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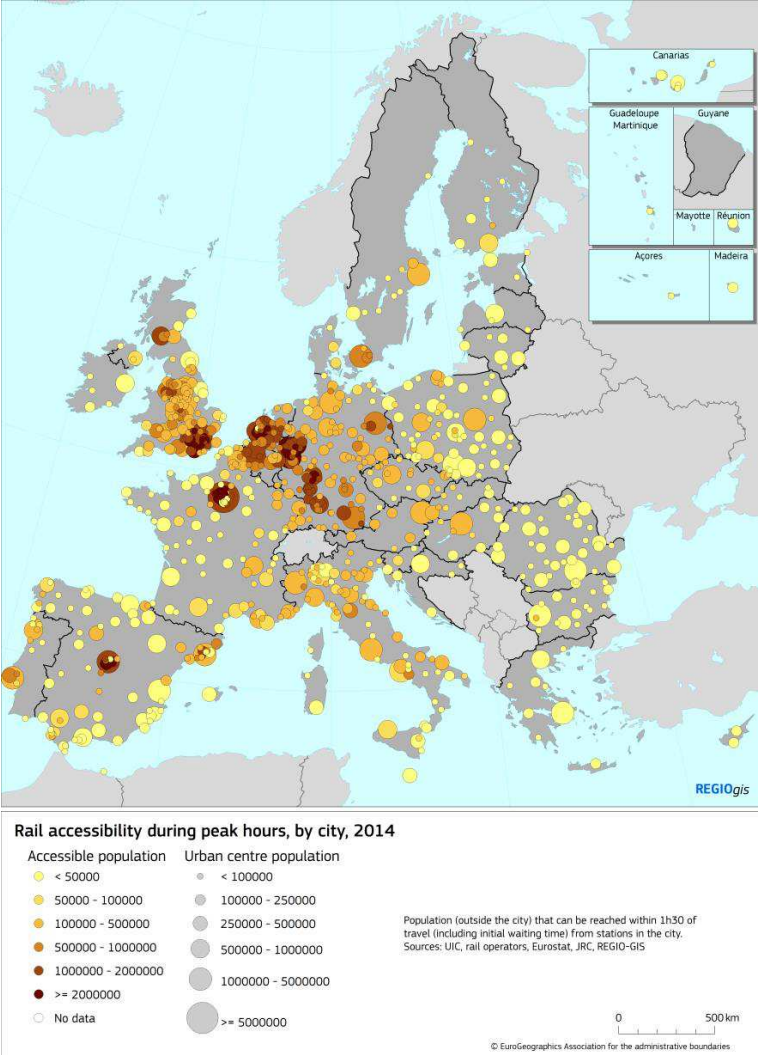
**COMMISSION STAFF WORKING DOCUMENT**  
**Accompanying the document**

**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE  
COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE  
COMMITTEE OF THE REGIONS**

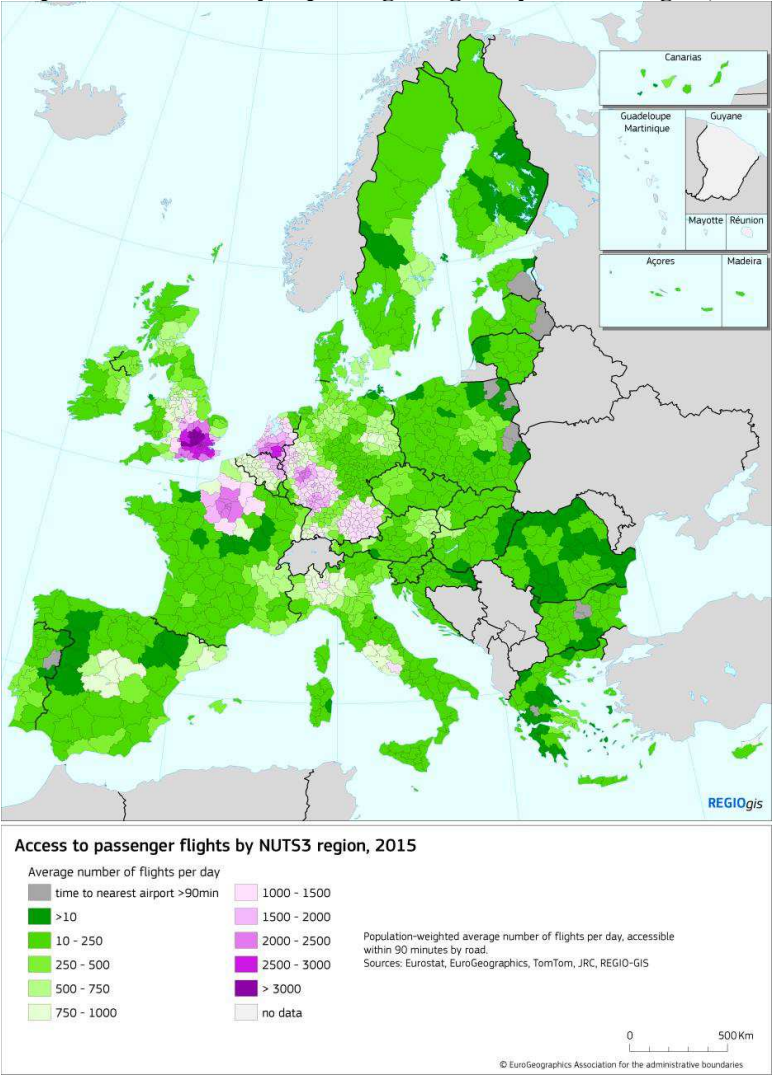
**My region, My Europe, Our future:  
The seventh report on economic, social and territorial cohesion**

{COM(2017) 583 final}

**Map 1-13: Rail accessibility during morning peak hours, by city, 2014**



**Map-1-14: Accessibility to passenger flights by NUTS 3 region, 2013**



### 1.5.5 Digital networks are spreading, but closing the gap between urban and rural areas represents a major challenge

Access to high capacity telecommunication networks is vitally important for competitiveness and growth. The use of digital services and the capacity to operate successfully in a global business environment increasingly rely on fast and efficient broadband connections. ICT infrastructure is therefore a major determinant of the development potential of EU regions. The most prosperous regions are in general already well-endowed in this regard, though there are still serious gaps in many of the less prosperous ones and pronounced disparities between urban and rural areas.

