General and regional statistics

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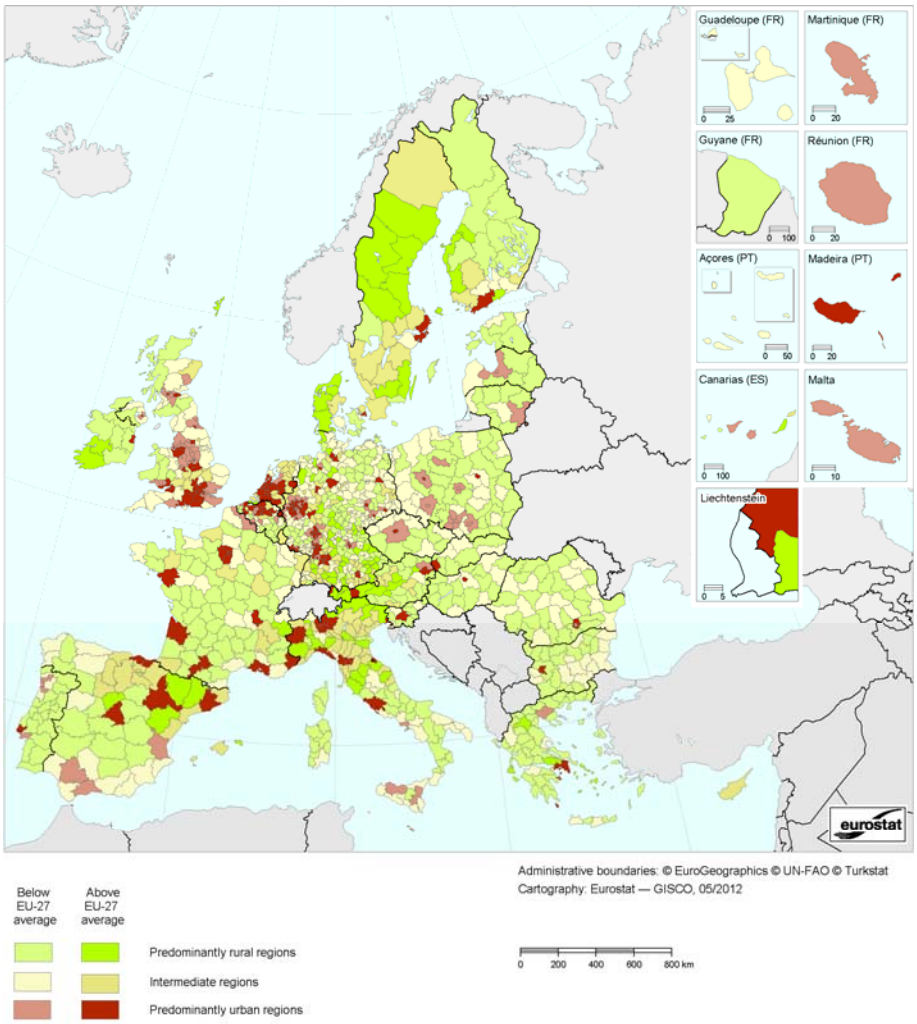
eurostat
Statistics in focus
30/2012

The economy of EU rural regions

Most of the rural regions (81%) recorded a GDP per inhabitant below the EU average in 2009

Map 1: GDP per inhabitant in PPS by NUTS 3 regions and by urban-rural typology, 2009



([1]) Spain, 2008 (except for Asturias (ES120), Cantabria (ES130), Navarra (ES220), La Rioja (ES230), Madrid (ES300), Murcia (ES620), Cueta (ES630) and Melilla (ES640))

Source: Eurostat (online data code: nama_r_e3gdp)

In 2009, gross domestic product (GDP) [1] per inhabitant was 17 100 purchasing power standards (PPS) [2] at current market prices in the predominantly rural regions [3] of the EU (NUTS3), i.e. 73% of the European GDP average. Between 2008 and 2009, GDP per inhabitant was down by 6.6% in rural regions and by 6.0% in the EU as a whole.

The purpose of this paper is to present economic data and the impact of the crisis especially in the context of rural development, making use of the urban-rural typology [4].

[1] *See GDP methodological notes*
[2] *See PPS methodological notes*
[3] *Predominantly rural regions named as rural regions (res. Urban)*
[4] *See urban-rural typology in Methodological notes*

GDP in rural regions lagged behind the EU average

In 2009, gross domestic product (GDP) per inhabitant in purchasing power standards (PPS) in the predominantly rural regions of the EU lagged behind the EU average of 23 500 PPS per inhabitant. In Map 1, the NUTS 3 regions are shown according to their urban-rural types and, within each type, regions have been divided into two categories: those regions with a GDP either above or below the EU average. Around 81% of rural regions posted a GDP per inhabitant in PPS that was below the EU average. In contrast, only 41% of the predominantly urban regions and 63% of the intermediate regions recorded a GDP per inhabitant below the EU average. The economic lags of rural regions were recorded in 21 of 24 Member States[5] that have at least one predominantly rural region as shown in Table 1.

