas of the EU-15 slightly fell, from 133% of the EU average in "1999" to 130% in "2005". Only United Kingdom, Spain and in particular Ireland improved their relative position. In the remaining EU-15 countries the relative GDP pc stepped back, especially in Austria and Italy (-15 and -13 percentage points respectively).

Graph 6: GDP per capita relative to the EU average (EU-27=100) "1999" (vertical axe) and "2005" (horizontal axe) in Predominantly Urban regions



2.4. Conclusions

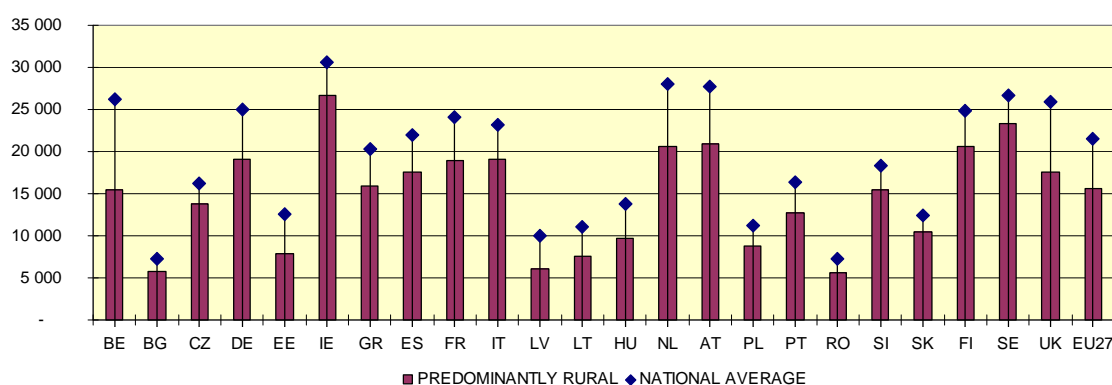
- The GDP pc in PR regions of EU-27 is less than 70% of the EU average (all regions considered), with important variations among MS.
- Over the reference period ("1999"- "2005"), the GDP pc in PR regions of EU-27 stay approximately in the same relative position regarding the EU average as a result of the positive evolution of EU-12 and the small backward step of EU-15.
- The GDP pc relative to the EU average has improved in PR regions of EU-12, but this rate of growth is lower than in IR and PU regions. Consequently PR areas of EU-12 are slightly converging with the EU average, but the differences between types of regions within EU-12 countries tend to increase.
- The rate of growth in PR regions from EU-15 was below the EU-27 average but higher than in urban areas. Therefore, rural areas from EU-15 are closer to their respective national average but relatively further from the EU-27 figure average.

3. ANALYSIS OF GDP PC WITHIN COUNTRIES

3.1. PR regions versus national average

(Graph 7): GDP pc in PR regions is below the national average in all the countries of EU-27. PR regions of Belgium, Estonia, Latvia and Lithuania present the highest difference with the respective national average, more than 35%, whereas in Sweden, Czech Republic, Slovenia and Finland this difference is close to 15%. As for the evolution over the last years, GDP pc in PR relative to the national average increased over the period "1999"- "2005" in 7 countries (Czech Republic, Germany, Spain, Austria, Portugal, Finland, Sweden) and fell in the remaining countries (mostly EU-12 plus Belgium, Ireland, Greece, France and Italy).

Graph 7: National and rural average GDP pc in PPP(*)"2005"



(*) Data at NUTS 2 level for BG

Only those regions classified as PR according to the OECD definition are included

3.2. PR regions plus IR versus national average

This picture changes when considering the GDP pc in PR regions and IR together, which makes up for 80% of the EU average, compared to 68% of PR regions. In some Member States (Spain, The Netherlands, Austria, Sweden) this value is close to 90% of the respective national average, whereas in Latvia and Belgium it does not exceed 65%. Over the last years, the rate of growth of the GDP pc in PR regions and IR as a whole has been higher than the respective national averages in Estonia, Slovenia, Germany, Spain, The Netherlands, Austria, Portugal, Finland and Sweden.

3.3. Conclusions

(Table 1)

- Only in Czech Republic and Spain the rate of growth of GDP pc in PR regions has been higher than both the national and EU-27 average rates of growth during the reference period.
- The GDP pc has grown faster than the EU average, but at a slower pace with respect to the national average in PR of most of the EU-12 countries.
- An opposite situation applies for some EU-15 countries where GDP pc in PR regions has become closer to the respective national averages, but it has grown at a lower pace than the EU-27 average (Germany, Austria, Portugal, Finland and Sweden).
- PR of Belgium, Greece, France, Italy, The Netherlands and UK have grown below the EU-27 and the respective national average.

Table 1: Rates of growth in PR regions with respect to national and EU rates of growth ("1999"- "2005")

| | | PR REGIONS | |
|------------------------------|-------|----------------------------------|----------------|
| | | National rate of growth | |
| | | below | over |
| EU-27 average rate of growth | over | BG EE IE LT LV HU PL RO SI SK | CZ ES |
| | below | BE GR FR IT NL UK | DE AT PT FI SE |

(Table 2)

- The rate of growth of the GDP pc in PR regions and IR considered together has been higher than both the national and EU average rates of growth in 6 countries (Estonia, Spain, The Netherlands, Portugal, Slovenia and Finland), during the reference period.
- The GDP pc in PR regions and IR of most EU-12 countries, Ireland and UK have grown at a slower pace than in PU regions, but faster than the EU average.
- In PR regions and IR of Belgium, Greece, France and Italy the rate of growth has been lower than both the national and EU-27 average rate of growth.
- The GDP pc in PR regions and IR of Germany, Austria and Sweden has become closer to the one of PU regions, although its rate of growth has been lower than the EU average.

Table 2: Rates of growth in PR regions plus IR with respect to national and EU rates of growth ("1999"- "2005")

| | | PR + IR REGIONS | |
|------------------------------|-------|----------------------------------|-------------------|
| | | National rate of growth | |
| | | below | over |
| EU-27 average rate of growth | over | BG CZ IE LV LT HU PL RO SK UK | EE ES NL PT SI FI |
| | below | BE GR FR IT | DE AT SE |

4. DISTRIBUTION OF EU POPULATION BY INTERVALS OF RELATIVE GDP PC

The total population in Europe reached 495 millions in 2005, of which around 95 millions in PR areas and 180 millions in IR. Therefore, approximately 275 million people, or 56% of the total population, live in PR regions and IR considered together (+2.7% with respect to 1999, IR regions being the largest contributor to this change). Urban population reached around 220 millions in 2005, 4,3% higher than in 1999.

Methodological note, graphs 10-17:

In the graphs which follow, NUTS-3 regions⁷ are classified according to their GDP pc relative to the EU average (all regions included), which is taken as benchmark (EU-27 average = 100), by intervals of 10 percentage points (abscissa axis). The population for each of these intervals is then considered as a percentage of the total EU population (ordinates axis). This information is provided by type of region –PR, IR and PU–distinguishing between EU-15 and EU-12.

The use of histograms for presenting the distribution of population by intervals of GDP pc has the advantage of easing the appreciation of the differences in GDP pc between types of regions, as well as of the intervals in which most of the population accumulates. However, this is an approximation of the real distribution of GDP pc throughout the population, since data on income level within regions is not available.

The graphs include the population of those regions for which the GDP pc is below 280% of the EU average. Therefore, a minimal percentage of population, all of it belonging to PU regions, has been excluded.

⁷ NUTS-2 in the case of Bulgaria.

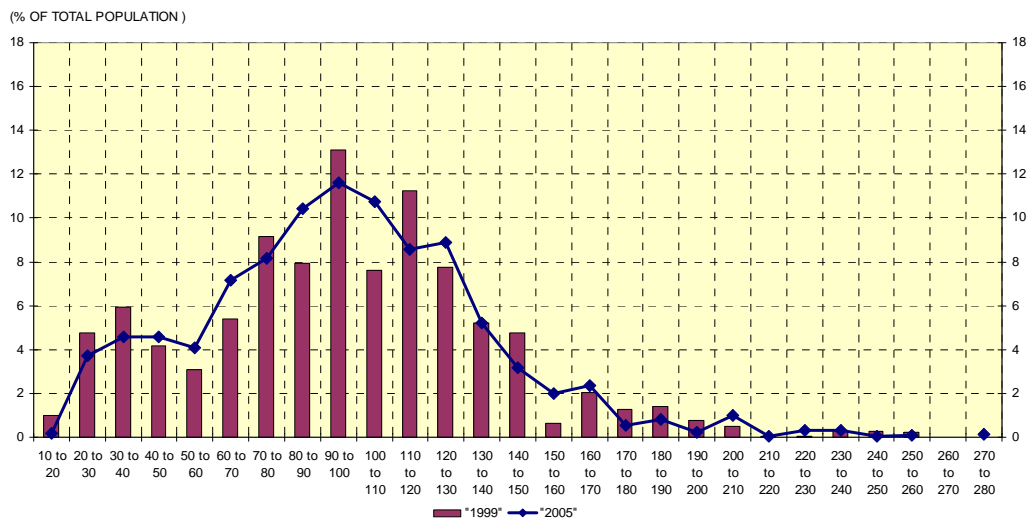
4.1. At national level

(Graphs 10-11) The curve of total population presents two different "bells" with a transition phase between them, approximately at the interval 50-60% of the EU average GDP pc. The first bell on the left mainly corresponds to the distribution of population in EU-12, whereas most of population around the second bell belongs to EU-15 regions (Graph 11).

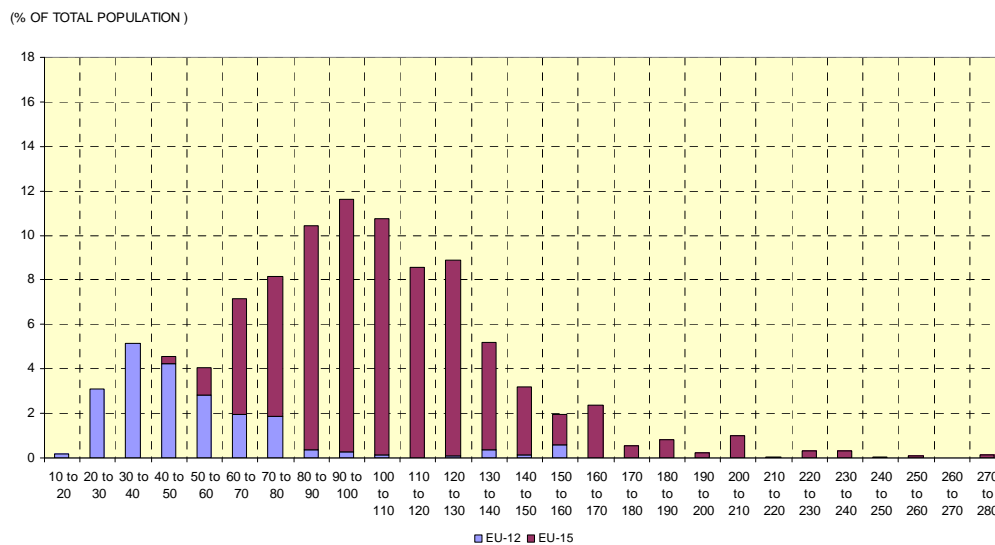
The steps showing the highest percentage of population are 30%-40% for EU-12 and 90-100% for EU-15. The unitary GDP of approximately 50% of EU-15 population ranges from 80% to 130% of the EU average. 60% of the EU-12 population presents an income which ranges from 20% to 50% of the EU average.

Over the last years, the two bells have become flatter, which mainly indicates that the percentage of the central intervals has decreased whereas the bars around the central points have increased.

Graph 10: EU population by intervals of GDP pc as a % of EU average - "1999" and "2005"



Graph 11: EU population by intervals of GDP pc as a % of EU average – EU-15 and EU-12 in "2005"



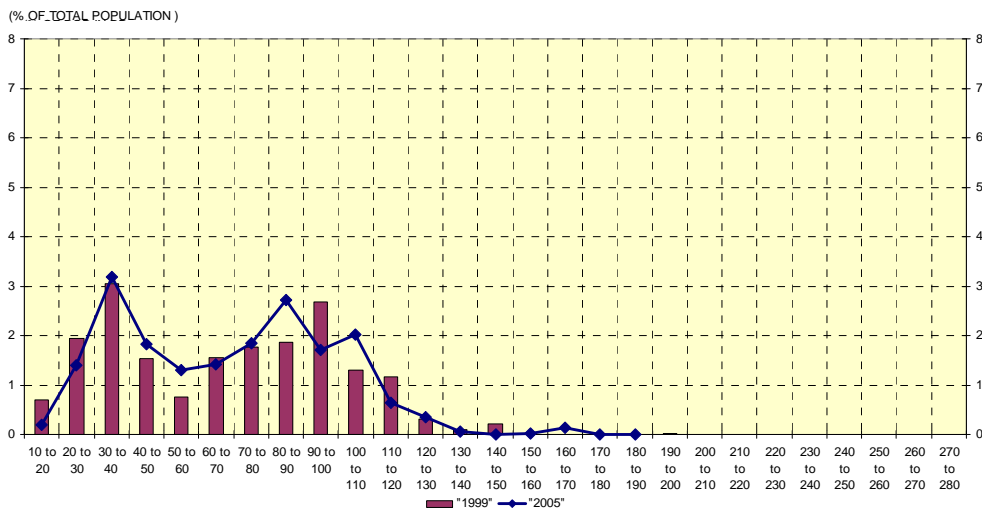
4.2. Predominantly Rural regions

(Graphs 12-13) A total of 95 million people, or 19% of the total population of the EU, live in PR areas, this percentage being relatively higher in EU-12 than in EU-15 (37 millions and 57 millions or 37% and 14% of their respective totals).

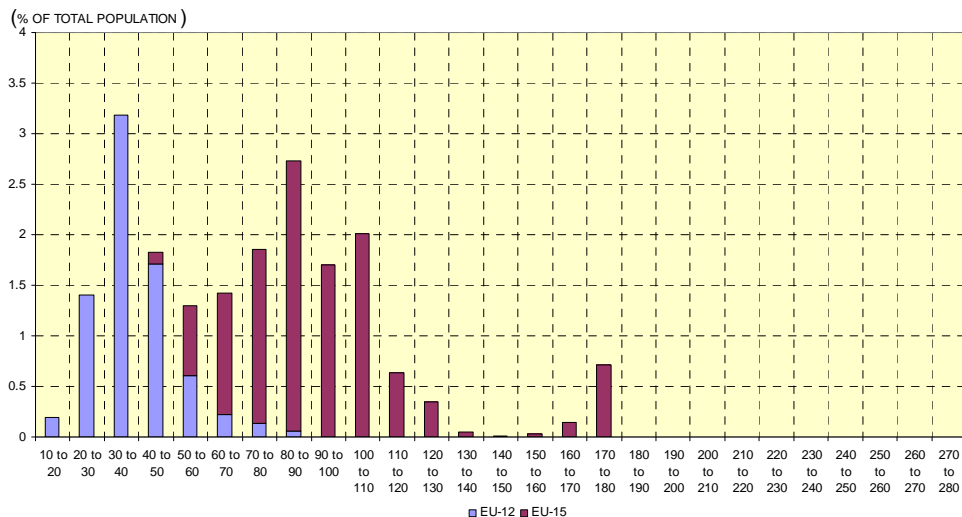
85% of the population in PR regions of EU-12 presents a GDP pc that accounts for less than 50% of the EU average. The ratio of population with the lowest GDP pc, or less than 20% of the EU average, has fallen by 50% between "1999" and "2005", whereas the ratio of those whose income exceeded 30% of the EU average has considerably increased. The GDP pc of 70% of the population in PR regions of EU-15 ranges from 70% to 110% of the EU average.