Over 214 million EU households (98%) had access to at least one of the main fixed or mobile broadband technologies (excluding satellite) in mid-2016. If satellite coverage is included, basic broadband services are now available to every household in the EU, so that the European Commission's Digital Agenda for Europe target of basic broadband for all has been achieved.<sup>24</sup>

The coverage of Next Generation Access (NGA)<sup>25</sup> is expanding fast. In 2016, around 76% of households across the EU have access to at least one NGA network, up from 68% at the end of 2014, though there are wide variations in coverage between and within Member States (Map 1-15).

Access to fast broadband services in rural areas remains a challenge. Even though 99% of rural households across the EU28 had access to at least one broadband technology at the end of June 2016, only 39% (12 million households) had access to NGA broadband (Figure 1-21), with almost no households with access in rural areas in Greece (0.3%). Substantial progress has been made since 2012 (Figure 1-21). The funding provided under rural development policy to an expected 4 400 projects to install 'last-mile' connections to larger broadband projects co-financed by other EU funds is planned to improve access to ICT infrastructure and services for an estimated 18 million people living in rural areas.

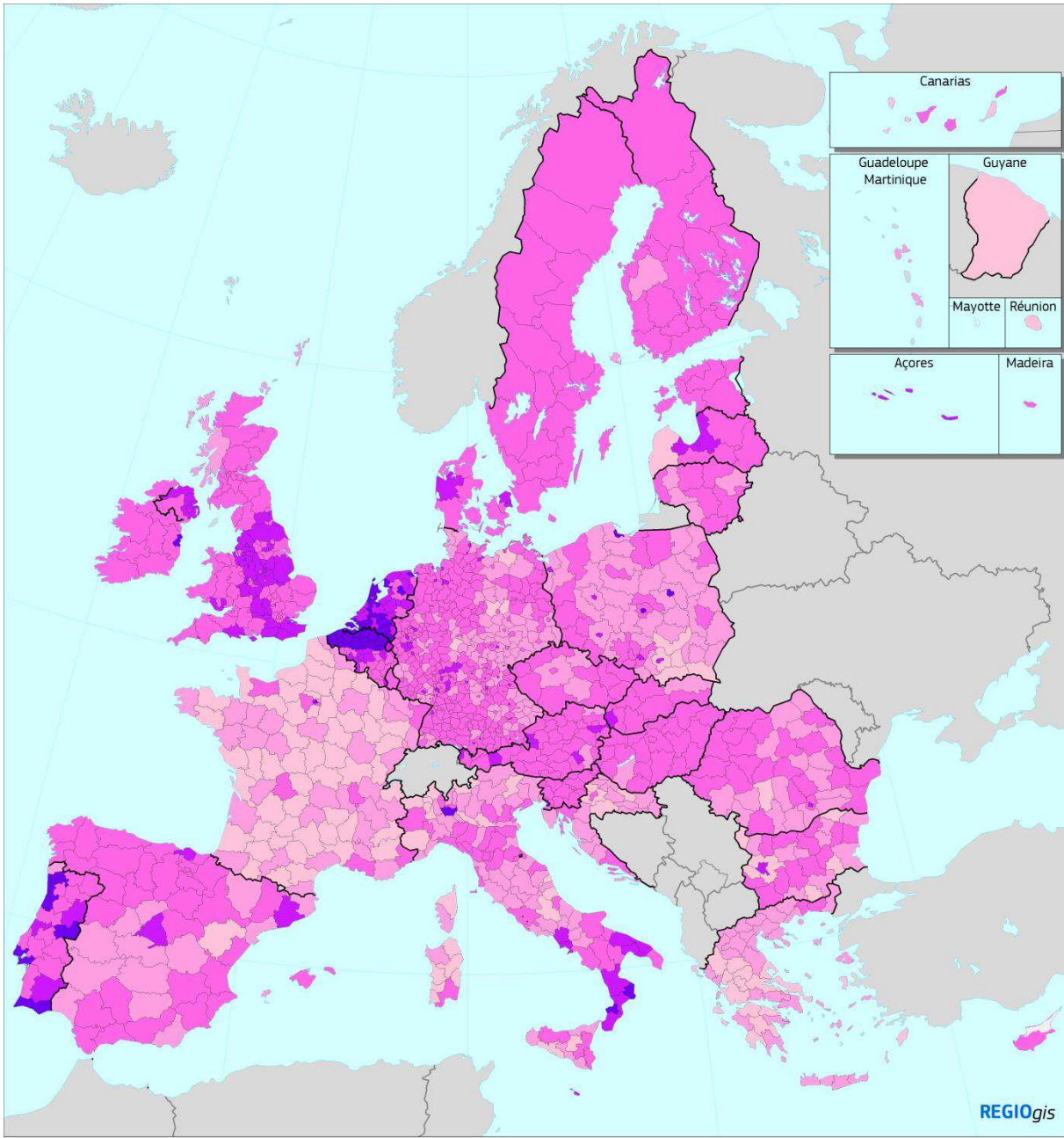
Coverage is almost complete in most urban areas and cities, though there are a number of areas where it is well below the EU average (of 82% in urban areas), mostly in Greece (55%) and France (50%).

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<sup>24</sup> Broadband Coverage in Europe 2016, available at: <https://ec.europa.eu/digital-single-market/en/connectivity>.