However, there were some differences between the countries. For example, in Austria, 9 out of the 23 rural regions recorded a GDP above the EU average. In Denmark, 3 out of the 5 rural regions recorded a GDP that was higher than the EU average, as did all of the urban regions and half of the intermediate regions. In Portugal, all of the rural and intermediate regions and 67% of the urban regions recorded a GDP that was lower than the EU average.

The GDP per inhabitant in rural regions also covered a narrower range of values than the other types of regions. Consequently, the GDP per inhabitant in rural regions varied from 0.2 to 2.2 times the EU average, compared with from 0.4 to 6.0 times the EU average in urban regions and from 0.2 to 2.7 times the EU average in intermediate regions.

[5] *See Number of regions by urban-rural in methodological notes*

Economic lags and crisis effects in rural regions

In 2009, the GDP per inhabitant at current market prices was 17 100 PPS in the EU rural regions, 21 000 PPS in the intermediate regions and 29 100 PPS in urban regions, as shown in Table 1. The ranking of GDP by regional types followed the same pattern in almost all Member States except three: Denmark, Portugal and the Netherlands. In the first two countries, GDP values in rural regions were higher than the intermediate values. In the Netherlands there is only one rural region (Zeeuwsch-Vlaanderen) which had a GDP per inhabitant higher than the other types of regions due to the significant industrial activity in this sparsely populated region.

However, the lags in the rural regions differed considerably from country to country as shown in Figure 1. In Bulgaria, Slovakia, Romania and Hungary urban regions recorded a GDP per inhabitant that was more than two times higher than the national average, while rural regions stayed well below the national average level.

The economic levels of the Member States had a broad impact on the ranking of the GDP per inhabitant by type of region. For example, Denmark and Ireland recorded a higher GDP than the EU average in all types of regions. On the other hand, the Greek rural regions recorded a GDP of 17 700 PPS per inhabitant, i.e. higher than the EU rural regions' average but below the EU average for the other types of regions. In contrast, in the United Kingdom, GDP figures in rural regions were 16 700 PPS; below the EU averages, even though the national GDP was above the EU average.

Between 2008 and 2009, the GDP per inhabitant in PPS fell by 6.6% in rural regions, by 6.3% in intermediate regions and by 5.8% in urban regions (nominal change). (See Table 1) The crisis has particularly affected the economy of the rural regions and compounded the economic lags of rural regions as a result. However, the impacts of the crisis were fairly mixed from one country to another. Among the 24 Member States that included at least one rural region, there were 13 that recorded a decrease that was higher than the national figure. Moreover, the nominal change of GDP varied fairly extensively in rural regions, from -18.3% in Lithuania to +1.0% in Poland.

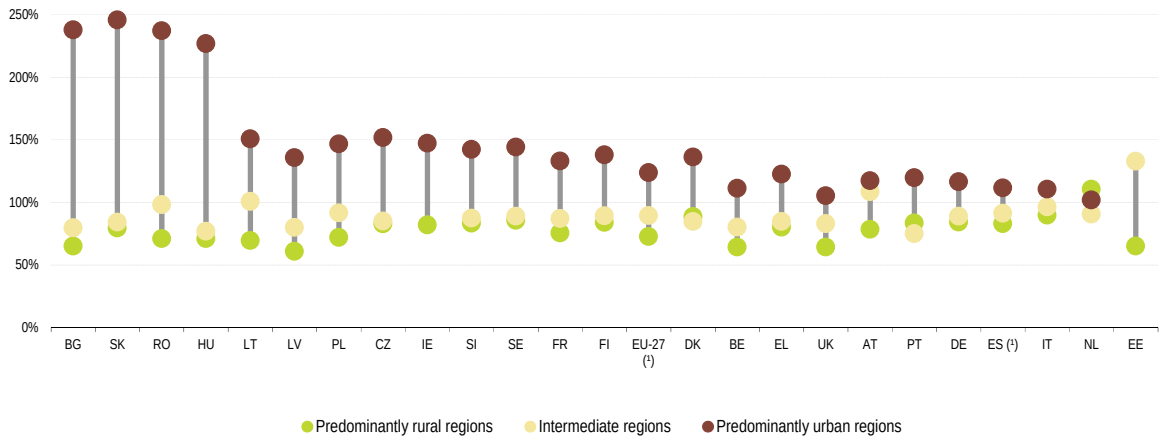
Table 1: GDP per inhabitant in PPS at current market prices by country and urban-rural typology