Overall, the increment in the share of population whose income accounts from 80% to 110% is especially remarkable. In contrast with the graph for the whole regions, rural areas tend to converge to the centre, grouping more percentage of population in one single interval (30% to 40% in EU-12 and 80% to 90% in EU-15) and the two groups of countries tend to be closer.

Graph 12: Population in PR regions by intervals of GDP pc as a % of EU average - "1999" and "2005"



Graph 13: Population in PR regions by intervals of GDP pc as a % of EU average – EU-15 and EU-12 in "2005"

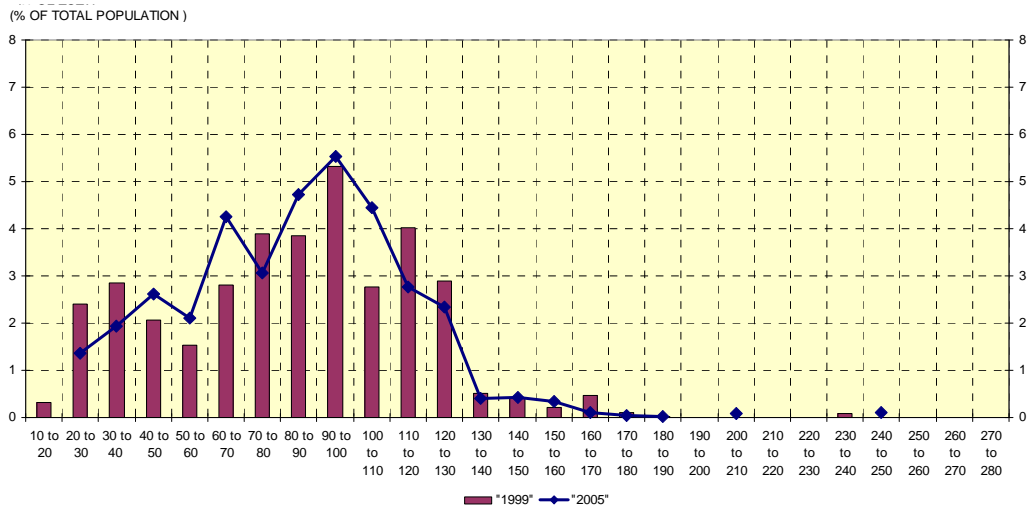


4.3. Intermediate regions

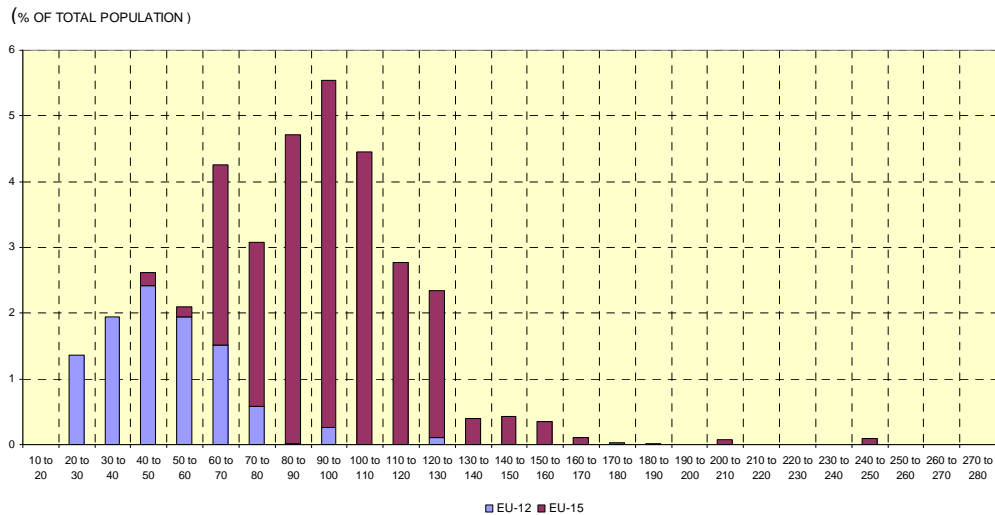
(Graphs 14-15): 180 million people, or 36% of the total population of the EU, live in IR, of which 50 millions in EU-12 (50% of its total population), and 130 millions in EU-15 (33% of its total population).

GDP pc of 90% of EU-12 population in IR ranges from 20% to 70% of the EU average. Over the last years the ratio of population with the lowest income, or less than 40% of the EU-27 average, almost halved, increasing the proportion of population whose GDP pc ranges from 40% to 60% of the EU average. In EU-15, the GDP pc of more than 50% of the population in IR ranges from 80% to 110% of the EU average.

Graph 14: Population in IR by intervals of GDP pc as a % of EU average - "1999" and "2005"



Graph 15: Population in IR by intervals of GDP pc as a % of EU average – EU-12 and EU-15 in "2005"



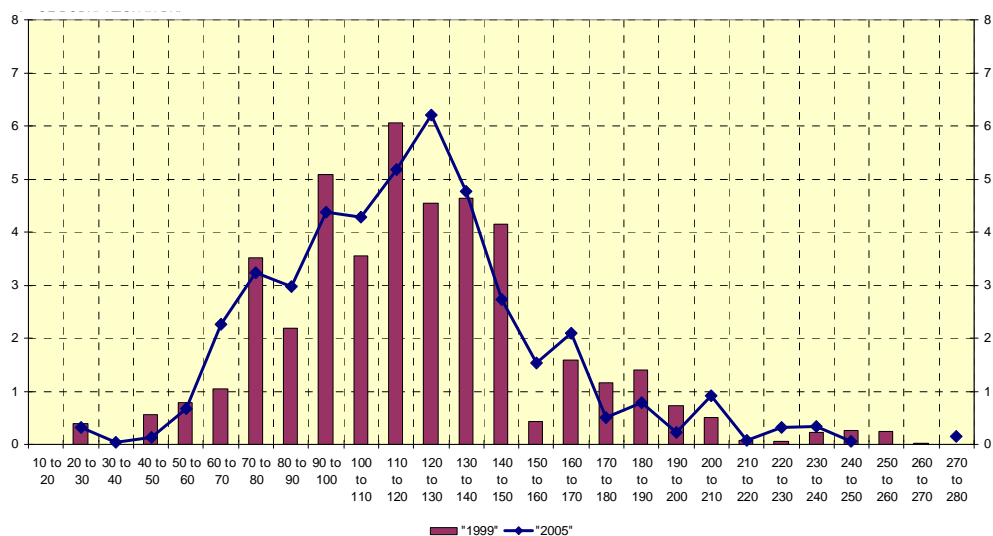
4.4. Predominantly Urban regions

(Graphs 16-17) 220 million people, or 45% of the total population of the EU, live in PU areas and 93% thereof, or more than 200 million people, belongs to EU-15.

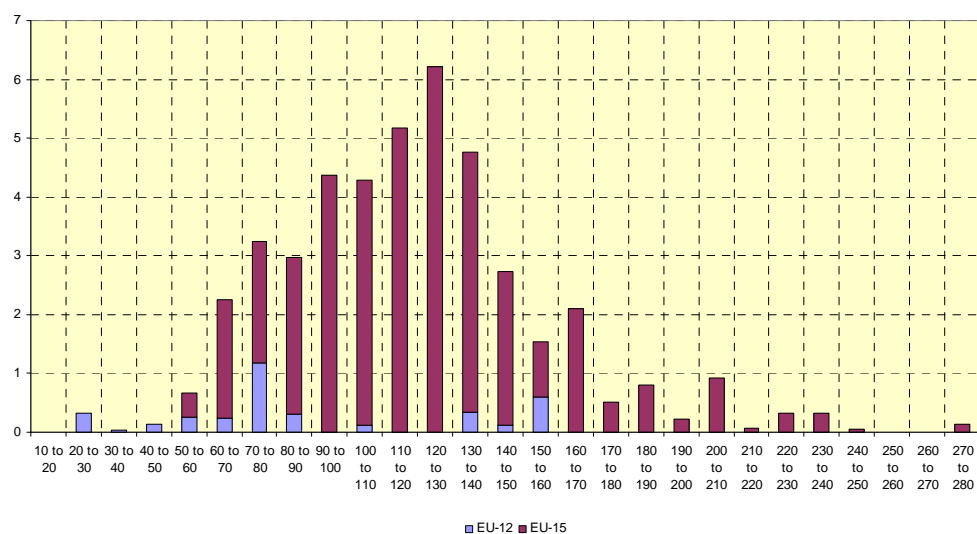
The distribution of the population in EU-12 PU regions does not follow the normal curve. There are two differentiated groups: (1) the urban regions with the lowest level of income –around the interval 70% to 80% of the EU average- and (2) those regions around the intervals 130% to 160%. This latter group comprises urban areas in Hungary, Slovakia and Czech Republic. In contrast, the distribution of the population in PU regions of EU-15 presents a left skewed shape, as the GDP pc of 74% of its total population is lower than 130% of the EU average.

As for the evolution over the last years, the shape of the curve tends to move to the right by one interval. This especially applies in the uphill side of the curve which goes from 80% to 130% of the EU average.

Graph 16: PU Population by intervals of GDP pc as a % of EU average - "1999" and "2005"



Graph 17: EU population in intervals of GDP pc as a % of EU average – EU-15 and EU-12 in "2005"



Conclusions

- Population in PR areas of EU-12 makes up for 37 million people. 85% of them live in a region with a GDP pc of less than 50% of the EU-27 average.
- In EU-15, 57 million people live in PR areas and 70% of them live in a region whose GDP pc ranges from 70% to 110% of the EU-27 average
- 90% of the 50 million people living in IR regions of EU-12 belong to regions whose GDP pc ranges from 20% to 70% of the EU-27 average.
- In EU-15, the GDP pc of 50% of the population in IR ranges from 80% to 110% of the EU average. In total, there are 130 million people in this group.

5. DECOMPOSING AND ANALYSING GDP PC GROWTH

5.1 Methodology for decomposing regional GDP pc growth

GDP pc has been decomposed into three different components, in order to see which factors have the stronger positive or negative influence on the performance of the regions, with a focus on rural areas⁸:

$$\frac{\text{GDP}}{\text{POP}} = \frac{\text{GDP}}{\text{EMPLOYMENT}} \times \frac{\text{EMPLOYMENT}}{\text{ACTIVE POP}} \times \frac{\text{ACTIVE POP}}{\text{POPULATION}}$$

- First of all, GDP per employee: labour productivity
- Secondly, the employment rate⁹, obtained by dividing the number of employees by the active population¹⁰. From now onwards "E/A".
- Finally, the activity rate, obtained by dividing the active population by total population¹¹. From now onwards "A/N".

The contribution of each factor to the total growth results from its respective weight after the application of logarithms to the difference between the result in 1999 and 2005:

$$\ln(\text{GDP pc } 05) - \ln(\text{GDP pc } 99) = (\ln(\text{labour prod } 05) - \ln(\text{labour prod } 99)) + (\ln \text{E/A } 05 - \ln \text{E/A } 99) + (\ln \text{A/N } 05 - \ln \text{A/N } 99)$$

The objective of this part of the analysis is to present the evolution of these three different components and to show the extent of their influence, either positive or negative, on the GDP pc growth of PR, IR and PU regions.

Due to the lack of data at NUTS 3 level for the series of active population, this part of the analysis is done at NUTS-2 level. Therefore, the identification of rural regions is less refined and the results will be affected by this fact. Nevertheless, the outcomes can identify some common patterns in rural areas and could be extended to different levels (i.e.: NUTS-3).

The following chapters are organised as follows: first, the contribution of each of these components to growth at national level and by type of region (PR, IR and PU) is assessed; secondly, a detailed analysis of this three different elements and a comparison between Member States is carried out; the conclusions from the analysis are finally presented.

⁸ This decomposition of the economic growth has already been presented in several studies. A variation to this formula is included in the paper of the OECD "Regions at a Glance 2009".

⁹ This ratio is not the "usual" employment rate which is obtained by dividing the employment figure by the 15-64 years old population instead of the active population.

¹⁰ Data on employment comes from the Regional Accounts of Eurostat, data on active population from the Labour Force Survey (LFS).

¹¹ This ratio differs from the activity rate used in different analysis and studies, which is the result of dividing active population by population from 15 to 64 years old.

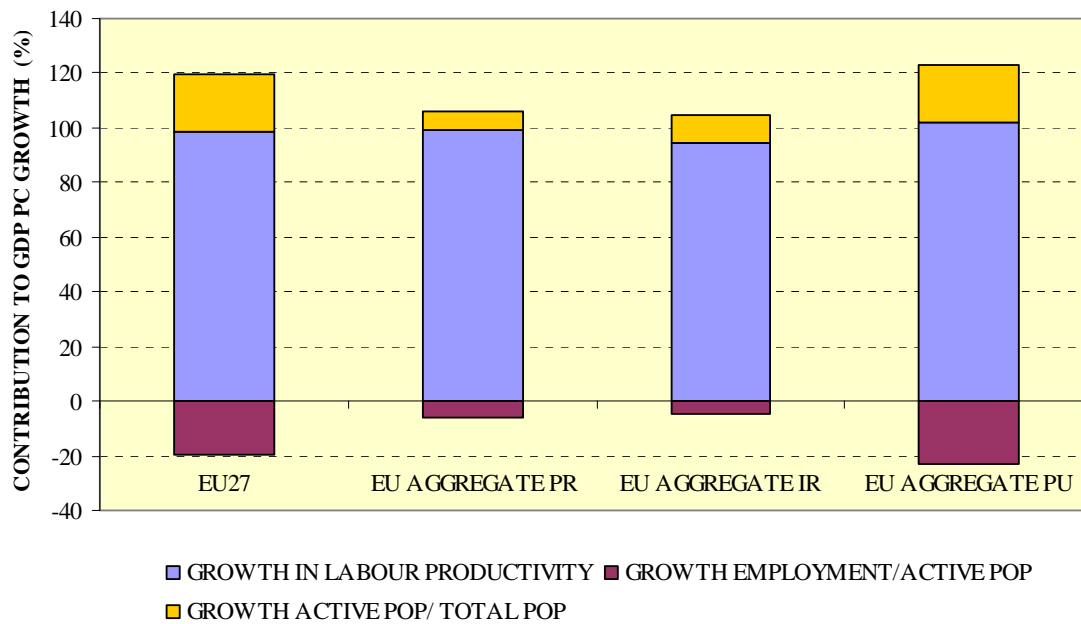
5.2 Decomposing GDP pc growth

5.2.1. Aggregate level (EU-27, PR, IR and PU regions)

(Graph 18) Labour productivity is by far the most important factor for GDP pc growth for PR, IR and PU regions. As shown in the graph, it is around 100% for the aggregate at EU level and close to this figure for the other type of regions. The other two factors had a limited impact on the growth. The ratio of active population over total population contributed positively to the growth in all types of areas whereas the ratio of employment over active population has contributed negatively to the growth of PR, IR and PU regions.

When comparing the different type of regions, there are some characteristics to point out: the ratio of active population over total population has contributed very little to the growth of both PR and IR regions, increasing this rate for PU areas. On the other hand, employment over active population has contributed negatively and this especially applies in PU regions.