<sup>25</sup> Next Generation Access Networks are defined as wired access networks which consist wholly or partly of optical elements and which are capable of delivering broadband access services with enhanced features, (such as higher throughput) as compared with those provided over existing copper networks.

**Map 1-15: Next generation access coverage in NUTS 3 regions, 2016**



**Next generation access coverage by NUTS3 region, 2016**

- % of households
- 0 - 35
  - 35 - 65
  - 65 - 95
  - 95 - 100
  - 100

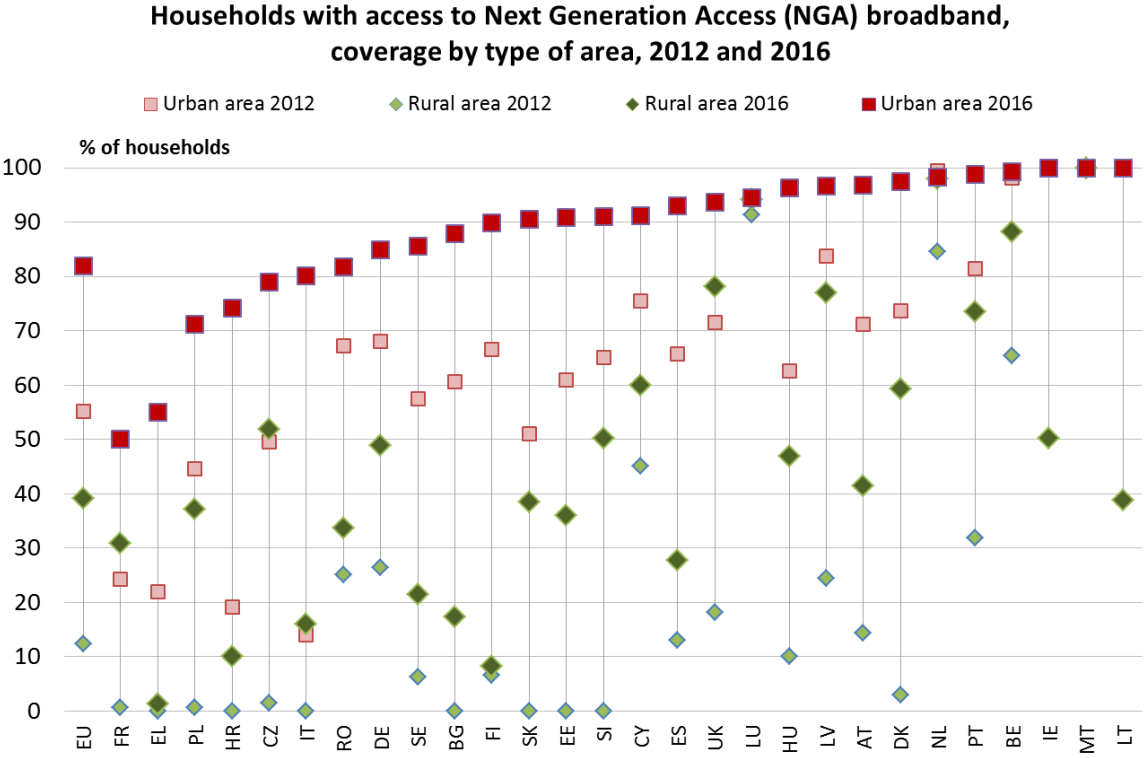
Next Generation Access (NGA) includes VDSL, Cable Docsis 3.0 and FTTP.  
 EU = 76%  
 Source: DG CONNECT, European Digital Progress Report 2017

0 500 km

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Source: DG CONNECT: Europe's Digital Progress Report 2017, REGIO-GIS.

**Figure 1-21: Households with access to Next generation Access (NGA) broadband, by type of area, 2012 and 2016.**



Source: European Commission, 2016, Broadband coverage in Europe 2016. Data is for the end of 2012 and mid-2016

Source: European Commission, 2016, Broadband Coverage in Europe 2016. Data are for the end of 2012 and mid-2016.

Household take-up of broadband has increased markedly in recent years along with coverage. While in 2009, only around 56% of households in the EU had a broadband subscription, the figure was over 72% in 2012 and it had increased to 83% in 2016. However, large differences remain between regions (Map 1-16). In 2016, the proportion of households with broadband was below 60% in Kentriki Ellada in Greece and Severozapaden and Yugoiztochen in Bulgaria, while it was over 95% in the large majority of regions in the Netherlands and in Helsinki-Uusimaa in Finland, South-East England and Luxembourg.