	2009				Nominal change 2009/2008 (%)			
	Predominantly rural regions	Intermediate regions	Predominantly urban regions	National	Predominantly rural regions	Intermediate regions	Predominantly urban regions	National
EU-27 (1)	17 100	21 000	29 100	23 500	-6.6	-6.3	-5.8	-6.0
BE	17 800	22 200	30 800	27 700	-3.8	-4.3	-4.6	-4.2
BG	6 700	8 200	24 500	10 300	-5.6	-8.9	-2.0	-5.5
CZ	16 000	16 400	29 300	19 300	-3.0	-4.1	-6.4	-4.5
DK	25 600	24 500	39 400	28 900	-5.9	-5.4	-6.2	-7.1
DE	22 900	24 200	31 700	27 200	-6.1	-6.6	-6.2	-6.2
EE	9 700	19 800	-	14 900	-16.4	-12.8	-	-13.9
IE	24 600	-	44 200	30 000	-10.9	-	-8.5	-9.9
EL	17 700	18 700	27 100	22 100	-4.3	-7.0	-3.6	-4.3
ES (1)	20 100	22 100	27 000	24 200	-6.5	-6.8	-6.6	-6.6
FR	19 200	22 100	33 800	25 400	-5.4	-5.2	-4.2	-4.9
IT	21 900	23 500	27 000	24 400	-9.5	-5.6	-5.6	-6.5
CY	-	23 500	-	23 500	-	-4.9	-	-4.9
LV	7 300	9 600	16 300	12 000	-7.6	-11.9	-17.3	-14.9
LT	8 900	12 900	19 300	12 800	-18.3	-15.1	-17.5	-16.9
LU	-	62 500	-	62 500	-	-10.3	-	-10.3
HU	10 800	11 700	34 500	15 200	-7.7	-6.4	-1.4	-5.0
MT	-	-	19 200	19 300	-	-	-2.0	-2.0
NL	34 300	28 100	31 600	31 000	-14.9	-8.5	-7.1	-7.7
AT	23 000	31 800	34 400	29 300	-5.3	-6.5	-6.0	-5.8
PL	10 300	13 100	21 000	14 300	1.0	2.3	1.0	1.4
PT	15 700	14 100	22 500	18 800	-3.1	-3.4	-4.3	-3.6
RO	7 800	10 800	26 100	11 000	-4.9	-3.6	-10.6	-6.0
SI	17 100	17 900	29 200	20 500	-10.5	-10.9	-8.8	-9.7
SK	13 500	14 300	41 800	17 000	-8.2	-8.9	-0.2	-6.6
FI	22 600	24 000	37 100	26 900	-10.3	-11.8	-7.7	-9.7
SE	24 000	24 900	40 400	28 000	-11.8	-11.7	-4.5	-9.7
UK	16 700	21 600	27 400	26 000	-8.2	-6.9	-6.8	-7.5

(1)Eurostat estimation for the purpose of the paper

Source: Eurostat (online data code: urt_e3gdp)

Figure 1: GDP per inhabitant in PPS at current market prices by urban-rural typology, 2009
(as a percentage of the national average)



(1)Eurostat estimation for the purpose of the paper

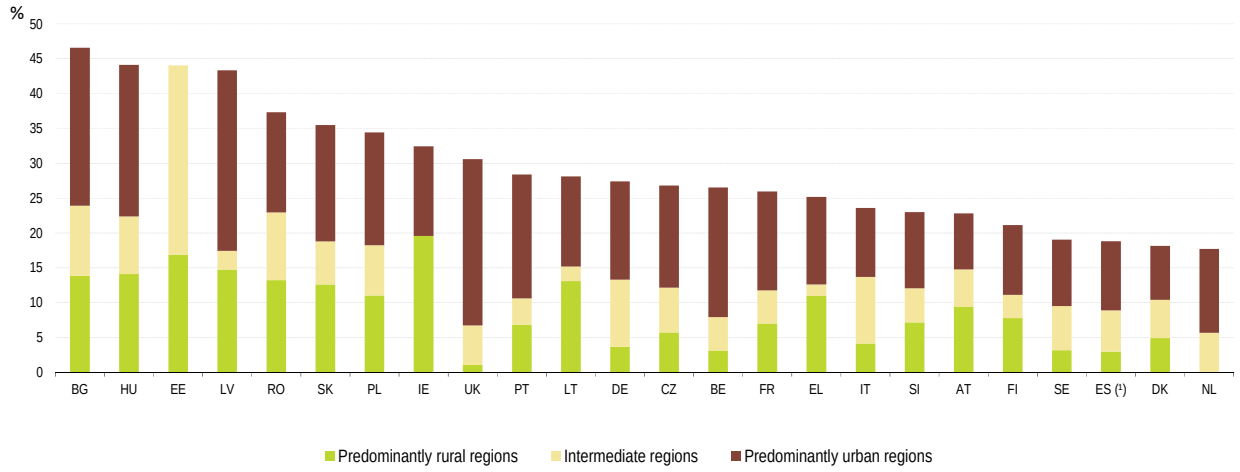
Source: Eurostat (online data code: urt_e3gdp)

Dispersion of regional GDP by urban-rural typology

In 2009, the GDP of the NUTS 3 regions varied from 18% to 47% from the GDP national average and rural regions contributed from 3% to 60% to this dispersion of the regional GDP. The dispersion[6] assesses the variability of the GDP per inhabitant in PPS within the country between NUTS 3 regions. The calculation takes into account the difference between the GDP per inhabitant in PPS in each NUTS3 region from the national average, weighted by the regional population. Figure 2 shows both the total value of the indicator and the contributions of regional types. In most countries, it was the intermediate regions that were usually the closest to the national average. However, despite the lags in GDP in rural regions as compared with the national average, the contribution of rural regions to the dispersion was also impacted by structural effects. Particular factors included the number of rural regions belonging to the country and the weight of the regional population. This explains in particular the small contribution to the dispersion of British rural regions (sparsely populated) and the large contribution of Irish rural regions (main component of the territory).