Graph 18: Main contributors to the growth of GDP pc 1999-2005 (*)



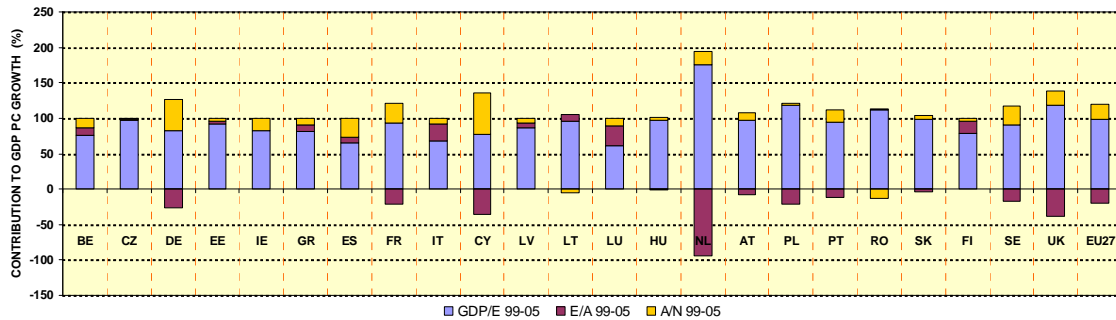
(*)- Data not available for Bulgaria, Denmark, Malta and Slovenia

5.2.2. At national level

(Graph 19) The main contributor to the growth of GDP per capita is the growth in labour productivity. In fact, between 1999 and 2005 it contributed on average almost to 100% of the growth of GDP pc in EU-27, implying a neutral contribution, on average, of the two remaining components of the formula (employment over active population and active population over total population). In four countries the contribution of labour productivity was over 100%: the Netherlands (176%), United Kingdom (120%), Poland (117%) and Romania (111%). Despite this, the joint contribution of employment over active population and active population over total population is positive in 19 Member States and negative in 4.

The second component, employment over active population, on average contributed negatively to the GDP pc growth, especially in The Netherlands, United Kingdom and Germany; however, this is not a common feature as this factor had a positive influence in other countries, e.g. Italy. Finally, activity rate – active population over total population - contributed positively to the growth of GDP pc in all the countries save Romania and Latvia.

Graph 19: Main contributors to the growth of GDP pc 1999-2005 (*)



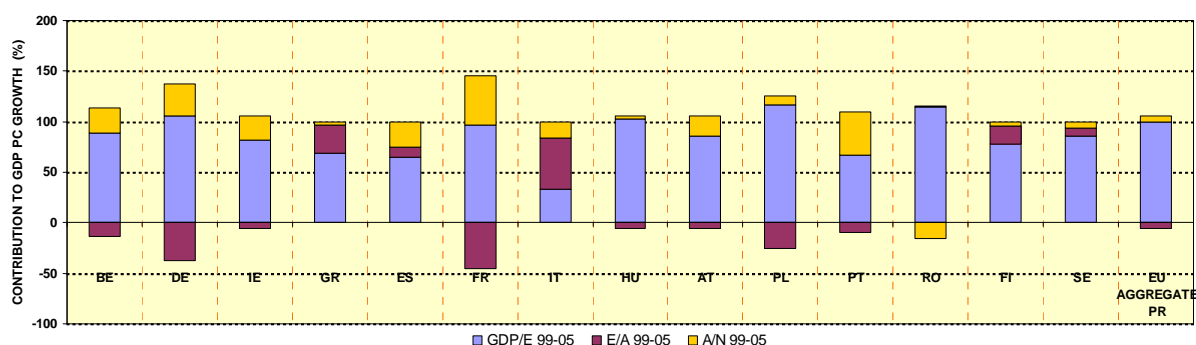
- (*) - Data not available for Bulgaria, Denmark, Malta and Slovenia
- The employment figure of the Netherlands presents a higher variation because it is measured in Full Time Equivalent jobs and not in number of employees
- The regional data of employment in Germany presents some missing values, especially in IR regions
- The data for France does not include the overseas departments

5.2.3. In Predominantly Rural regions

(Graph 20) The main contributor to the growth of GDP pc in PR regions is the increment in labour productivity. This is especially true in Romania and Poland, two of the best performers in terms of labour productivity growth, as well as in France and Germany. This contribution is close to the EU-27 average (99% in PR versus 98% in EU-27). Therefore, the joint result of the other two components of the formula, employment over active population and active population over total population, is almost neutral for PR regions as a whole. However this is not a common feature in all the countries.

The employment rate had a negative influence on the growth of PR regions in all countries but Italy, Greece and Finland and to a lesser extent Sweden and Spain. The activity rate contributed positively to growth in all the countries -especially in France, Portugal and Germany- save Romania.

Graph 20: Main contributors to the growth in GDP pc in PR 1999-2005 (*)



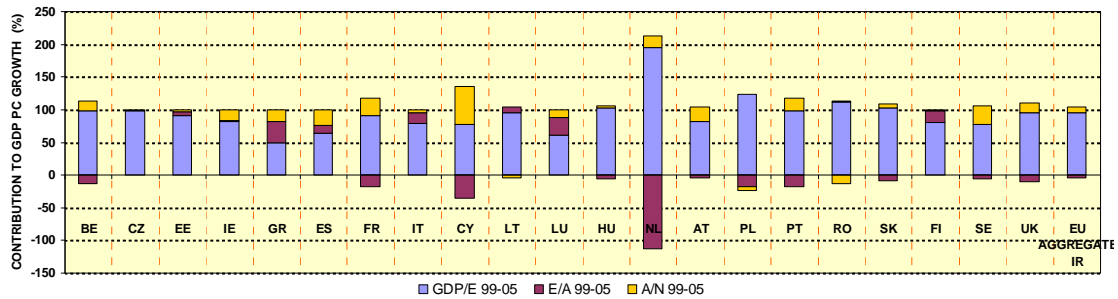
- (*) - Data not available for Bulgaria, Denmark, Malta and Slovenia
- Only those countries with PR regions at NUTS-2 level are shown in the graph
- The data for France does not include the overseas departments

5.2.4. In Intermediate Regions

(Graph 21) The average contribution of labour productivity to GDP pc growth is lower in IR regions (94%, compared to 99% in PR regions). The Netherlands, Romania and Poland present the highest rates of participation and all of them are placed among the best performers in terms of GDP pc and labour productivity growth. The joint contribution of the two employment related factors has been on average positive (+6%) over the reference period, but moving in opposite directions. As for their evolution at country level, there is not a general rule followed by most Member States.

The contribution of the second component, employment over active population, to the growth of GDP pc is on average negative, especially in the Netherlands, France and Portugal. In contrast, the increment in the activity rate resulted slightly positive to the growth in IR regions as a whole and in all the countries, except Romania, Poland and Lithuania.

Graph 21: Main contributors to the growth in GDP pc in IR 1999-2005 (*)



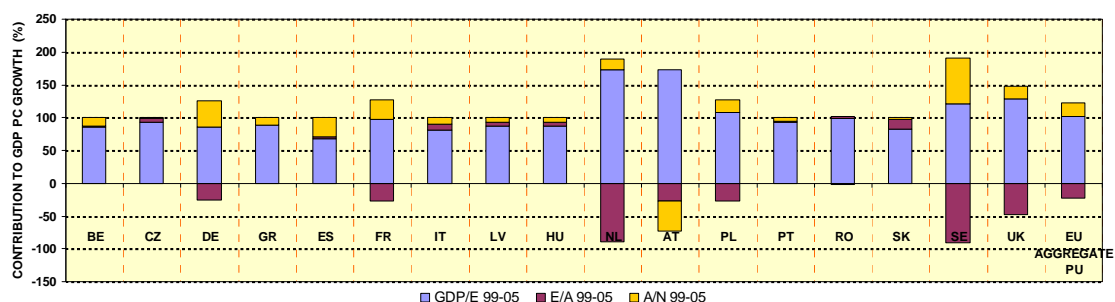
(*) - Data not available for Bulgaria, Denmark, Germany, Malta and Slovenia
 - Only those countries with IR regions at NUTS-2 level are shown in the graph
 - The employment figure of the Netherlands presents a higher variation because it is measured in Full Time Equivalent jobs and not in number of employees

5.2.5. In Predominantly Urban regions

(Graph 22) Labour productivity is the largest contributor to the growth in GDP pc of PU areas (100%, on average, over the reference period). The Netherlands, Austria and United Kingdom are the countries with the highest contribution of labour productivity to the GDP pc (more than 100% in all the cases). Italy, Slovakia and Latvia are the countries with the lowest participation of labour productivity, accounting for 70% of the growth in GDP pc.

On average, the employment rate had a negative impact on the growth of urban areas and this applied especially in The Netherlands, Germany, United Kingdom, Sweden and Poland. Italy, Czech Republic and Slovakia are, however, an exception to this general trend. The activity rate increased in all the EU-27 countries save Austria, where it contributed positively to the growth of GDP pc, and remained stable in Czech Republic, Romania and Slovakia, where it had no impact.

Graph 22: Main contributors to the growth in GDP pc in PU 1999-2005 (*)



- (*)
- Data not available for Bulgaria, Denmark, Malta and Slovenia
 - Only those countries with PU regions at NUTS-2 level are shown in the graph
 - The employment figure of the Netherlands presents a higher variation because it is measured in Full Time Equivalent jobs and not in number of employees

5.3. Labour productivity

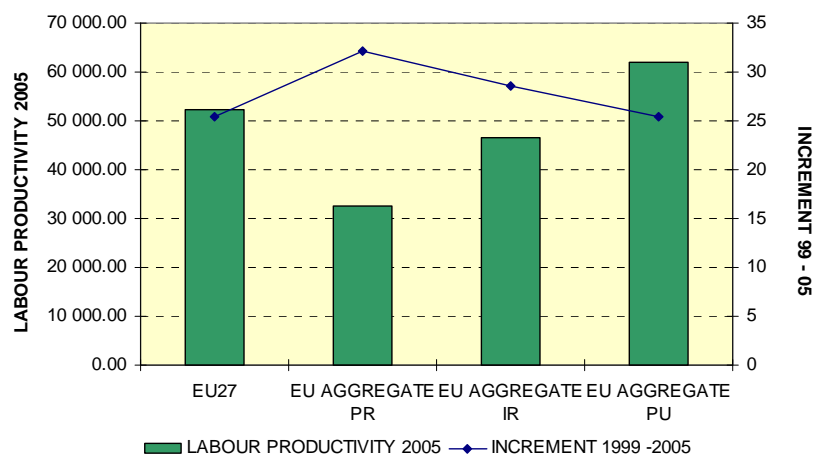
This section and the following ones focus on the analysis of the level and evolution relative to the EU average (all regions included) of the three different contributors to economic growth –labour productivity, employment over active population and active population over total population- at country and by type of region –PR regions, IR and PU regions.

The first and more important contributor to the growth of GDP pc, labour productivity, capture the efficiency of the regional production system. Its level and evolution depend on the balance of production factors (capital and labour) and on the level of technology. Differences between regions in terms of labour productivity might arise from differences in natural endowments –lands and other production factors- or regional assets such infrastructures, technology and the level of skills from workers. The possible sources in the growth of the labour productivity are the composition effect or the switching of workers to more productive sectors and/or the increment in the efficiency of the existing sectors.

5.3.1. Aggregate level (EU-27, PR, IR and PU regions)

(Graph 23) Labour productivity in EU-27 reached more than 50 000 PPS though there are important differences between regions. Labour productivity in PU regions doubles the figure of PR regions (approximately 60 000 and 30 000 PPS) being IR between both. Regarding the change over the last years, PR regions are growing slightly more than urban areas. Therefore, no significant catch-up process was observed over the last years.

Graph 23: Labour productivity in PPS 2005 and percentage change 1999-2005 at aggregated level (EU-27 and PR, IR and PU regions) (*)



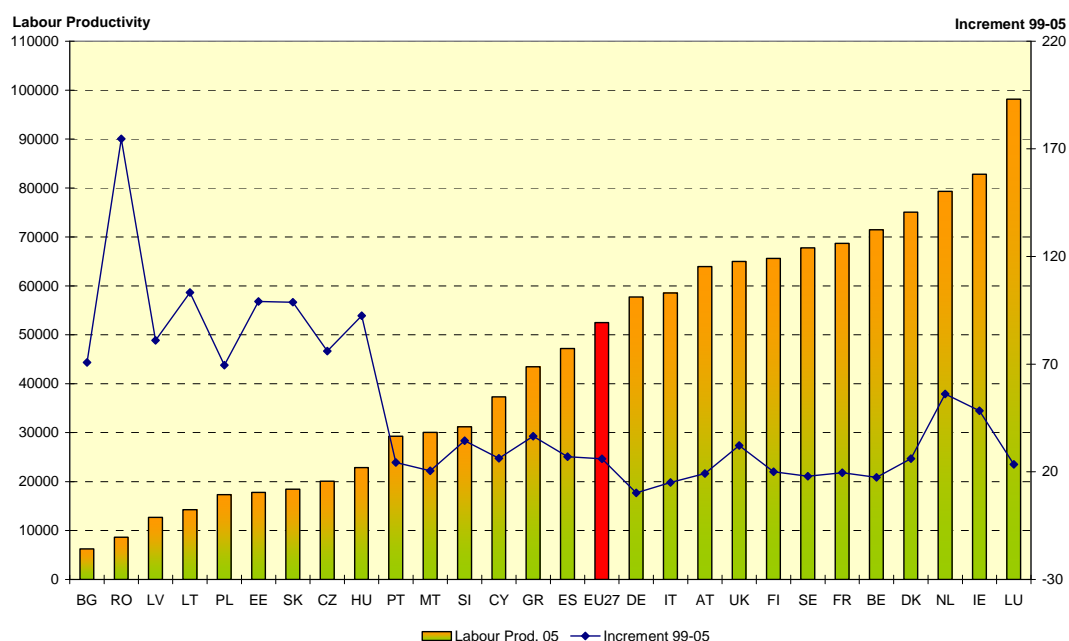
(*) - Excluding Bulgaria, Denmark, Germany, Malta and Slovenia

5.3.2. At national level

(Graph 24) The labour productivity in the EU-27 ranges from around 7 500 PPS in Bulgaria to almost 100 000 PPS in Luxembourg or more than 80 000 PPS in Ireland. In general terms, Member States present the same relative position regarding the EU average in Graph 24 and Graph 2, which refers to GDP pc and growth. However, there are some exceptions to this trend as Spain, which presents a labour productivity below the EU average but a GDP pc over the EU average, or the Netherlands, which shows a level of productivity and growth higher than the EU average whereas its GDP pc is higher than the average but the rate of growth is slightly lower than the EU-27 figure.

In general terms, the rate of growth of labour productivity in EU-12 countries is higher than the EU-27 average, mainly due to their very low levels of labour productivity at the beginning of the reference period. These increments have driven the economic growth of these countries, which is also generally higher than the EU-27 average growth (graph 2).