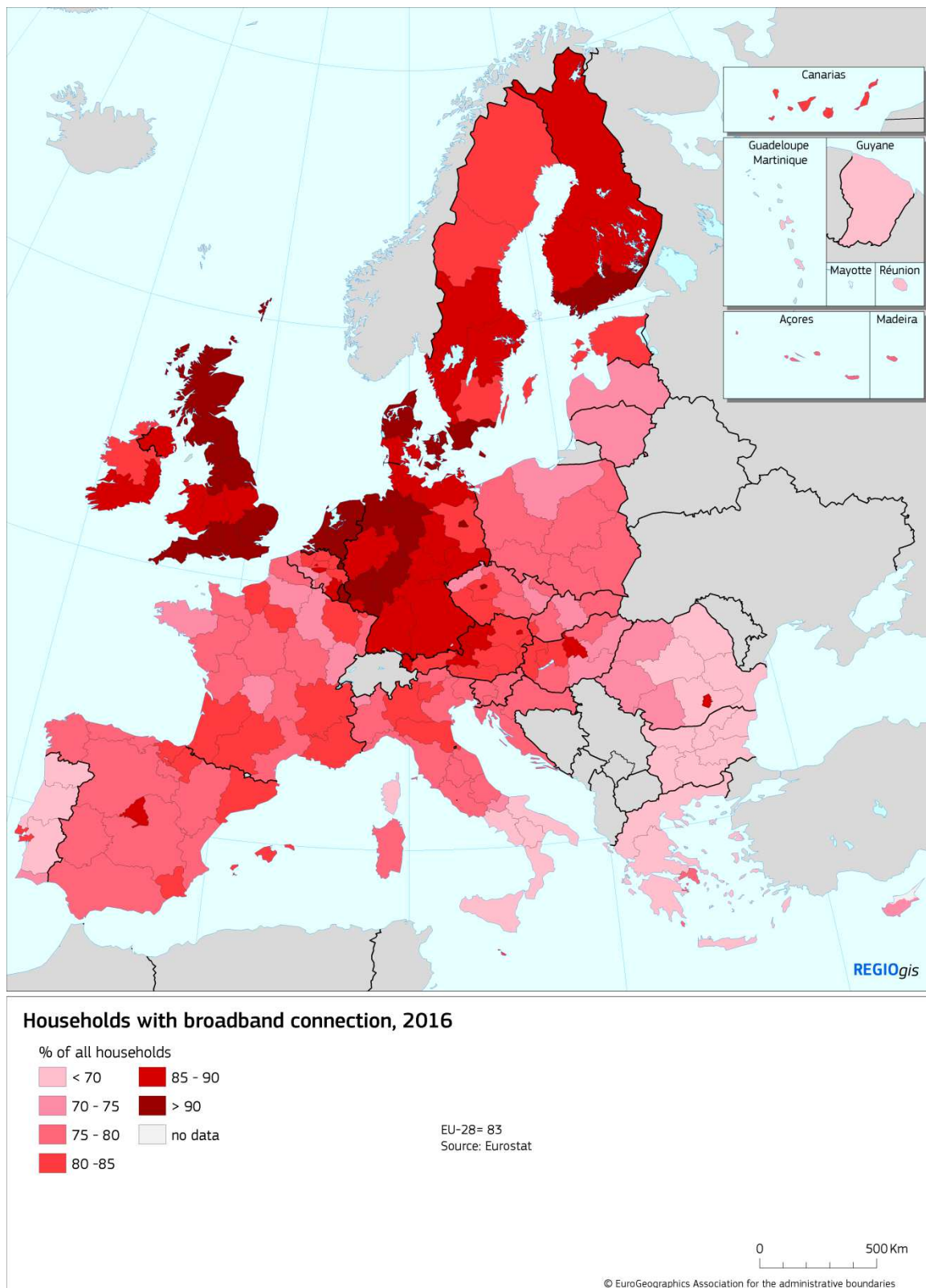
### **The Digitising European Industry' initiative**

Rapid technological developments, innovation in services, demands for sustainability and an evolving global context are generating new kinds of goods and services, and new types of business models for producing them. Evidence suggests, however, that only one in five EU firms is highly digitised (Europe's Digital Progress Report, 2016).

One of the key pillars of the 'Digitising European Industry' initiative, launched in 2016 as part of the Digital Single Market Strategy, is the establishment of a network of "Digital Innovation Hubs" that make latest digital innovations available to any company in Europe, irrespective of their location, size and sector. The Hubs will create systems connecting users with suppliers of digital innovations and investors in innovation in all phases of business development. The target is to ensure the presence of Hubs in all regions by 2020, in line with smart specialisation strategies, including for agriculture and fisheries as well as manufacturing and services.

In addition, the 'Transforming regions and cities into launch-pads of digital transformation and industrial modernisation' initiative will help build regional and local capacity for digital transformation, on the grounds that metropolitan and regional authorities can create the right environment for accelerating the transformation process. Many 'smart cities' projects already make use of advanced technologies to improve public services and the use of resources while reducing the impact on the environment.

**Map 1-16: Households with a broadband connection, 2016**



Source: Eurostat, REGIO-GIS.

## 1.6. CAPITAL AND METRO REGIONS ARE THE MAIN DRIVERS OF REGIONAL COMPETITIVENESS IN EUROPE

The Regional Competitiveness Index (RCI) is designed to capture the different dimensions of competitiveness for NUTS 2 regions and is the first measure to provide an EU-wide perspective on this. The 2016 edition follows the two previous ones published in 2010 and 2013 (Annoni and Kozovska, 2010; Dijkstra, Annoni and Kozovska, 2011, Annoni and Dijkstra, 2017a). All three of them are built on the same approach as the Global Competitiveness Index of the World Economic Forum (GCI-WEF). The 2016 index is based on 74 mostly regional indicators covering the 2012-2014 period though with a number of indicators for 2015 and 2016.

The index is based on a definition of regional competitiveness from the perspective of both firms and residents (Dijkstra et al., 2011):

Regional competitiveness is the ability of a region to offer an attractive and sustainable environment for firms and residents to live and work in.

The RCI results for 2016 are in line with those for 2013. Once again, a polycentric pattern is evident with capital and other metro areas being the main centres of competitiveness. Spill-over effects are evident in most of the north-west of the EU, but less so in the in the east and south. As in 2010 and 2013, there is substantial variation both between countries and within them, the latter, in many cases, due to the capital city region significantly out-performing others in the country (Map 1-17).

The so-called ‘Blue Banana’, a highly urbanised, industrialised corridor defined in 1989 by a group of French geographers led by Roger Brunet, with Greater London at one end and Lombardia at the other and encompassing the Benelux countries and Bavaria, is not evident on the RCI map. On the contrary, the RCI shows strong capital and other metro regions in many parts of Europe. In some countries, capital city regions are surrounded by others that are similarly competitive, indicating the presence of spill-over effects, but in many other countries, the regions neighbouring the capital are far less competitive. An important question for the future is whether the strong performance of the capital and other metro regions concerned will help to strengthen the performance of neighbouring ones or whether the gap between them will widen.