[6] *See dispersion of regional GDP in Methodological notes*

Figure 2: Dispersion of the regional GDP within the country by urban-rural typology, 2009



(1)2007 value

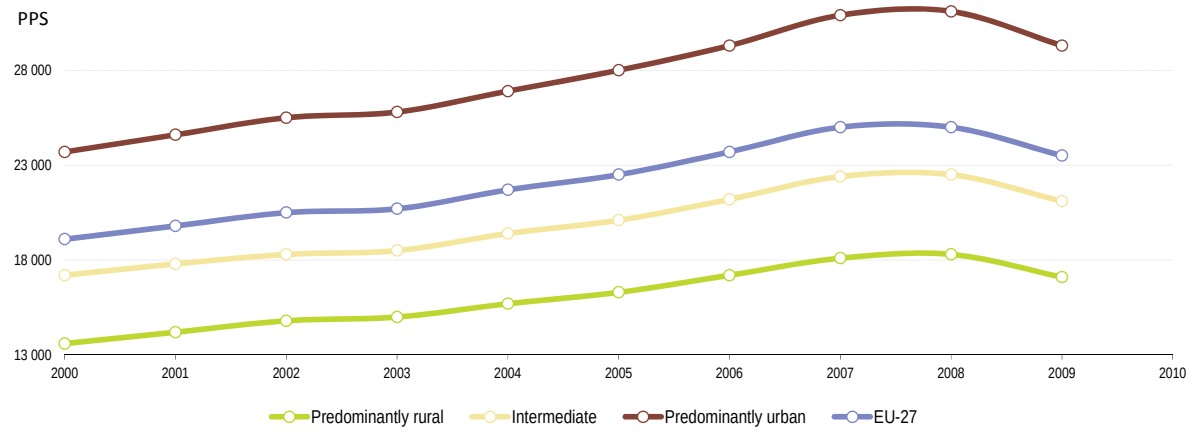
Source: Eurostat (online data codes: nama_r_e0digdp and nama_r_e3gdp)

Trend of GDP per inhabitant in PPS between 2000 and 2009

Between 2000 and 2009, the trend in GDP per inhabitant in PPS followed the same pattern in rural, intermediate and urban regions, as for the EU average (see Figure 3). Moreover, the ranking order between the different types of regions has stayed the same.

During this period, the GDP average per inhabitant in the EU rural regions actually increased, as it had done in the other regions between 2000 and 2008, and decreased between 2008 and 2009 due to the crisis. Between 2002 and 2003, as between 2007 and 2008, there was a slowdown in the economy of EU regions of all types. In some regions it was more than a slowdown, and the crisis effects have been seen since 2007, in Ireland or in the United Kingdom, for example.

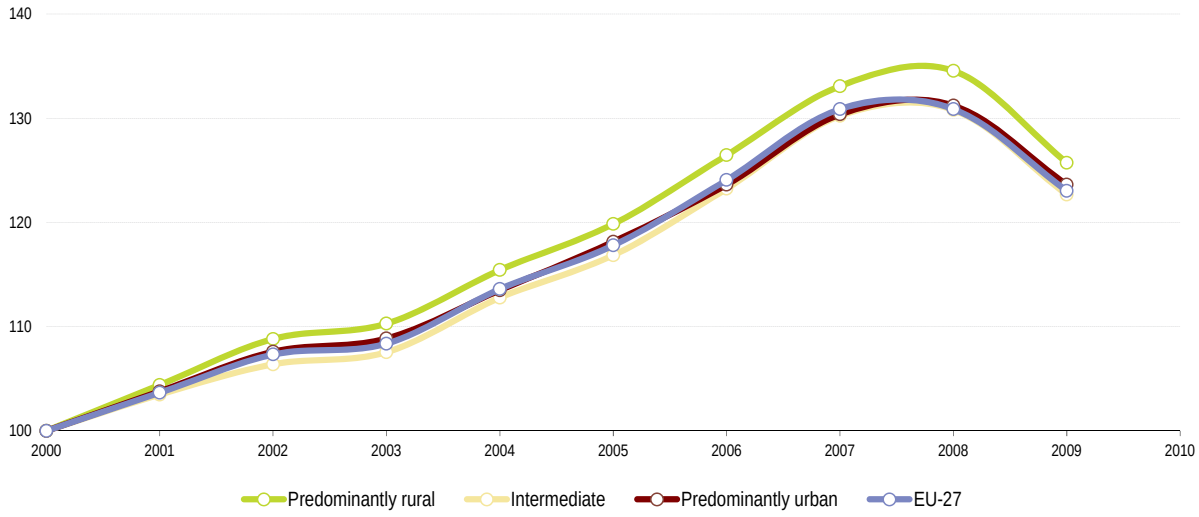
Figure 3: GDP per inhabitant in PPS between 2000 and 2009, at current market prices by urban-rural typology