Graph 24: National labour productivity in PPS, 2005 and percentage change 1999-2005 (*)



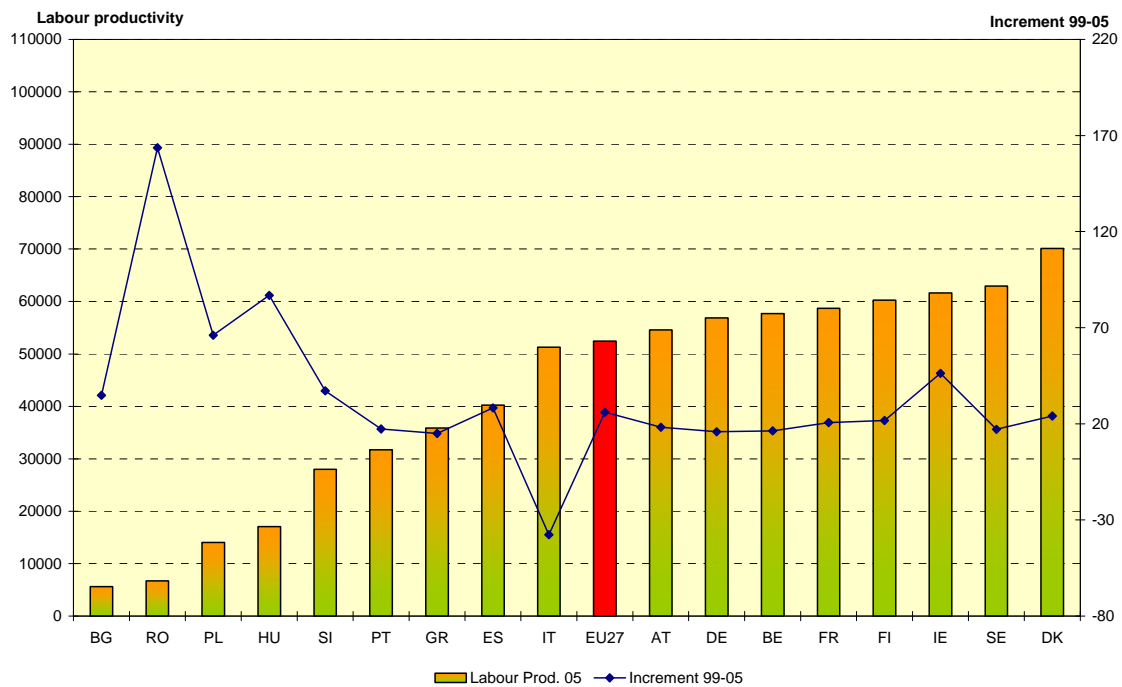
- (*)
- Excluding Bulgaria, Denmark, Germany, Malta and Slovenia
 - The employment figure of the Netherlands presents a higher variation because it is measured in Full time equivalent jobs and not in number of employees
 - The data for France does not include the overseas departments

5.3.3. In Predominantly Rural regions

(Graph 25) Labour productivity in PR areas is higher than the EU-27 average just in Denmark, Sweden, Ireland, Finland, France, Belgium, Germany and Austria.

Labour productivity has grown faster than the EU-27 average in PR regions of some countries of EU-27 (Bulgaria, Romania, Poland, Hungary and Slovenia) together with Ireland. Therefore, there is a process of "convergence" between PR areas of EU-12 and EU-15 due to the higher growth in the labour productivity of the former. Labour productivity of PR areas as a whole is slightly becoming closer to the EU-27 average but not within the countries, especially in EU-12 where labour productivity in IR and PU regions is growing faster.

Graph 25: Labour productivity in PR regions in PPS, 2005 and percentage change 1999-2005 (*)



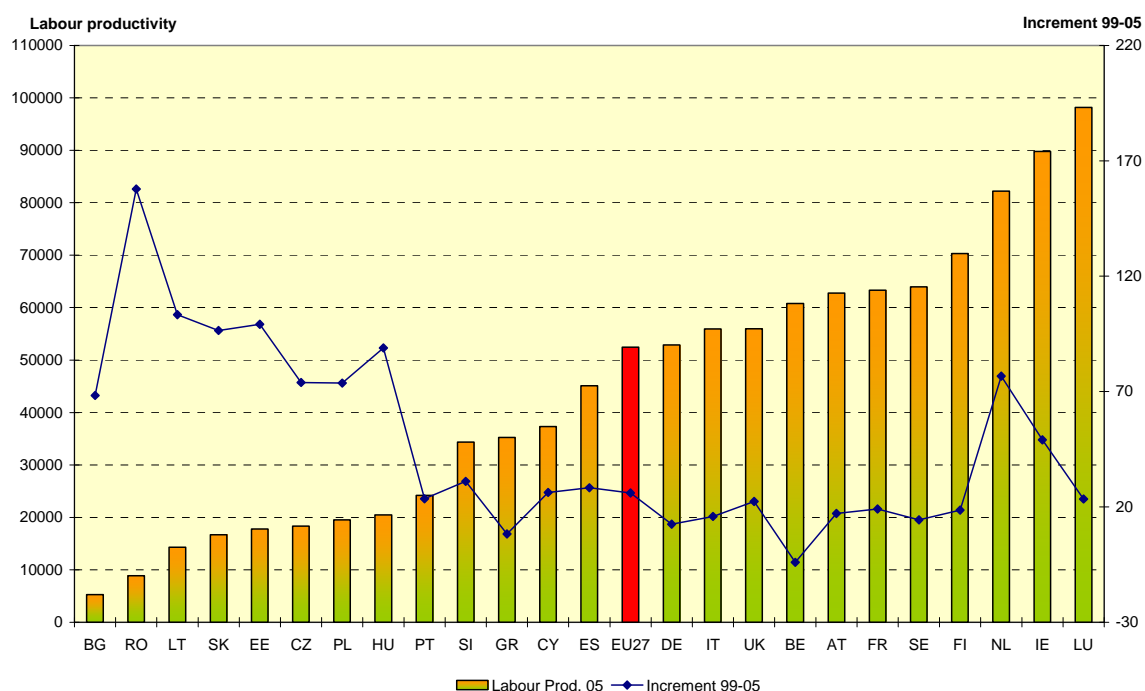
- (*)
- Excluding Bulgaria, Denmark and Slovenia and UK
 - The data for France does not include the overseas departments
 - Only those countries with PR regions at NUTS-2 level are shown in the graph

5.3.4. In Intermediate Rural regions

(Graph 26) Labour productivity levels and their rates of growth are generally higher in IR than in PR. Once again, EU-12 countries present higher rates of growth but lower levels of productivity. Compared to EU-12, Southern EU-15 countries -Portugal, Greece and Spain- present higher levels of labour productivity but lower rates of growth. If this trend continues over the following years, labour productivity of EU-12 and EU-15 countries should converge.

The majority of IR in EU-15 countries presents levels of labour productivity higher than the EU-27 average, ranging from 50 000 to 70 000 PPS, but the rates of growth are below the EU-27 average. Only Ireland and The Netherlands show both labour productivity and rate of growth over the EU-27 average.

Graph 26: Labour productivity in IR regions in PPS, 2005 and percentage change 1999-2005 (*)

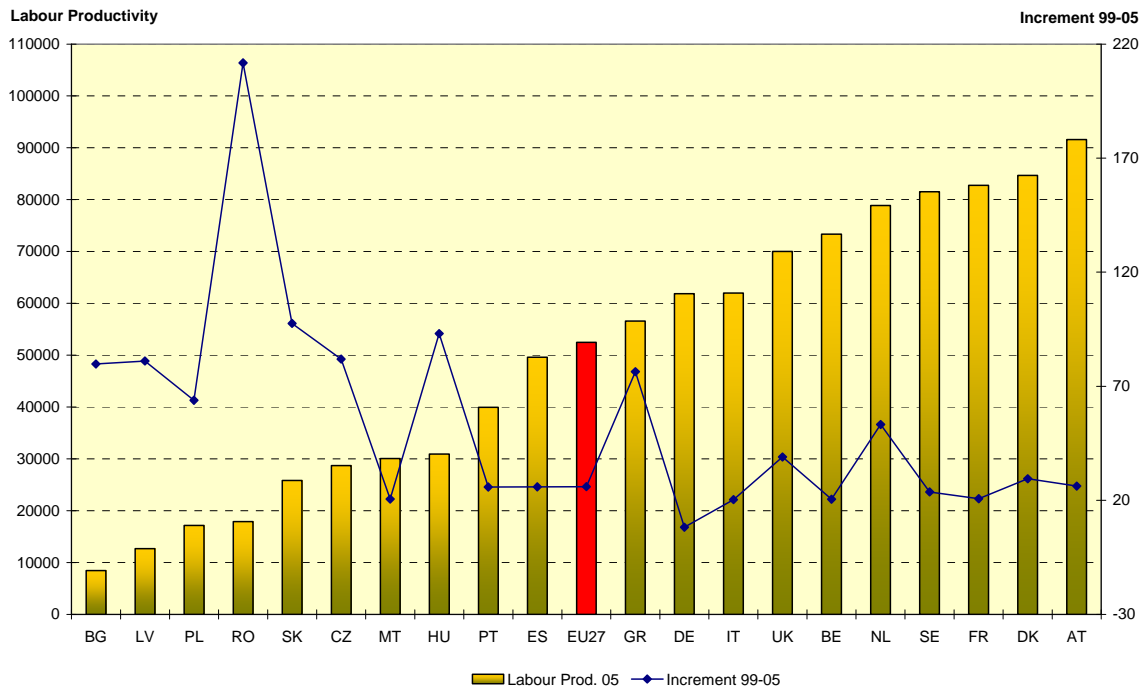


(*) -Excluding Bulgaria, Denmark, Germany and Slovenia is not included
 -The employment figure of the Netherlands presents a higher variation because it is measured in Full time equivalent jobs and not in number of employees

5.3.5. In Predominantly Urban regions

(Graph 27) Among the different types of regions, PU regions show the highest level of labour productivity. Urban areas from EU-12 have grown in the reference period over the EU average, whilst most of EU-15 countries, except Greece, UK and the Netherlands, have grown below the EU-27 average. Consequently, the difference in terms of labour productivity between these two groups of countries decreased over the last years.

Graph 27: Labour productivity in PU regions in PPS, 2005 and percentage change 1999-2005 (*)



(*) -Excluding Bulgaria, Denmark, Malta and Slovenia
 -The employment figure of the Netherlands presents a higher variation because it is measured in Full Time Equivalent jobs and not in number of employees

5.3.6. Relationship between labour productivity and GDP pc

Methodological note, graphs 26-27:

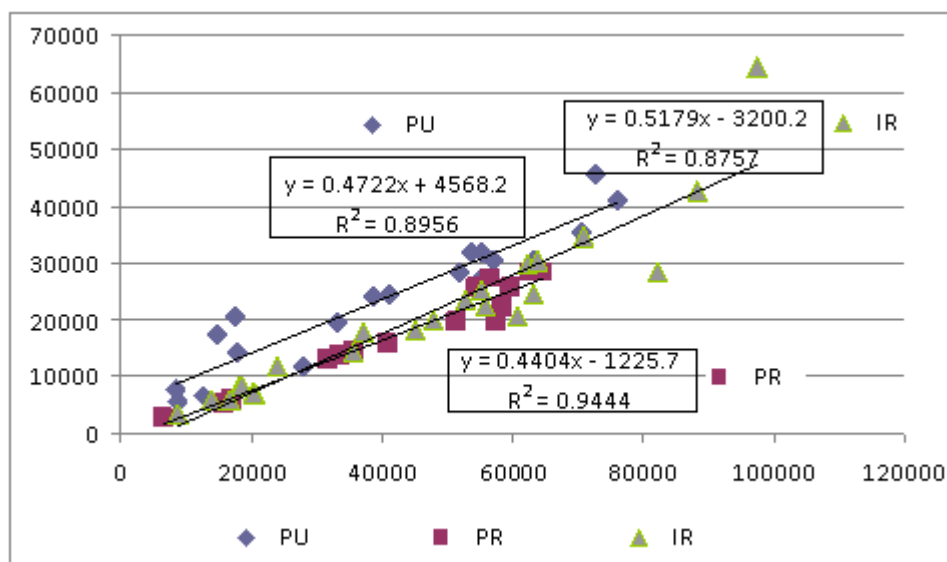
The linear regressions provided in graphs 26-27 represent a statistical method for estimating the relationship between two variables (Y, X). They give an indication of the average variation of the variable corresponding to the axe ordinate for a given variation of the other variable considered on the abscissa axe.

The coefficients of determination (R^2) estimated for each regression line measure the level of correctness of the regression lines in estimating the total variation of the response variable (Y) for a given variation of the predicted variable (X). An R^2 of 1 indicates a perfect linear relationship between the two variables.

(Graph 28) There is a strong, and positive correlation between GDP pc and labour productivity. For the same level of labour productivity, the difference of unitary income between PR and PU areas reaches on average 6 000 PPS and it tends to increase as the labour productivity grows. PR and PU regions present approximately the same slope (0.44 and 0.47 respectively), but there is an important difference in the independent term (-1 225 and +4 568.2 respectively). Since GDP pc is only explained by one factor, labour productivity, the independent term presents the joint influence of the other two components, the employment and the activity rate.

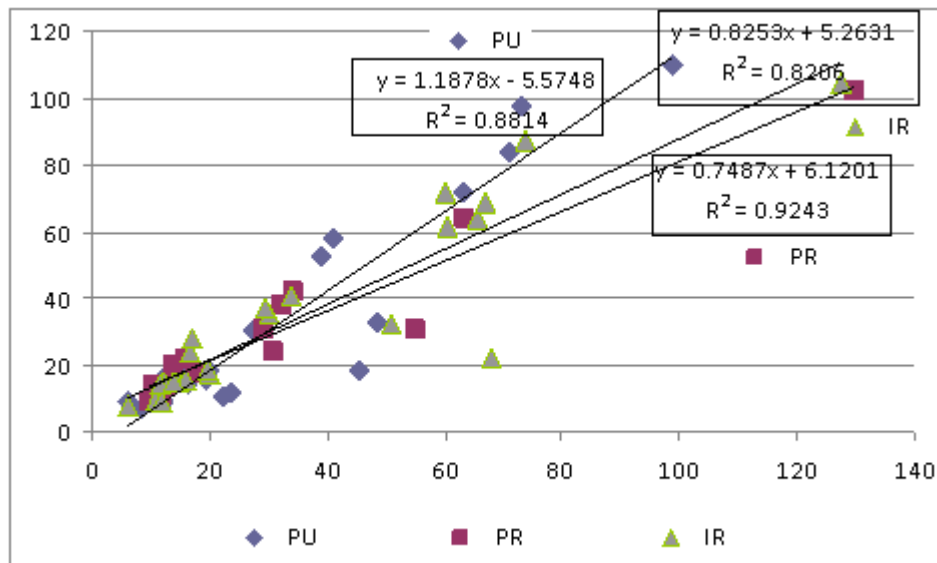
The correlation between labour productivity and GDP pc in IR regions is also positive and high. The difference between the unitary income in IR and PU, by contrast, decreases as labour productivity increases. The slope of IR is higher compared to PU regions (0.52 and 0.47) but the independent term, which reached -3 200 in this case, reduces the impact of the labour productivity on the GDP pc.