London and its commuting area, which includes seven NUTS 2 regions,<sup>26</sup> is ranked top in 2016, ahead of Utrecht in the Netherlands –for the first time is not the most competitive region – which is ranked joint second with Berkshire, Buckinghamshire and Oxfordshire in the UK.<sup>27</sup> As in 2010 and 2013, most of the top-ranked regions include either capital cities or large metropolitan areas which help to boost their competitiveness. The regions at the other end of the scale are mainly in Greece and Romania with one in Bulgaria.

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<sup>26</sup> Table A.1.1 of the Appendix in Annoni et al. (2017b) lists the NUTS 2 regions comprising London and its commuting areas.

<sup>27</sup> It is important to note that, due to the margins of error in the set of indicators included in the index, the difference between some of the scores may not be statistically significant.

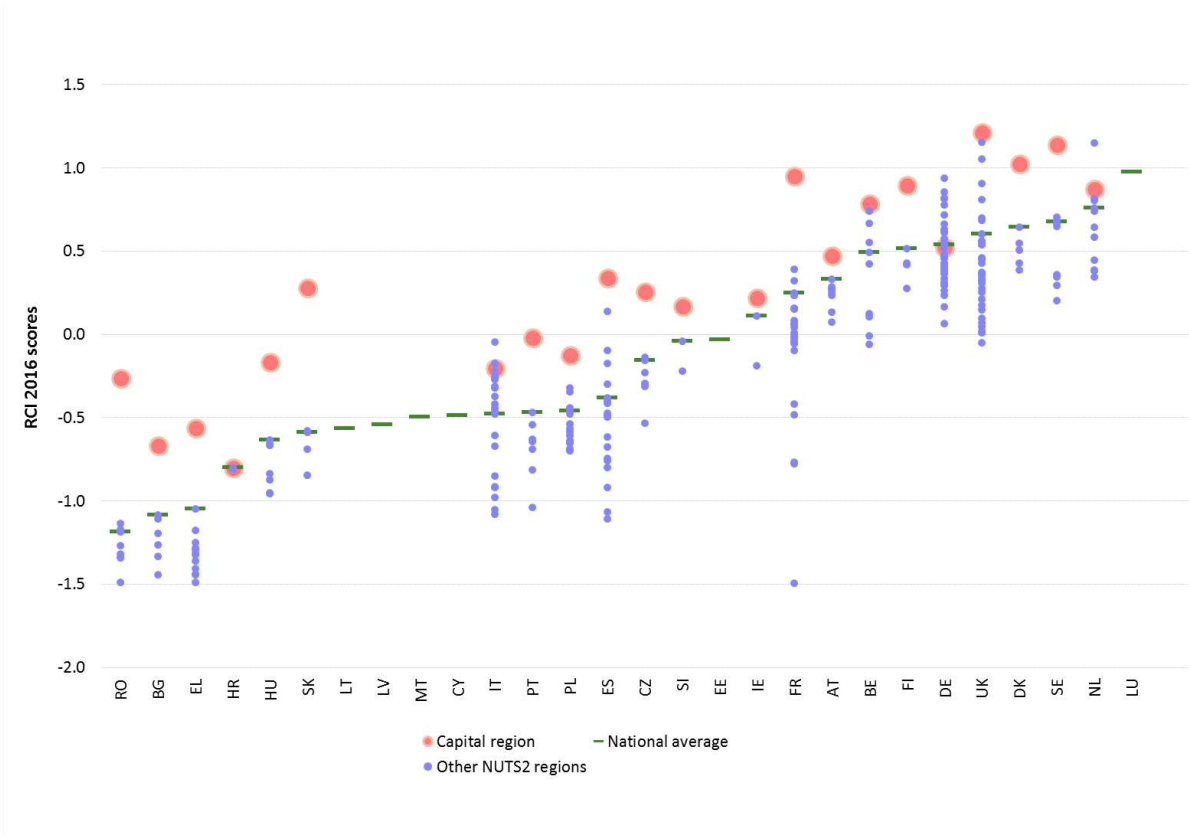


Capital city regions tend to be the most competitive in their countries (Figure 1-22). The only exceptions are in Germany, Italy and the Netherlands. In the last, the capital city region is ranked second and in Italy, Lombardia continues to be the most competitive one as in previous years. In Germany, many regions are more competitive than Berlin, which may be due to the relatively short time it has been the capital of a reunited country.

The gap between the capital city region and others is particularly wide in some countries, especially in Romania, Greece, Slovakia, Bulgaria and France. A big gap of this kind is generally a reason for concern as it puts substantial pressure on the capital city region while possibly leaving resources in other regions underutilised.