Source: Eurostat (online data code: urt_e3gdp)

Although the trends between the types of regions were similar, the relative changes in GDP per inhabitant in rural regions were different from those in the other regions. Figure 4 presents the relative change in GDP as compared with the 2000 GDP values (index=100 in 2000). As the Figure shows, the nominal growths in GDP per inhabitant in rural regions were more pronounced. Between 2000 and 2008, in particular, rural regions made up their economic lags, with their GDP increasing by 34.5%; 3.5 percentage points more than in the EU as a whole. Between 2008 and 2009, their GDP per inhabitant fell by 6.6%; 0.6 percentage points more than in the EU as a whole.

Figure 4: GDP nominal change between 2000 and 2009, by urban-rural typology
(Index=100 in 2000)



Source: Eurostat (online data code urt_e3gdp)

Contribution of the value added by types of regions, 2009

In 2009, the value added[7] in the EU accounted for EUR 10 575 billion; 17% of this value added was produced in rural regions, 32% in intermediate regions and 51% in urban regions.

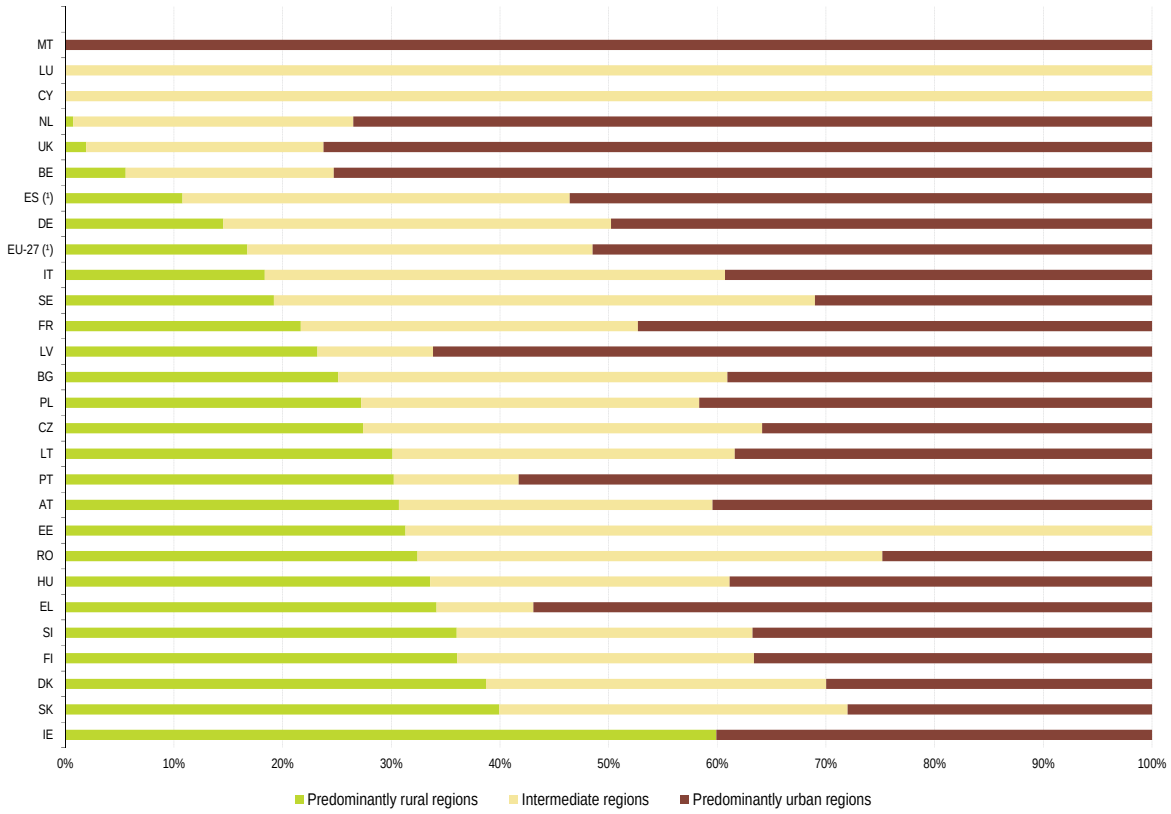
[7] *See value added in Methodological notes*

Table 2: Gross value added at basic prices, 2009
(Million of euro)

	2009
EU-27	**10 575 306**
Predominantly rural regions	1 771 445
Intermediate regions	3 360 771
Predominantly urban regions	5 443 090

Source: Eurostat (online data code nama_r_e3vab95r2)

Figure 5: Gross value added at basic prices by urban-rural typology, 2009



Source: Eurostat (online data code: nama_r_e3vab95r2)

As Figure 5 shows, the breakdown of the value added by urban rural typology varied considerably from country to country. For example, the value added produced in Irish rural regions accounted for 60% of the national figure, while at the other end of the scale the British rural regions accounted for only 2% of the national value added. This distribution is influenced by the urban-rural structure of the country and the economic development and specialization of the rural regions.