Graph 28: Plotting of labour productivity (abscissas axis) and GDP pc (ordinates axis)



(Graph 29) There is also a high and positive correlation between the labour productivity and GDP pc rates of growth. As shown in the graph, most of the regions analysed grew by less than 30% over the reference period. For these regions, the line describing the correlation between the rates of growth of labour productivity and GDP pc in PR and IR regions is placed above the one of PU regions. Therefore, PR and IR regions tend to grow faster than PU regions for relatively low rates of growth. However, when the rates of growth increases, PU regions grow faster than the other type of regions as it is shown with the plots higher than 30%. As a consequence, the difference in terms of GDP pc and also labour productivity between PU and PR regions has increased and this especially applies for EU-12

Graph 29: Plotting of total increment of labour productivity (abscissas axis) and total increment in GDP pc (ordinates axis) 1999-2005



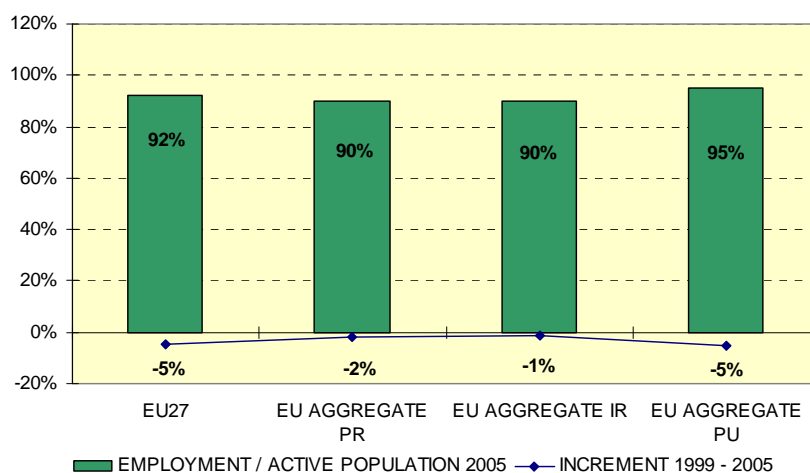
Employment over active population

5.4.1. Aggregate level (EU-27, PR, IR and PU regions)

(Graph 30) The correlation between the ratio of employment over active population and GDP pc level and growth is weaker than the one between labour productivity and GDP pc. In general terms and for most of the countries, the employment rate tends to increase in line with the level of urbanisation (PR regions present the lowest employment rate, increasing for IR and finally PU regions).

This ratio decreased over the last years in all types of regions and had a negative impact on the GDP pc growth. However, the smaller relative fall took place in PR and IR regions, whereas PU areas presented a higher decrease and its impact on the growth of GDP pc was also larger.

Graph 30: Employment over active population and percentage change 1999-2005 at aggregated level (EU-27 and PR, IR and PU) (*)



(*) - Excluding Bulgaria, Denmark, Malta and Slovenia

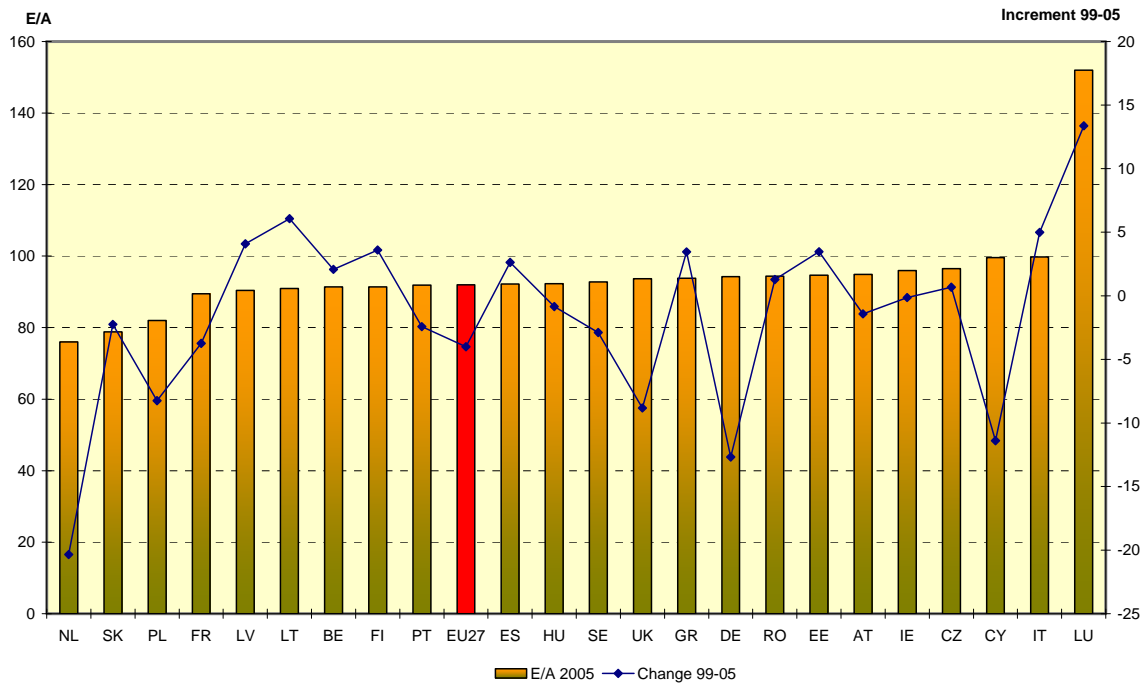
5.4.2. At national level

(Graph 31) Employment over active population has had a negative influence on the growth of GDP pc, on average, over the reference period. Despite the number of employees has increased over time, this increment has been smaller than the one in the number of active population. In consequence, the outcome of dividing the former by the latter has decreased during the reference period having a negative impact on the growth of GDP pc.

Contrary to what observed with respect to labour productivity, there is not a clear correlation between this indicator and the levels of GDP pc: high levels of employment over active population do not necessarily imply corresponding high levels of GDP pc in the respective countries despite the level of employment tends to increase with the degree of urbanisation.

Another characteristic of the employment rate is that there are not very important differences among EU countries once the countries with the highest and the lowest employment rate are excluded (The Netherlands, which is characterised by the employ of a different unit of measurement, and Luxembourg), and the differences in employment rate and growth tend to be larger when comparing among the three type of regions (PR, IR and PU) within countries.

Graph 31: Employment over active population and percentage change 1999-2005 (*)



(*)

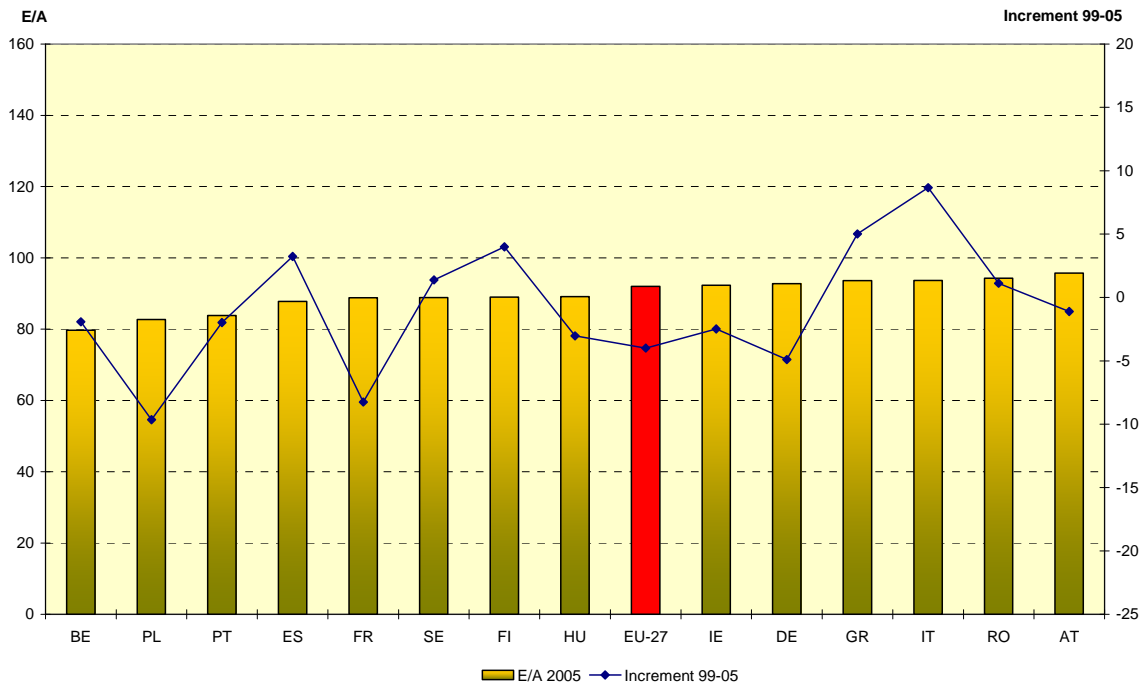
- Excluding Bulgaria, Denmark, Malta and Slovenia
- The employment figure of the Netherlands presents a higher variation because it is measured in Full time equivalent jobs and not in number of employees.
- The regional data of employment in Germany present some missing values, especially in IR regions..
- The data for France does not include the overseas departments.

5.4.3. In Predominantly Rural regions

(Graph 32) The level of employment over active population in PR regions is lower than in other types of regions (IR and PU regions) in all the Member States save Austria and Poland. In some countries such as Belgium, Sweden, Portugal and Spain the difference between PR and PU regions is around 10 percentage points.

On average, the employment rate in PR has fallen by approximately 2 percentage points over the last years, which represent a smaller reduction compared to the one in PU regions. Therefore, the distance between rural areas and the other types of regions is on average decreasing. PR regions of four countries, Germany, Greece, Spain and Sweden, have shortened the difference regarding the other types of regions, whereas in the remaining of countries the difference between the employment rate in PR areas and the rest of regions has increased over time. Like in the aggregate case for all the EU regions, the number of employees has increased but proportionally less than the number of active population.

Graph 32: Employment over active population and percentage change 1999-2005 in PR (*)



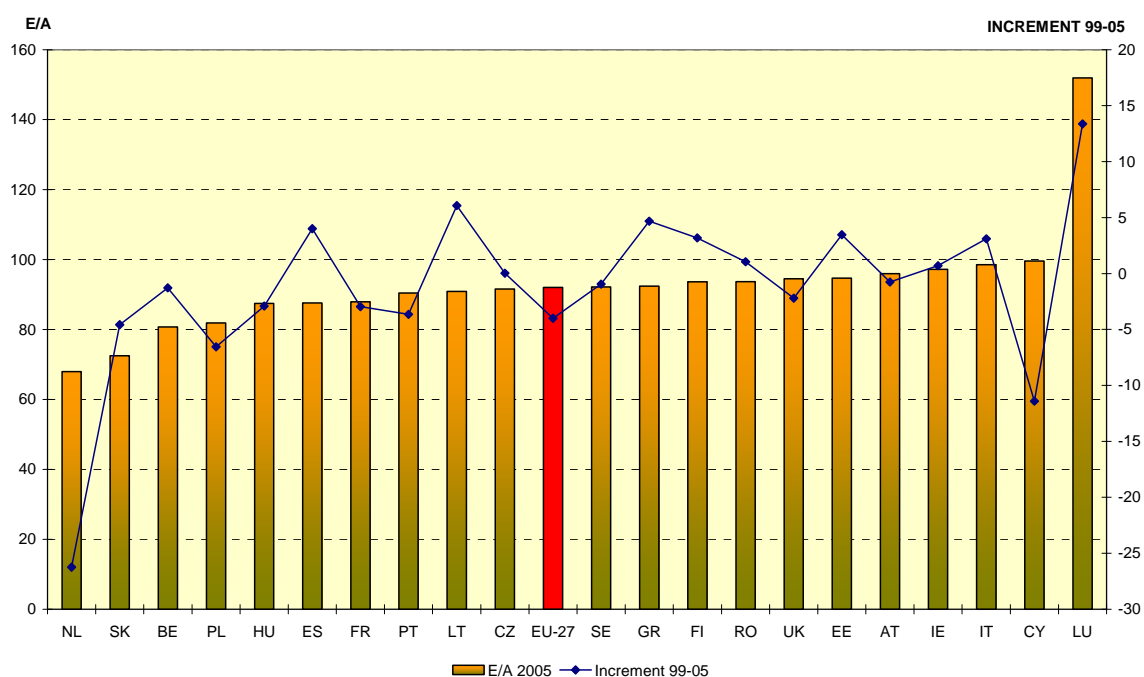
(*) -The data from Bulgaria, Denmark and Slovenia and UK is not included
 - The data for France does not include the overseas departments
 - Only those countries with PR regions at NUTS-2 level are shown in the graph

5.4.4. In Intermediate Regions

(Graph 33) On average, the level of employment over active population in IR regions is at around the same level as in PR areas, or 2 percentage points lower than the EU average. This distance has decreased over the last years: in 1999 it was 5 percentage points. Therefore, the employment rate in IR regions, despite decreasing over the reference period, has fallen relatively less than in PR and PU regions.

However, as in PR regions, the evolution of employment rate has had a negative, yet smaller, impact on the growth of GDP pc in IR regions. The increment in the number of employees has been smaller than the growth in the number of active population.

Graph 33: Employment over active population and percentage change 1999-2005 in IR (*)



(*) -The data from Bulgaria, Denmark and Slovenia is not included. Due to the partial availability of data in Germany, it was decided to exclude it from the calculations at country and aggregate level.
 -The employment figure of the Netherlands presents a higher variation because it is measured in Full time equivalent jobs and not in number of employees.
 - Only those countries with IR regions at NUTS-2 level are shown in the graph

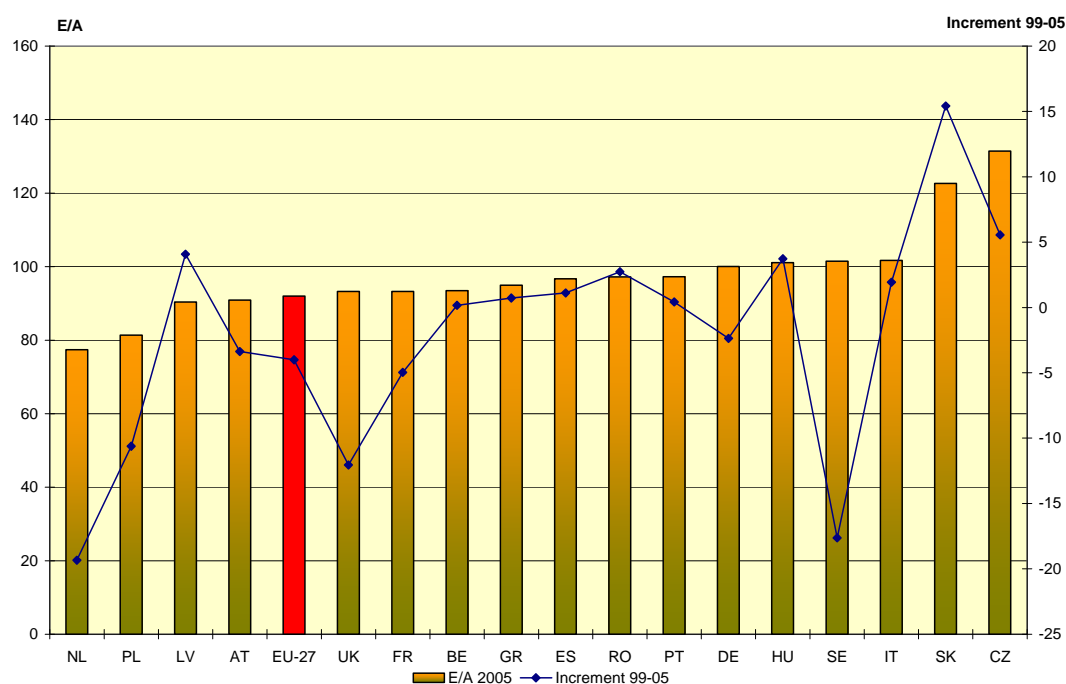
5.4.5. In Predominantly Urban regions

(Graph 34) The rate of employment over active population in PU is the highest among the different types of regions (95%). The difference between urban areas and the national average reaches 30 points in Czech Republic and Slovakia; France and Sweden also have important, yet smaller, differences. Only urban areas of Poland and Austria present a ratio below the national average.