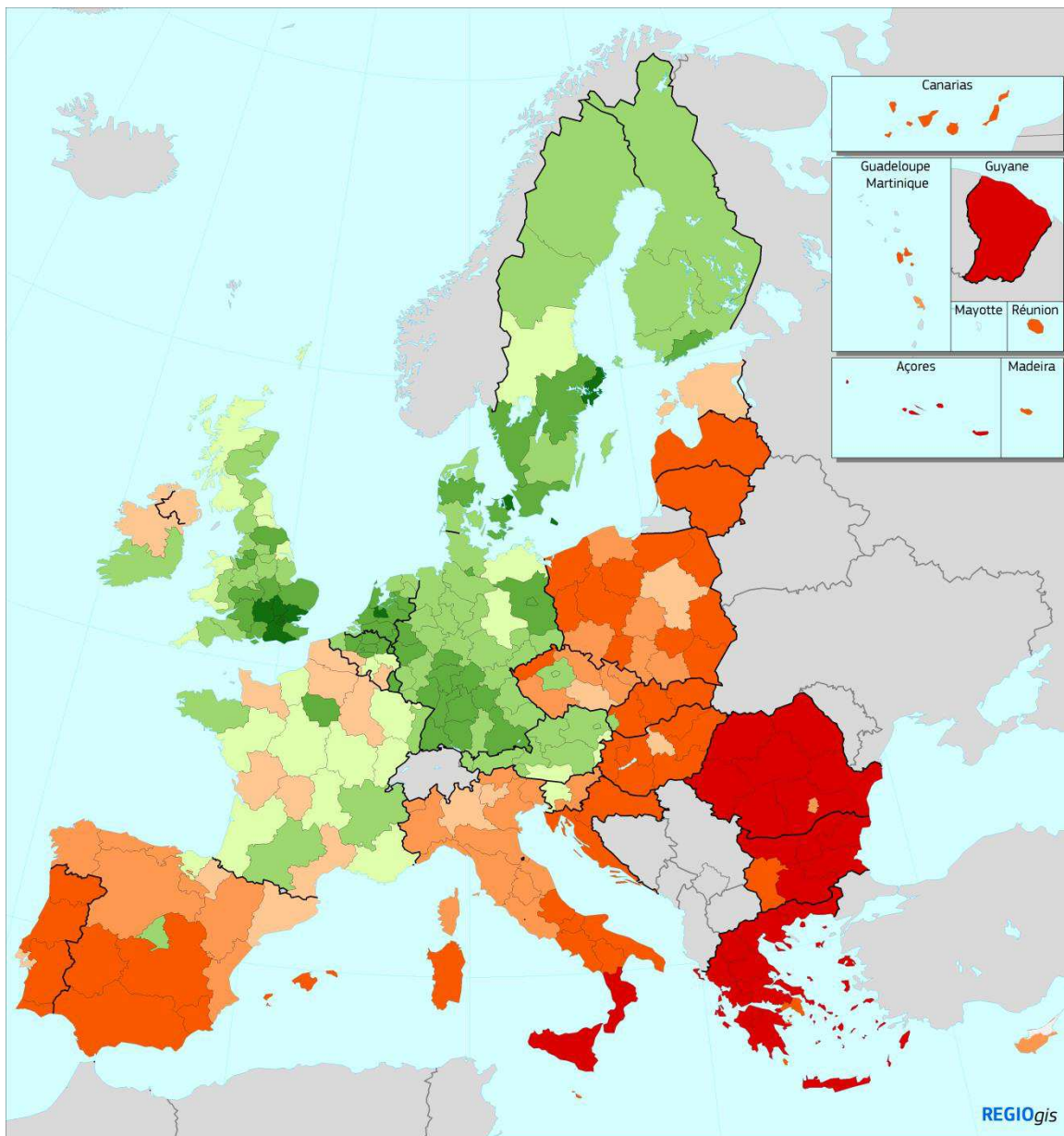
The gap between the capital city region and the second highest-ranking one is relatively small in the UK, Austria and Belgium. However, a small gap does not necessarily mean that the whole country is highly ranked. For example, in Belgium and the UK, variations between regions are relatively wide, highlighting the limitations of a national-level analysis. Such variation raises questions over whether gaps in regional competitiveness are harmful or not for national competitiveness and how far t they can, and should, be reduced.

**Figure 1-12 - Regional competitiveness index, 2016**



Source: Annoni et al. (2017b).

**Map 1-17: Regional Competitiveness index, 2016**



**Regional Competitiveness Index - RCI 2016**

Index: values range from low (negative) to high (positive)

- |  |   |
|--|---|
| <span style="color: red;">■</span> < -1                | <span style="color: lightgreen;">■</span> 0 - 0.2 |
| <span style="color: orange;">■</span> -1 - -0.5        | <span style="color: green;">■</span> 0.2 - 0.5    |
| <span style="color: lightorange;">■</span> -0.5 - -0.2 | <span style="color: darkgreen;">■</span> 0.5 - 1  |
| <span style="color: peachpuff;">■</span> -0.2 - 0      | <span style="color: darkslategrey;">■</span> > 1  |

EU-28 = 0  
Source: DG REGIO

0 500 km

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Source: Annoni et al. (2017b), REGIO GIS.

### **The Regional Competitiveness Index (RCI) methodology**

The 2016 edition of the RCI index is based on a set of 74 mostly regional indicators covering the 2012-2014 period but with a number of indicators for 2015 and 2016. It is composed of 11 pillars that cover the different aspects of competitiveness, which are classified into three groups: Basic, Efficiency and Innovation. The Basic group includes five pillars: (1) Institutions; (2) Macroeconomic stability; (3) Infrastructures (4) Health and (5) Basic education, which represent the key basic drivers for all types of economy. As a regional economy develops and its competitiveness increases, factors related to a more skilled labour force and a more efficient labour market come into play as part of the Efficiency group. This includes three pillars: (6) Higher education, Training and Lifelong learning; (7) Labour market efficiency; and (8) Market size. At the most advanced stage of development, drivers for improvement are part of the Innovation group, which consists of three pillars: (9) Technological readiness; (10) Business sophistication; and (11) Innovation.

The RCI for 2016 covers all NUTS 2 regions, as defined by Eurostat in the latest 2013 revision (Eurostat, 2015). As in 2010 and 2013, the NUTS 2 regions that are part of the same functional urban area are combined, which is the case for 6 capital functional urban areas.

For further details on the methodology, see: Annoni et al. (2017b).

The changes over time in the RCI scores, as opposed to the rankings, are informative.<sup>28</sup> Even though the index is not entirely consistent between years because of recurrent and often unavoidable revisions of regional indicators and the NUTS classification, the three editions of the RCI provide a unique means of monitoring and assessing the development of regional competitiveness across the EU. Map 1-18 shows the regions where the scores changed by more than 5% of the difference between the highest and lowest scores across the three editions (i.e. the maximum score range). The three maps show the changes between 2013 and 2016, 2010 and 2013 and over the period as a whole. Between 2013 and 2016, competitiveness improved in around 10% of regions and weakened in another 10%, while between 2010 and 2013, it improved in many more regions (26%) than it weakened (11%).