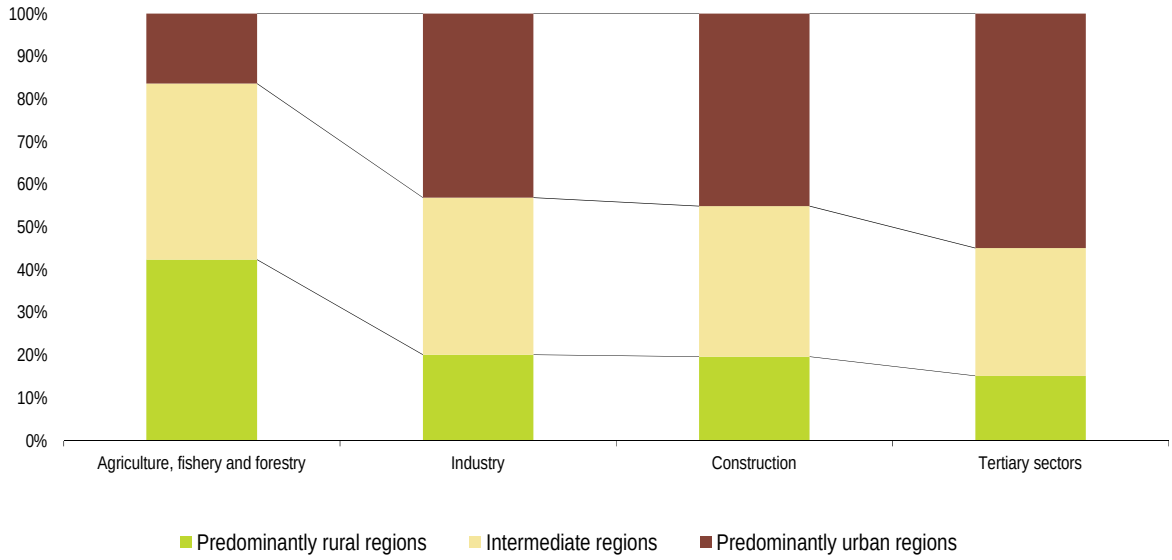
Distribution of the value added by industry and types of regions, 2009

As Figure 6 shows, agriculture, fishery and forestry activities have remained concentrated in rural regions. On the other hand, residential economic activities, such as construction or some tertiary sectors[8] are concentrated in urban regions. Generally speaking, the economic lags of rural regions were due in particular to the lower contributions of rural regions to the value added generated by industries[9] such as the tertiary sector or industry. These industries have actually generated the greatest share of national value added.

[8] *See main economic sectors in methodological notes*

[9] *Industries in regional account refers to all the economic activity fields*

Figure 6: Gross value added at basic prices by industry and urban-rural typology in EU, 2009



Source: Eurostat (online data code nama_r_e3vab95r2)

Table 3: Contribution of predominantly rural regions to th national value added by main industries, 2009
(as a percentage of the national value)

	Agriculture, fishery and forestry	Industry	Construction	Tertiary sectors
EU-27(1)	42	20	20	15
BE	23	5	8	5
BG	56	36	17	20
CZ	49	33	31	23
DK	67	49	52	36
DE(1)	35	16	22	13
EE	79	34	37	28
IE	96	71	76	54
EL	78	43	42	30
ES	33	9	13	10
FR	48	27	26	20
IT	35	18	21	18
LV	52	28	24	21
LT	64	38	35	26
HU	64	43	40	28
NL	1	2	1	0
AT	70	36	40	27
PL	63	30	28	24
PT	69	33	34	28
RO	55	34	26	30
SI	60	51	40	29
SK	67	49	41	35
FI	67	42	40	33
SE	49	25	20	17
UK	8	2	3	2

(1)Eurostat estimation for the purpose of the paper

Source: Eurostat (online data code nama_r_e3vab95r2)

In 2009, 42% of the value added provided by agriculture, fishery and forestry activities came from rural regions, as Table 3 shows. In contrast, only 15% of the value added provided by the tertiary sector was produced in these regions. The contributions of rural regions to the value added were broadly higher in the primary sector than in other sectors, in almost all Member States. However, there were some differences. The Estonian rural regions contributed 79% of the value added generated by the primary sector, although Dutch rural regions accounted for only 1% of the value added of the primary sectors. These contributions can be explained by the number of rural regions belonging to the country and also by the importance of the primary sectors in the country.