As for the evolution over the last years, the difference between urban areas and the other regions has decreased in Sweden and Spain and increased in most of the New Member States, especially in Czech Republic and Slovakia.

As in the other types of regions, the ratio of number of employees over active population has decreased and has had a negative impact on the evolution of the GDP pc. Despite the number of employees in PU regions has increased over time, the growth in the number of active population has been higher, leading to a decrease in the ratio.

Graph 34: Employment over active population and percentage change 1999-2005 in PU (*)



- (*) -Excluding Bulgaria, Denmark, Malta and Slovenia
- The employment figure of the Netherlands presents a higher variation because it is measured in Full time Equivalent jobs and not in number of employees
- Only those countries with PU regions at NUTS-2 level are shown in the graph

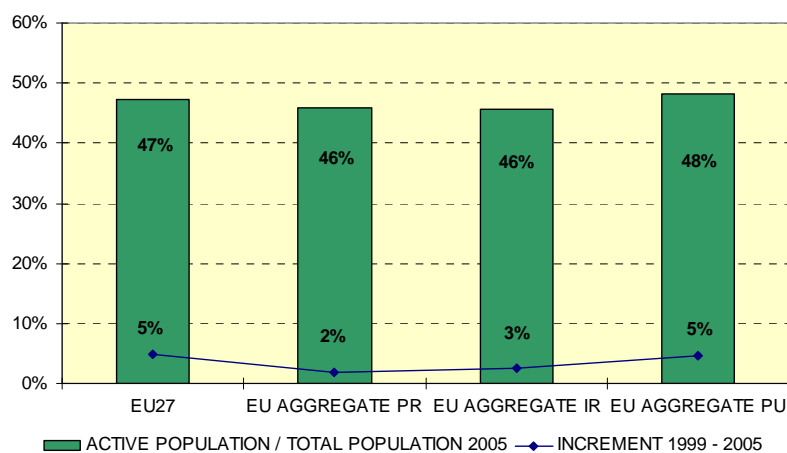
5.5. Active population over total population

5.5.1. Aggregate level (EU-27, PR, IR and PU regions)

(Graph 35) The level of active population over total population increases in line with the degree of urbanisation. The lowest level is found in PR and IR regions, whereas PU regions present the highest proportion.

The increment in the number of active population has had a positive impact on the growth of GDP pc in all types of regions, being in PU areas where this effect has been the largest. As shown in the graph, the highest relative increment took place in PU regions whereas PR and IR areas evolved positively, but this increment was relatively lower.

Graph 35: Active population over total population and percentage change 1999-2005 at aggregated level (EU-27 and PR, IR and PU) (*)



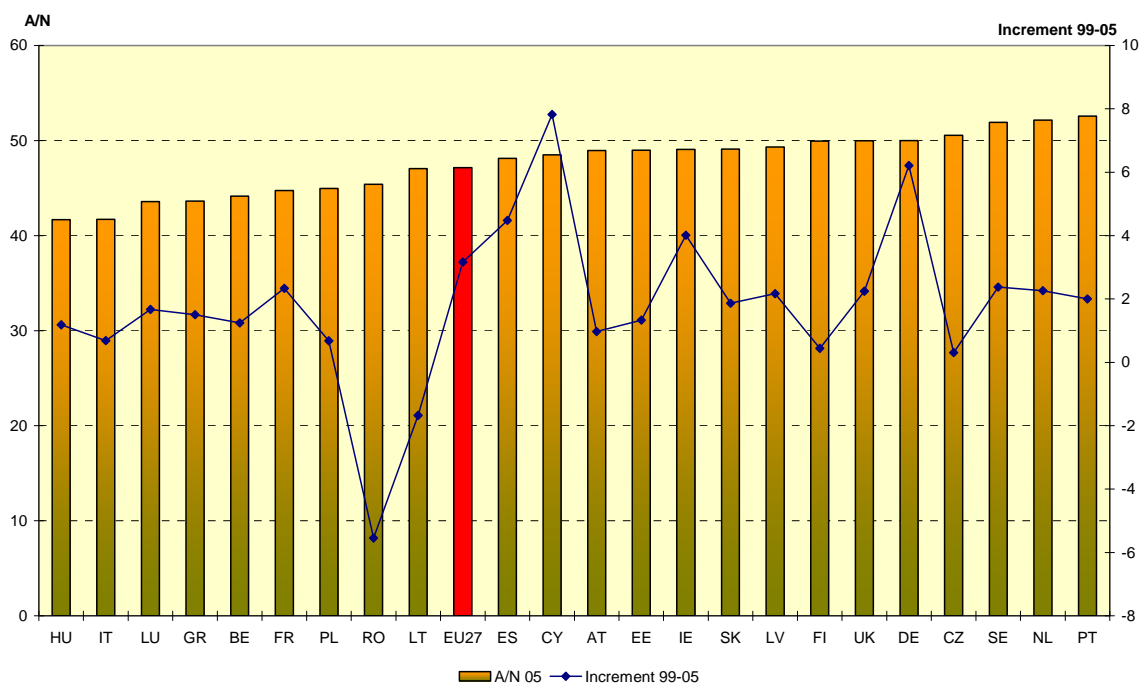
(*) The data from Bulgaria, Denmark, Malta and Slovenia is not included

5.5.2. At country level

(Graph 36) The contribution of the last component of the formula –active population over total population- to the growth of GDP pc is on average positive, implying in most cases that more people entered the labour market, which increased this ratio and reduced the effect of the previous one –employment over active population. This indicator has evolved positively in all the countries but Romania and Lithuania.

The active population has increased over the last years, and especially in the countries where the employment rate has grown the more such as Spain and Ireland.

Graph 36: Active population over total population and percentage change 1999-2005 (*)

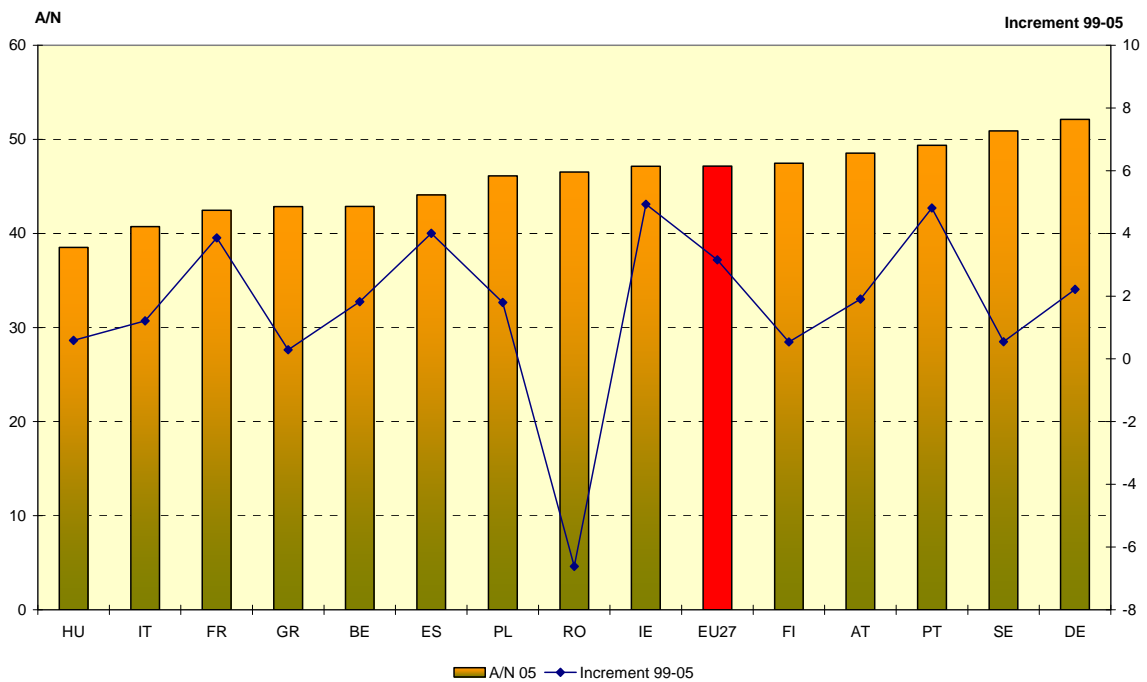


(*) -The data from Bulgaria, Denmark, Malta and Slovenia is not included
 -The regional data of employment in Germany present some missing values, especially in IR regions;
 -The data for France does not include the overseas departments

5.5.3. In Predominantly Rural regions

(Graph 37) The activity rate in rural areas is approximately 1.4 percentage points lower than the EU average. Only Poland and Romania deviate from this trend. Spain, Portugal and Hungary present the highest difference between PR regions and the national average (4 percentage points for Spain and 3 for the other two countries). Not only do rural areas present a lower activity rate, but their distance to the average also increased in all countries save Belgium, Ireland, France, Italy, Austria and Portugal. This component contributed positively to the growth of PR regions.

Graph 37: Active population over total population and percentage change 1999-2005 in PR (*)

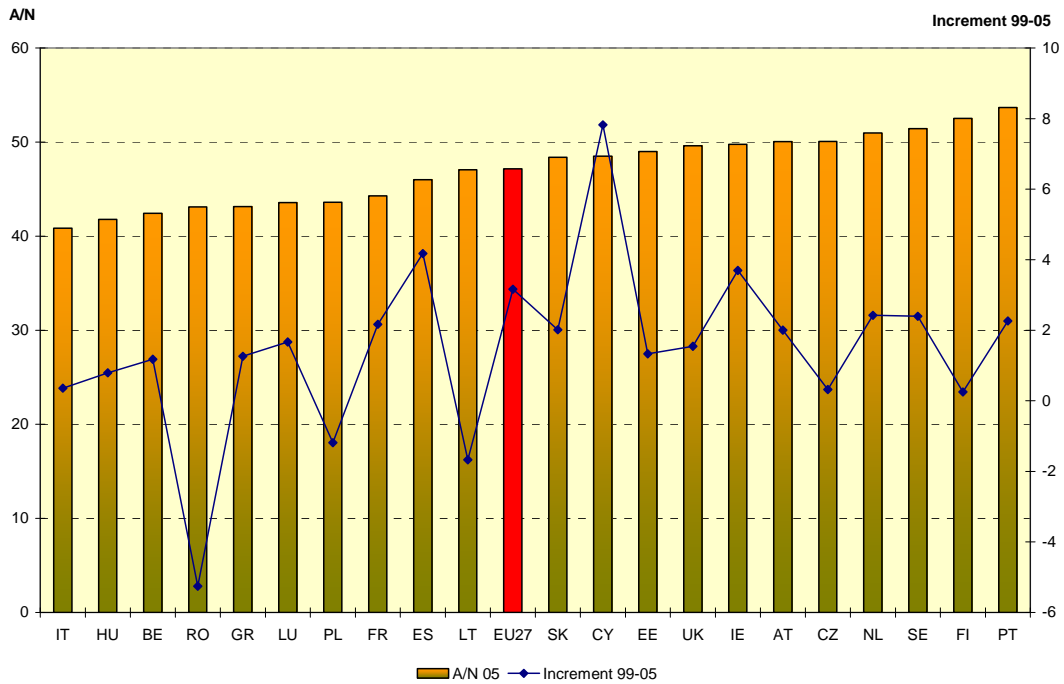


(*) -The data from Bulgaria, Denmark, Malta and Slovenia is not included
 -The data for France does not include the overseas departments
 - Only those countries with PR regions at NUTS-2 level are shown in the graph

5.5.4. In Intermediate Regions

(Graph 38) The average level of active population over total population in IR regions as well as its evolution is close to that of rural areas and also below the EU ratio. The greatest differences with the respective national average take place in Spain and Romania –more than 2 percentage points- whereas IR regions of Finland, Ireland, and Portugal present a ratio over the country average. As for the evolution over the last years, this ratio has grown and contributed positively to the growth of GDP pc in IR regions.

Graph 38: Active population over total population and percentage change 1999-2005 in IR (*)

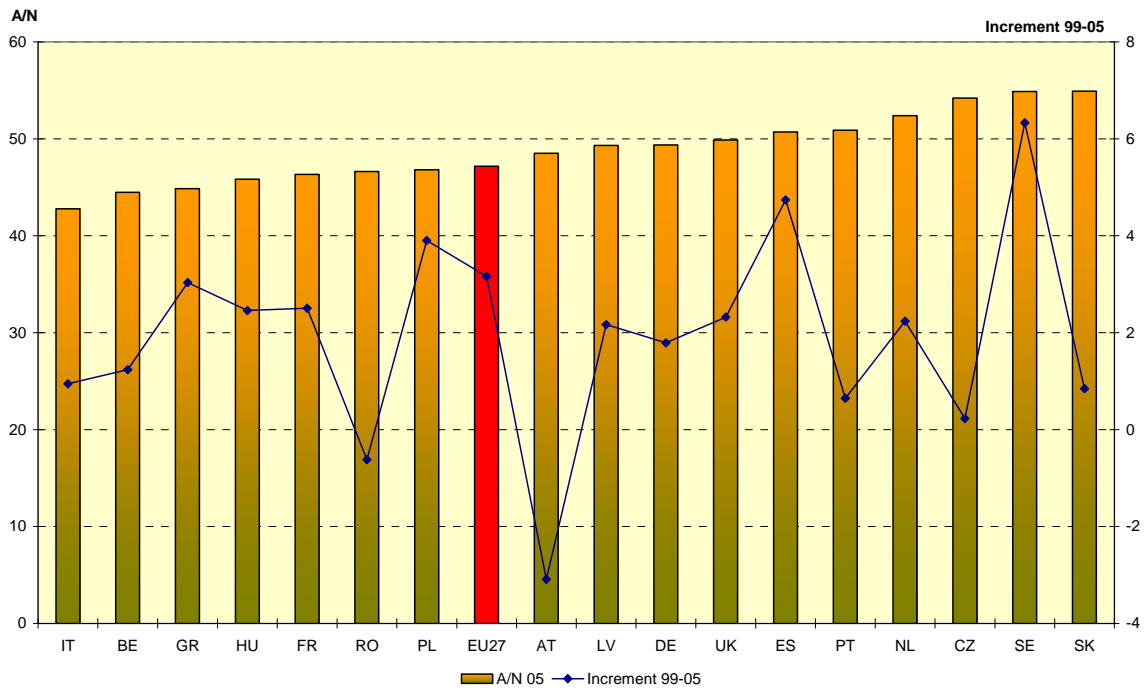


(*) -The data from Bulgaria, Denmark and Slovenia and UK is not included
 -The data for France does not include the overseas departments
 - Only those countries with IR regions at NUTS-2 level are shown in the graph

5.5.5. In Predominantly Urban regions

(Graph 39): Not only PU regions present the highest ratio of active population over total population, but this ratio has grown over the last years. The highest positive differences between urban regions and the national average are found in Slovakia, Sweden and Hungary, whereas Austria and Portugal present an activity rate lower than the average. The influence of this component is positive on the growth of GDP pc.