Between 2010 and 2013, competitiveness improved in most Belgian and German regions. While it remained largely unchanged between 2013 and 2016 in most of the latter, it weakened in several Belgian regions, including in the capital city region. Competitiveness

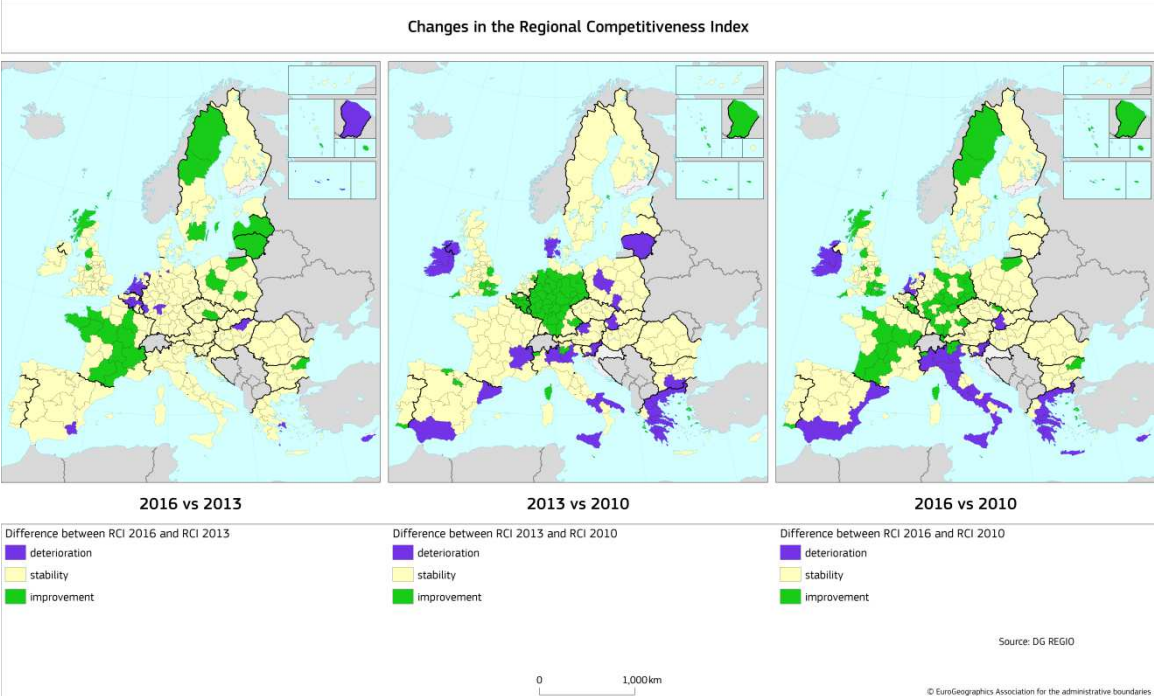
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<sup>28</sup> Comparing the RCI over time is complicated because each edition of the index incorporates improvements and slight modifications. These do not affect the overall structure of the index, but they limit the possibilities of measuring change over time. The reasons for the modifications are various: new indicators become available at the regional level, while others are not updated or no longer fit the statistical framework of the index. In addition, methodological improvements, especially between the first and the second editions, and changes in the definition of NUTS regions complicate the exercise. Nevertheless, there remains a fair degree of continuity in the indicator list – changes between 2013 and 2016 are listed in Table A.3.1 in the Appendix in Annoni et al. (2017b).

also deteriorated significantly in Greek and Irish regions between 2010 and 2013, and failed to improve over the following three years. In regions in many countries (Austria, Bulgaria, Czech Republic, Denmark, Spain, Finland, Hungary, Poland, Portugal, Romania, Sweden and Slovakia), competitiveness as measured remained largely unchanged over the 6 years.

In the other countries, there were quite a few changes. In France, competitiveness improved in 12 regions between 2013 and 2016 and four between 2010 and 2013. Conversely in the UK, it improved in many fewer regions between 2013 and 2016 (4) than between 2010 and 2013 (9). In Italy, it deteriorated in four regions in the first period and remained unchanged in all regions over the following three years. In the Baltic countries, competitiveness improved between 2013 and 2016 in Latvia and Lithuania, while it remained unchanged at a relatively high level in Estonia

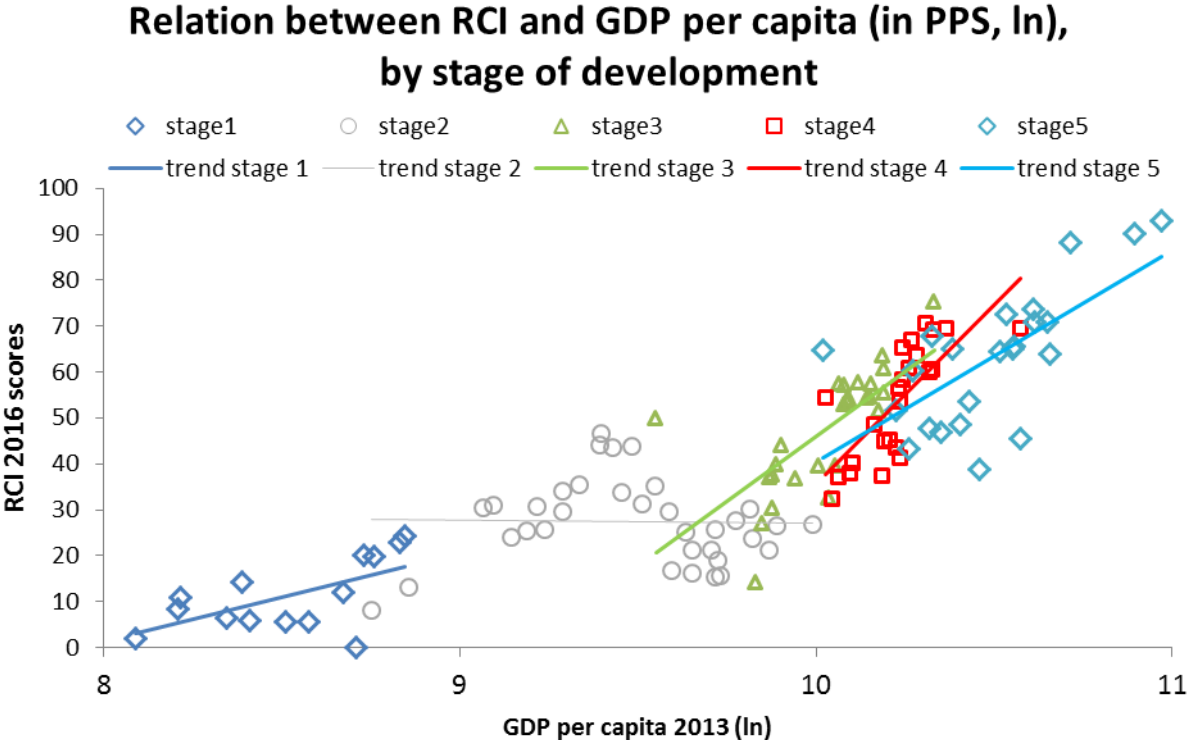
**Map 1-18: Changes in RCI, 2016-2013; 2013-2010 and over the whole period, 2016-2010.**