Table **4: Gross value added at basic prices, 2009**

(Million of euros)

	Predominantly rural regions	National
EU-27([1])	1 771 445	10 575 306
BE	16 934	304 441
BG	7 538	30 011
CZ	34 934	127 501
DK	73 995	191 156
DE([1])	311 375	2 140 610
EE	3 738	11 947
IE	86 259	143 971
EL	70 585	206 610
ES ([1])	104 942	973 129
FR	369 566	1 704 548
IT	252 654	1 376 034
CY	-	15 145
LV	3 878	16 714
LT	7 222	23 978
LU	-	33 806
HU	25 945	77 256
MT	-	5 036
NL	3 684	509 148
AT	76 213	248 284
PL	75 070	275 832
PT	44 954	148 703
RO	34 474	106 366
SI	11 089	30 788
SK	22 834	57 176
FI	54 399	150 844
SE	48 967	255 241
UK	26 964	1 410 793

([1])Eurostat estimation for the purpose of the paper

Source: Eurostat (online data code nama_r_e3vab95r2)

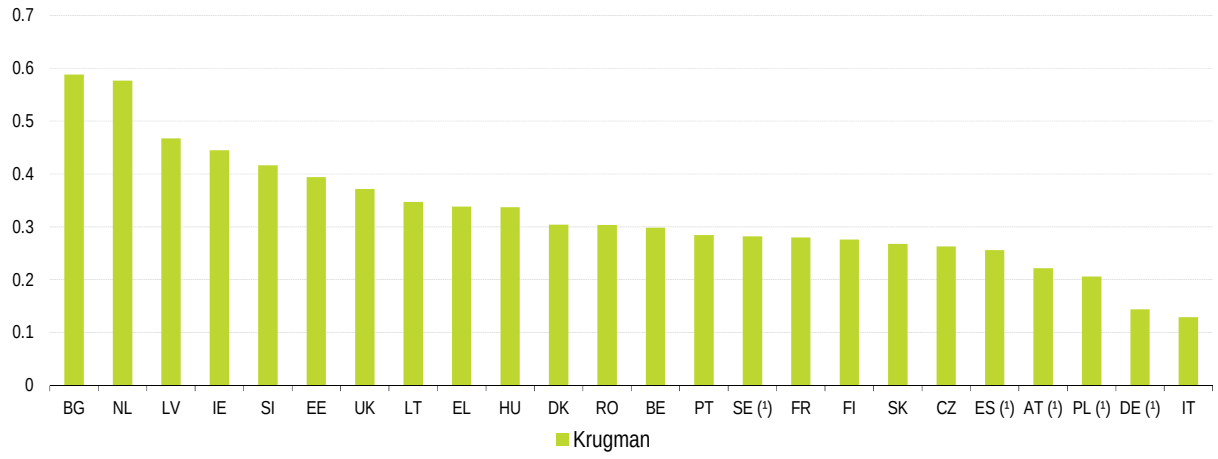
Specialisation of the economy of the rural regions

In 2009, the specialisation of the economy in the rural regions of Bulgaria and the Netherlands was more pronounced than in the other Member States. At the other end of the scale the Italian rural regions recorded an economy less specialized. The territorial specialisation has been assessed using the Krugman index[10] as Figure 7 shows. The index can be seen as a relative specialisation compared with a benchmark, which is the national average in this case. The economies of rural regions are specialized if the distribution of the value added in rural regions by sector activities is very different from the rest of the national territory. Specialisation does not take into account the importance of the sector in the rural economy, which was covered in the previous section.

Specialisation may result in a benefit for the local economy in terms of productivity and competence. However, this mainly depends on the quality of the specialisation. Moreover, high concentration and specialisation can leave a rural economy exposed to a sector crisis.

[10] *See Krugman index in Methodological notes*

Figure 7: Krugman index for predominantly rural regions, 2009



(1)Eurostat estimation for the purpose of the paper

Source: Eurostat (online data code: nama_r_e3vab95r2)

1 *See Krugman index in Methodological notes*

METHODOLOGICAL NOTES

Urban-rural typology

The Urban-rural typology is based on a classification of grid cells of 1 km² as either urban or rural. To be considered as urban, grid cells should fulfil two conditions: a population density of at least 300 inhabitants per km² and a minimum population of 5 000 inhabitants in contiguous cells above the density threshold. The other cells are considered as rural.

NUTS 3 regions have been classified into three groups based on the classification of these grid cells:

- Predominantly urban regions/urban regions: the rural population is less than 20 % of the total population.
- Intermediate regions: the rural population is between 20 % and 50 % of the total population.
- Predominantly rural regions/rural regions: the rural population is 50 % or more of the total population.

In a last step, the size of the cities in the region is considered.

- A region classified as predominantly rural by the criteria above becomes intermediate if it contains a city of more than 200 000 inhabitants representing at least 25 % of the regional population.
- A region classified as intermediate by the criteria above becomes predominantly urban if it contains a city of more than 500 000 inhabitants representing at least 25 % of the regional population.