Graph 39: Active population over total population and percentage change 1999-2005 in PU (*)



(*) - The data from Bulgaria, Denmark, Malta and Slovenia is not included
 - Only those countries with PU regions at NUTS-2 level are shown in the graph

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Conclusions

- Labour productivity has a strong positive correlation with the GDP pc at country level and by type of region (PR, IR and PU).
- Differences in GDP pc are mainly explained by productivity differentials among regions, being a key indicator to assess regional competitiveness.
- The increase in labour productivity drives the growth in GDP pc; in the three types of regions, most of the growth in GDP pc is explained by the variation in labour productivity.
- There is a strong and positive correlation between GDP pc and labour productivity in terms of level and growth.
- The other two indicators –employment over active population and active population over total population- reveal how the labour force is used. There are some aspects to point out:

The ratio of employment over active population contributed negatively to the growth of GDP pc at national level and also by type of region. In contrast, active population over total population contributed positively to the growth. Therefore, the increment of the active population was relatively higher than the increase of employees.

The level of employment over active population is the lowest in PR regions. In fact, in some countries the difference between PR and PU regions is around 10 percentage points. Moreover, the employment rate in PR has fallen approximately 2 percentage points over the last years.

The activity rate in PR areas is approximately 1.4 percentage points lower than the EU average figure. On average, PR regions are growing less than the IR and PU regions.

The average level of employment over active population in IR regions is around the same level than PR areas. Over the last years, the distance with PU regions has shortened.

The average level of active population over total population in IR regions as well as its evolution is close to that of rural areas and therefore below the EU average

6. ANNEXES

Annex A: Tables & graphs

Box 1.1: OECD methodology to define rural areas

The OECD methodology is based on population density (OECD, Creating rural indicators for shaping territorial policy, Paris, 1994).

It is based on a two-step approach :

First, local units (e.g. municipalities) are identified as rural if their population density is below 150 inhabitants per square kilometre.

Then, regions (e.g. NUTS 3 or NUTS 2), are classified in one of the 3 categories:

- Predominantly Rural region (PR) : if more than 50% of the population of the region is living in rural communes (with less than 150 inhabitants / km²)
- Intermediate Region (IR) : if 15% to 50% of the population of the region is living in rural local units
- Predominantly Urban region (PU) : if less than 15% of the population of the region is living in rural local units.

Changes introduced in the second step of the methodology (OECD, Regions at the glance, Paris, 2005):

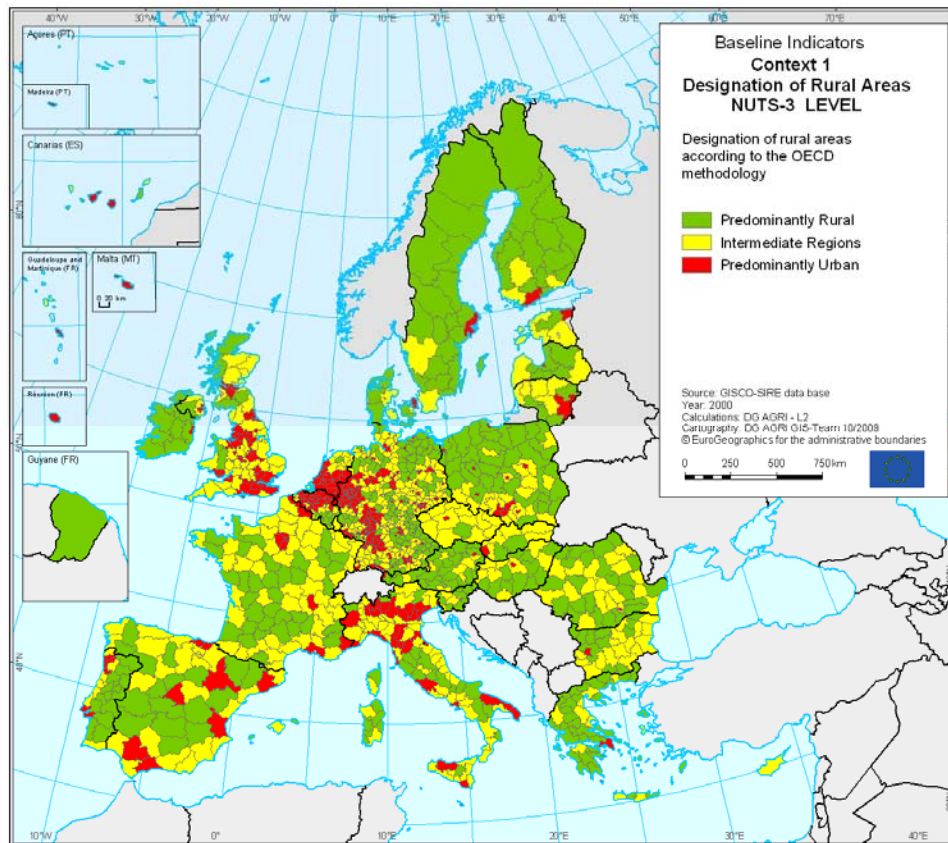
- if there is an urban centre > 200.000 inhabitants (in EU) representing no less than 25% of the regional population in a "predominantly rural" region, it is re-classified as "intermediate"
- if there is an urban centre > 500.000 inhabitants (in EU) representing no less than 25% of the regional population in an "intermediate" region, it is re-classified as "predominantly urban".

An "urban center" in Europe is defined as a local unit LAU2 (e.g. municipality) with a population density above 150 inhabitants per Km² and total population above 200.000 inhabitants.

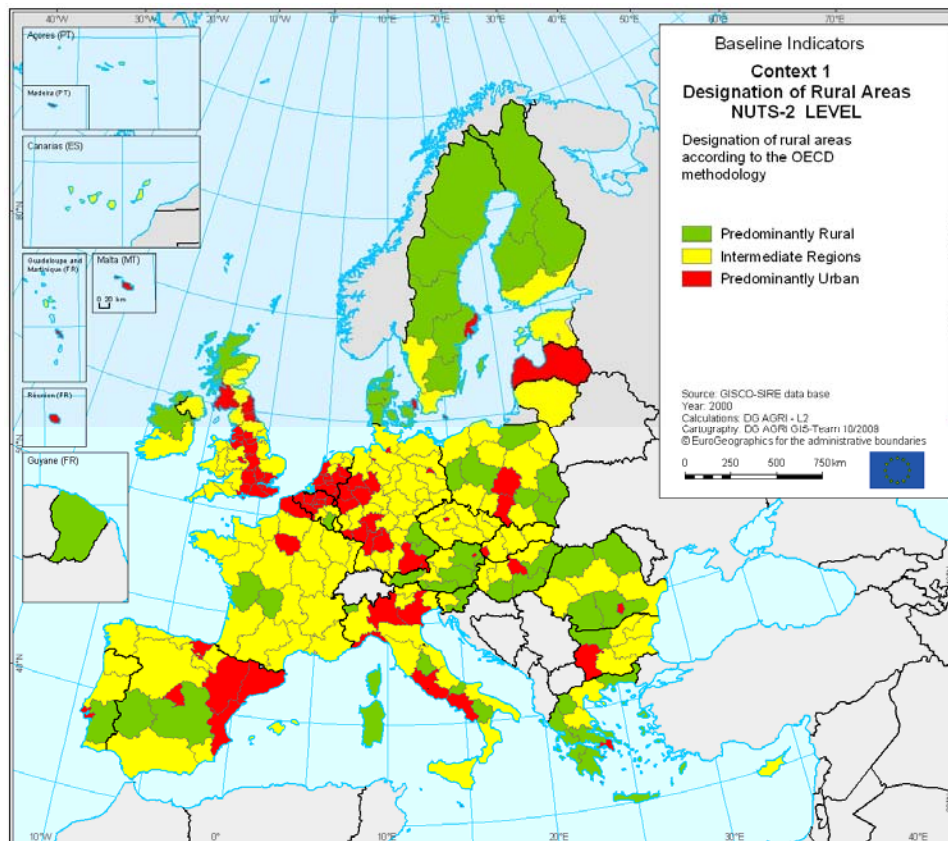
Characterisation of the rural character at regional level, where most of the statistics are available, allows drawing easily a picture of the different types of areas at national level.

As for the first step, the method requires information on population and areas at local level, the characterisation can only be made with a long periodicity (in general every 10 years when a population census is made). The classification presented in this report is based on the data of the census 2010.

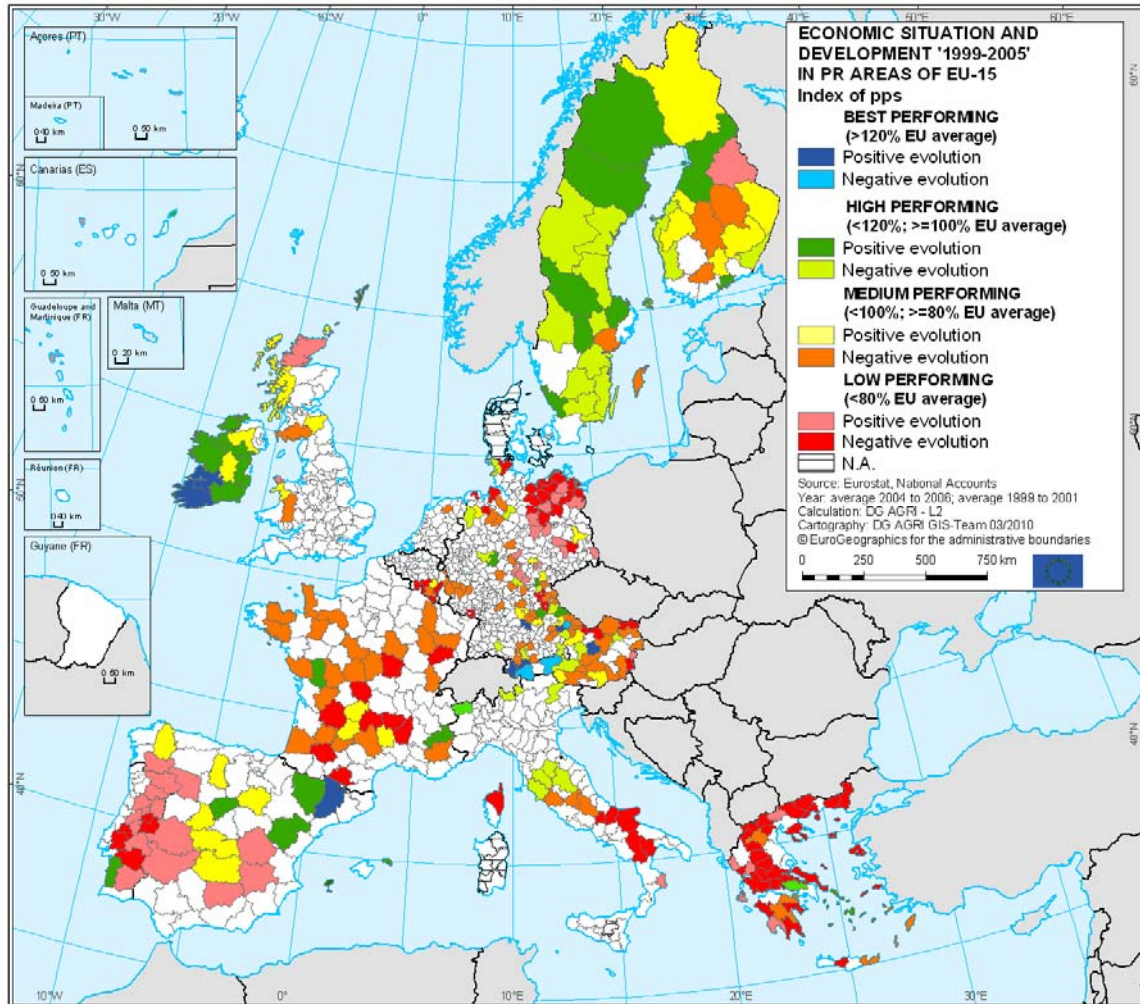
Map 1 (a): Designation of Rural areas at NUTS-3 level



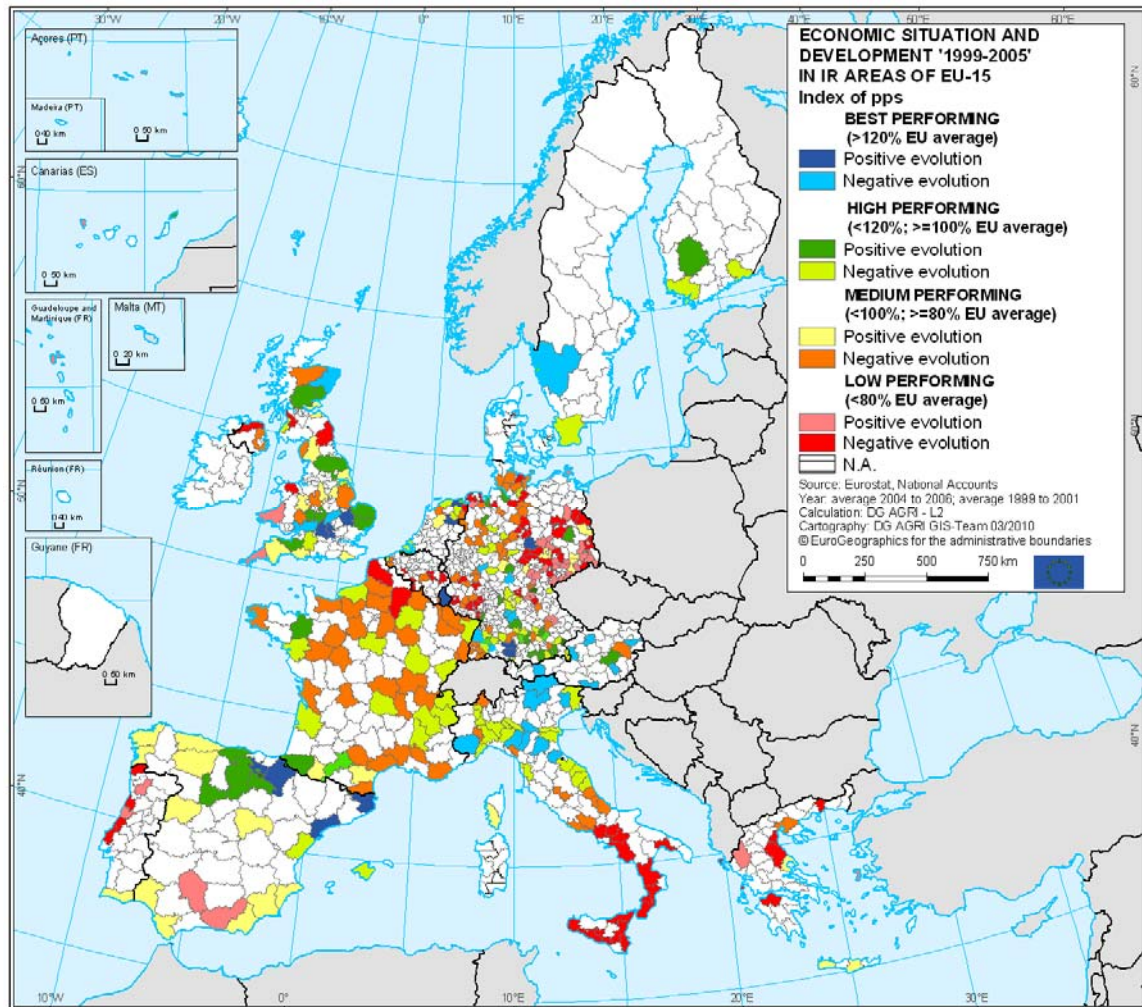
Map 1 (b): Designation of Rural areas at NUTS-2 level