Note: Regions with an increase of over 5 % in the RCI range (z-scores) are categorised as improving in terms of competitiveness and with a reduction of over 5 % as deteriorating.

As might be expected, there appears to be a positive relationship between regional competitiveness and GDP per head, which is evident for both those both with high levels of the latter and those with low levels (Figure 1-23).

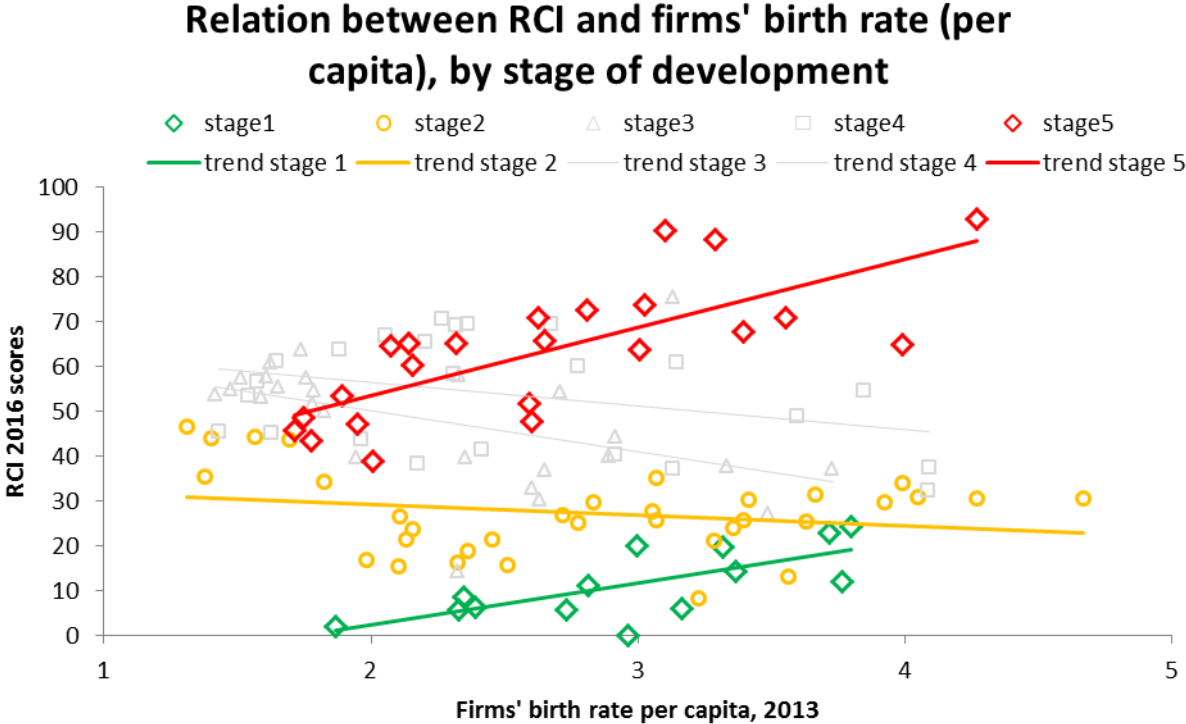
**Figure 1-23: Relationship between RCI and GDP per head (in PPS), by level of economic development**



Source: Eurostat, DG REGIO calculations. Note: In grey: correlations are not statistically different from zero. For the remaining trend lines the correlations are significantly different from zero, at the standard 1%, 5%, or 10% level.

There is some evidence that regions which are more competitive have higher rates of start-ups, at least those which are most highly developed and those which are least developed (Figure 1-24).

**Figure 1-24: Relationship between RCI and the birth rate of firms (relative to population), by level of development**



Source: Eurostat, DG REGIO calculations. Note: it only includes regions in EU MS for which data from the employer business demography statistics are available at the regional level (NUTS2): AT, BG, CZ, DK, ES, FI, FR, HR, HU, IT, LT, PT, RO, and SK. Note: In grey: correlations are not statistically different from zero. For the remaining trend lines the correlations are significantly different from zero, at the standard 1%, 5%, or 10% level.

**EU regions by development levels, as defined for the RCI**

EU regions are divided into five development levels based on their average 4 GDP per head in PPS in the years 2012-2014 relative to the EU average (i.e. with the EU average =100). The levels are as follows:

- Level 1: <50;
- Level 2: 50-75;
- Level 3: 75-90;
- Level 4: 90-110;
- Level 5: >110.

Source: Annoni et al. (2017b)

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