Table 5: Number of NUTS 3 regions by urban-rural typology for EU-27 Member States ([1])

	Predominantly rural regions	Intermediate regions	Predominantly urban regions	Total
EU-27	501	494	308	1 303
Belgium	13	13	18	44
Bulgaria	15	12	1	28
Czech Republic	6	6	2	14
Denmark	5	4	2	11
Germany	124	208	97	429
Estonia	3	2	-	5
Ireland	7	-	1	8
Greece	44	5	2	51
Spain	21	26	12	59
France	54	30	16	100
Italy	41	48	18	107
Cyprus	-	1	-	1
Latvia	3	1	2	6
Lithuania	7	2	1	10
Luxembourg	-	1	-	1
Hungary	13	6	1	20
Malta	-	-	2	2
Netherlands	1	18	21	40
Austria	23	7	5	35
Poland	28	22	16	66
Portugal	20	4	6	30
Romania	25	15	2	42
Slovenia	8	3	1	12
Slovakia	4	3	1	8
Finland	13	6	1	20
Sweden	10	10	1	21
United Kingdom	13	41	79	133

([1]) This version of the urban-rural typology is based on NUTS 2006

Source: Eurostat

METHODOLOGICAL NOTES

GDP – Gross domestic product

GDP at market prices is the final result of the production activity of resident producer units (ESA95, 8.89).

PPS - Purchasing Power Standards

These are fictitious 'currency' units that remove differences in purchasing power, i.e. different price levels between countries. Thus, the same nominal aggregate in two countries with different price levels may result in different amounts of purchasing power. Figures expressed in Purchasing Power Standards are derived from figures expressed in national currency by using Purchasing Power Parities (PPP) as conversion factors. These parities are obtained as a weighted average of relative price ratios in respect to a homogeneous basket of goods and services, both comparable and representative for each country. They are fixed in a way that makes the average purchasing power of one euro in the European Union equal to one PPS.

GVA - Gross Value Added

GVA is the net result of output valued at basic prices less intermediate consumption valued at purchasers' prices. Output (ESA95, 3.14) consists of the products created during the accounting period. Intermediate consumption (ESA95, 3.69) consists of the value of the goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital. The goods and services may be either transformed or used up by the production process. GVA is also available broken down by industries according to NACE Rev. 2 in the breakdowns collection. GVA is calculated before consumption of fixed capital.

NACE

NACE is the acronym used to designate the various statistical classifications of economic activities developed since 1970 in the European Union (EU). NACE provides the framework for collecting and presenting a large range of statistical data according to economic activity in the fields of economic statistics (e.g. production, employment, national accounts) and in other statistical domains.

Main economic sectors

Traditionally, the economic activities are split in primary, secondary and tertiary sectors. Primary sector included agriculture, fishery and forestry sectors (section A of the NACE rev.2); the secondary sectors included industry and construction (section B to F of the NACE rev.2) and tertiary sectors included all the service sectors (section G to U of the NACE rev.2).

Dispersion of regional per-inhabitant GDP

Dispersion indicator is calculated at NUTS 3 levels. The figures used by Eurostat are based on GDP in purchasing power standards (PPS).
National dispersion by urban-rural type -Figure 2

$$D=\frac{100}{Y}\left[\left(\sum_{i\in Urb}\left|y_i-Y\right|\frac{p_i}{P}\right)+\left(\sum_{i\in Int}\left|y_i-Y\right|\frac{p_i}{P}\right)+\left(\sum_{i\in Rur}\left|y_i-Y\right|\frac{p_i}{P}\right)\right]$$

In the above equations:

- y_i is the regional per-inhabitant GDP of region i
- Y is the national average per-inhabitant GDP
- Y_{Rur} is the average of GDP per inhabitant in rural regions; resp. 'Urb' for urban; 'Int' for intermediate
- p_i is the population of region i
- P is the population of the country
- P_{Rur} is the population of the rural regions; resp. 'Urb' for urban; 'Int' for intermediate

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

Krugman index

Sector specialisation is measured by the Krugman index, which is defined as follows:

$$K_r=\sum_i\left|V_r^i-\overline{V^i}\right|$$

V_r^i is the share of sector i in area r based on gross value added.

$\overline{V^i}$ is the share of sector i in the country less area i.

The Krugman index takes value zero if the area r has a sector structure identical to the rest of the country, and takes maximum value two if it has no sector in common with the rest of the country.

Further information

Eurostat website: http://ec.europa.eu/eurostat

Data on 'rural development statistics'
http://epp.eurostat.ec.europa.eu/portal/page/portal/rural_development/data/database

Further information about 'rural development statistics'
http://epp.eurostat.ec.europa.eu/portal/page/portal/rural_development/introduction

Statistical article 'Regional typologies overview' on Statistics explained
http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Regional_typologies_overview

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Manuscript completed on: 28.06.2012
Data extracted on: 27.04.2012
ISSN 1977-0316
Catalogue number: KS-SF-12-030-EN-N