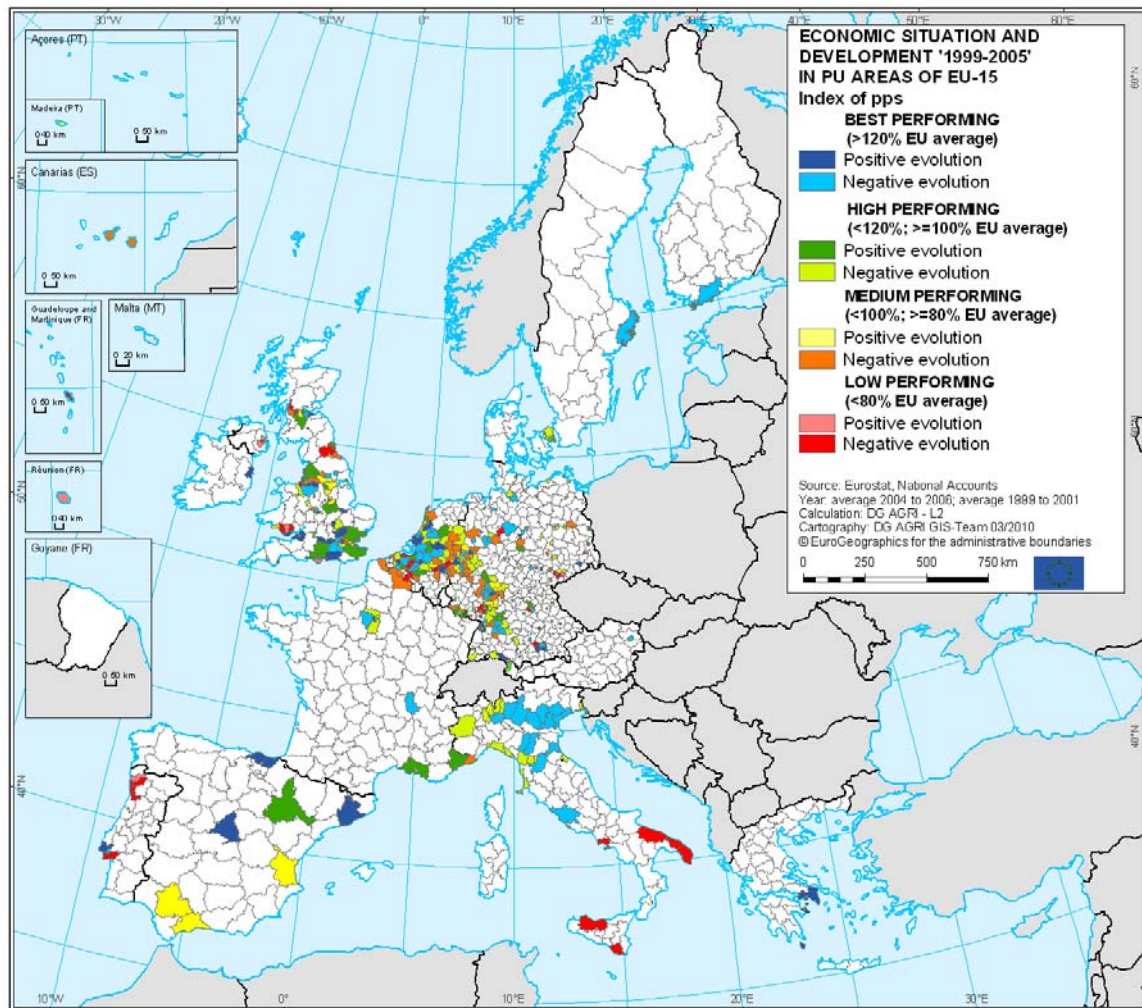
Map 2 (a) GDP pc (2005) and development (1999-2005) in Predominantly Rural regions of EU-15



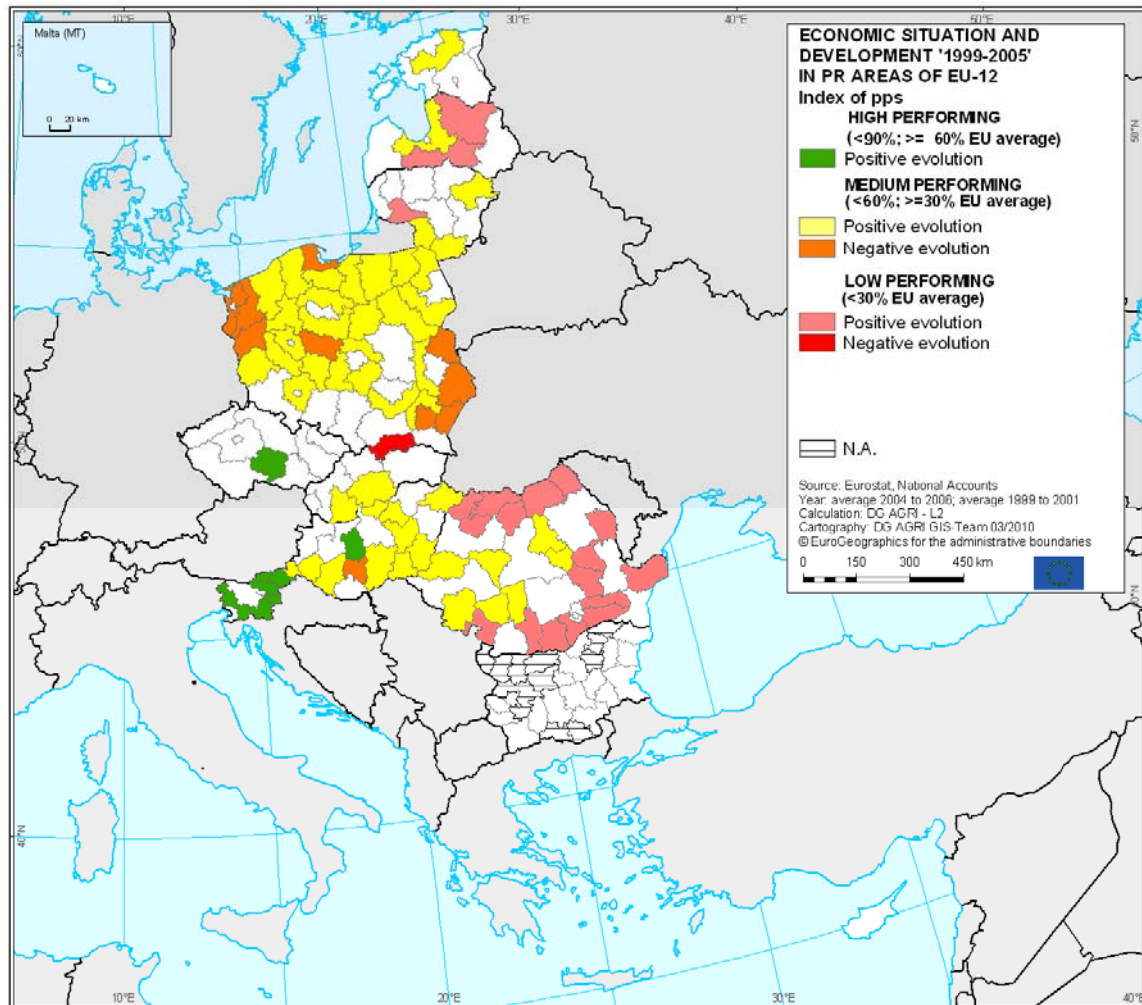
Map 2 (b) GDP pc (2005) and development (1999-2005) in Intermediate Rural regions of EU-15



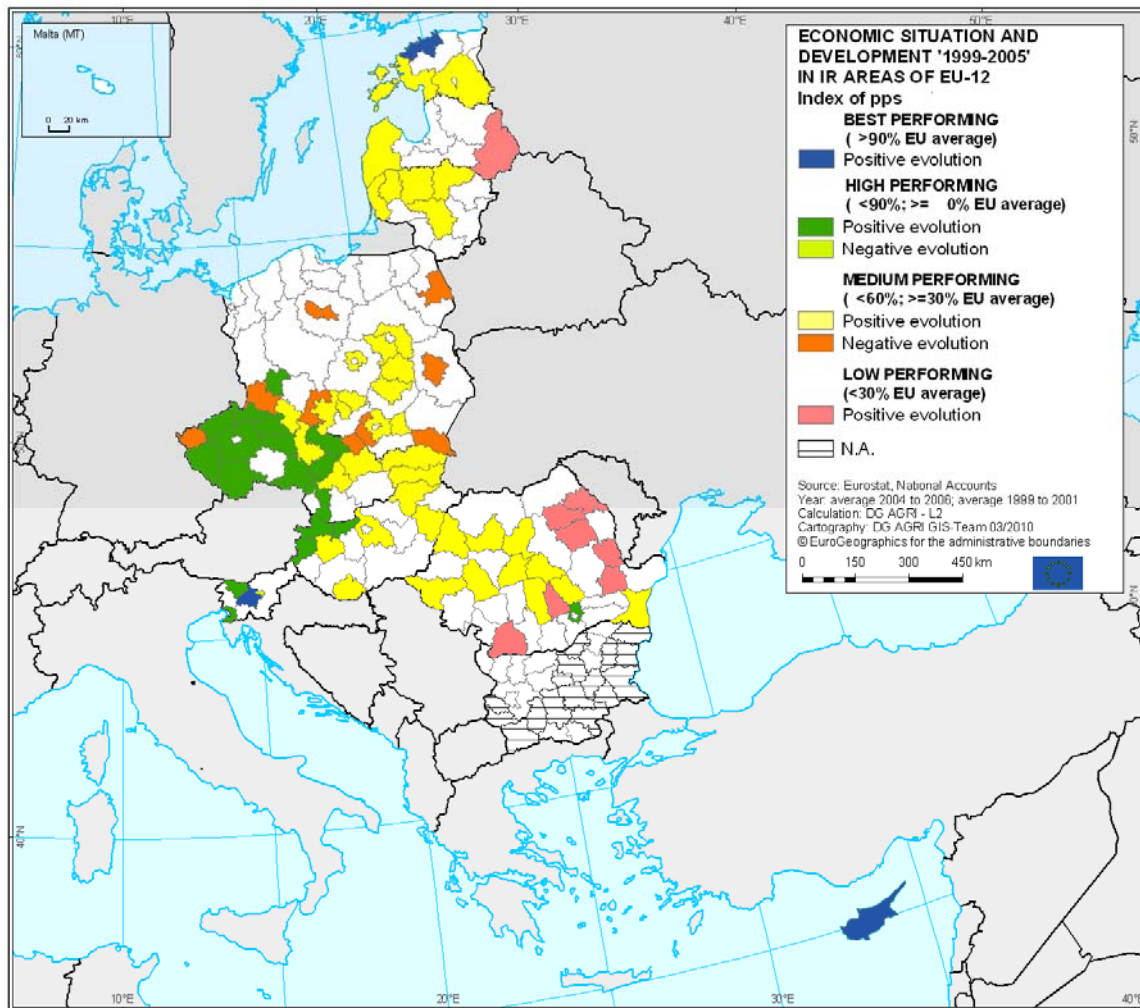
Map 2 (c) GDP pc (2005) and development (1999-2005) in Predominantly Urban regions of EU-15



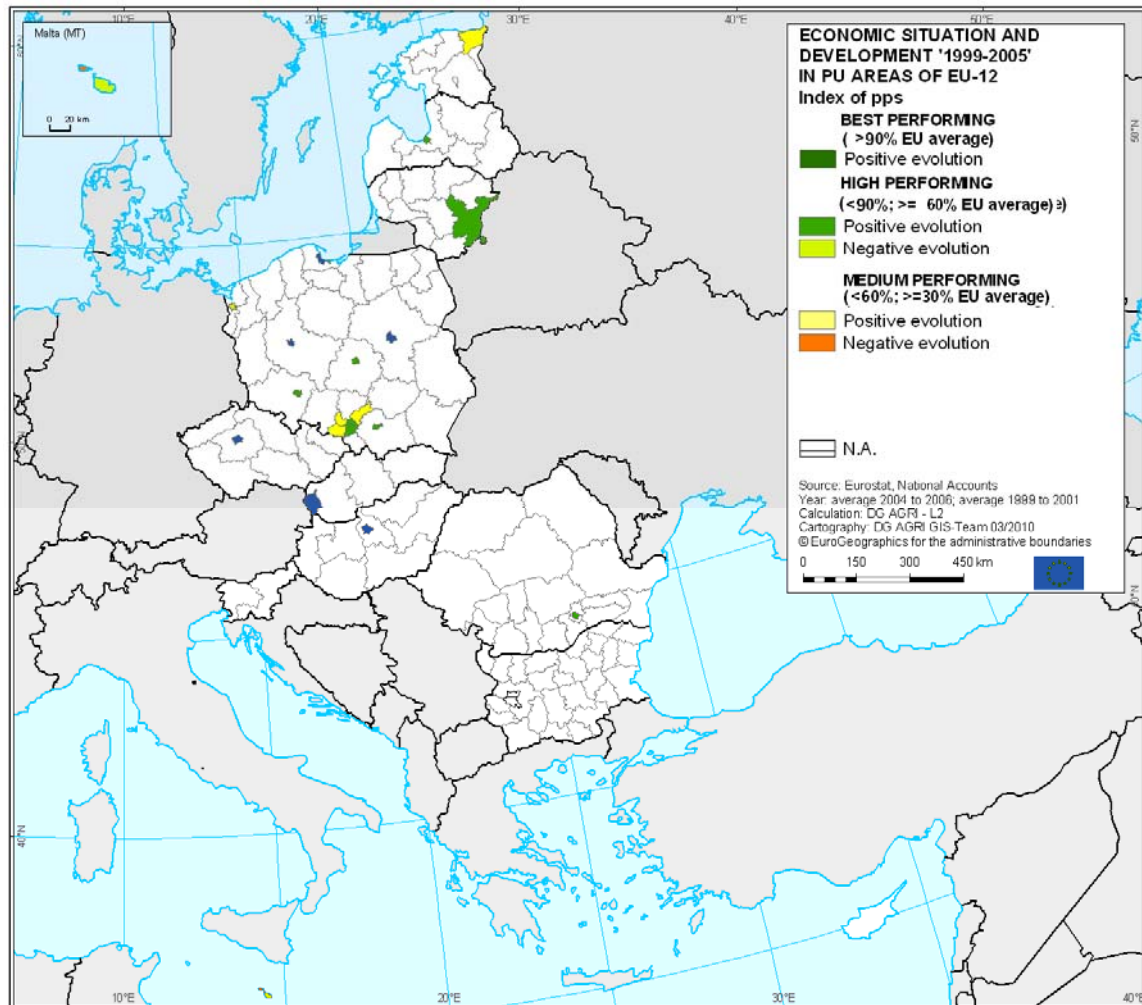
Map 3 (a) GDP pc (2005) and development (1999-2005) in Predominantly Rural regions of EU-12



Map 3 (b) GDP pc (2005) and development (1999-2005) in Intermediate Rural regions of EU-12



Map 3 (c) GDP pc (2005) and development (1999-2005) in Predominantly Urban regions of EU-12



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