

EUROPEAN UNION



Committee of the Regions

An Indicator for Measuring Regional Progress towards the Europe 2020 Targets

Executive Summary

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1 Motivation for developing a Regional Progress Indicator

The Committee of the Regions (CoR) supports the more active participation of local and regional authorities in the planning and implementation of the Europe 2020 Strategy. It does so also by highlighting the need for better and more complete data and statistics as well as by exploring possible new ways of measuring and presenting regional performance. For example, the CoR consulted with the DGs Regional Policy and Eurostat to obtain and use the most up-to-date statistics in its Third Monitoring Report on Europe 2020. With a view toward supporting the monitoring of progress with respect to the Europe 2020 Strategy's targets, the report states that

“... based on the available data from EUROSTAT, the Committee of the Regions therefore proposes to develop a regional performance indicator, which can provide additional insight into the future potential of local and regional authorities in meeting the targets. The available data could be clustered around the key indicators. The performance indicator would show for each NUTS 2 region, whether it has improved, stagnated or declined in relation to the Europe 2020 objectives. This indicator could also be used to benchmark NUTS 2 regions in Europe and to detect successful regional strategies in promoting growth and competitiveness in Europe.”

The CoR has followed up on this statement and, with the support of a contractor, developed a concept for a Regional Progress Indicator (RPI) as well as its pilot version. While noting persisting data limitations, the RPI is conceptually designed to let the user:

- **Monitor the Europe 2020 indicators over time at NUTS 2 level.** From a monitoring perspective, it is, for example, of interest to know the baseline values for the Europe 2020 indicators, how regions are progressing over time, and how close to reaching the Europe 2020 targets they are at a given point in time.
- **Compare NUTS 2 regions, their current progress and trends vis-à-vis the Europe 2020 indicators.** While each region is unique and cannot necessarily be compared with another region, it is still of interest to visualise similar regions side by side and to learn more about what they have in common or not.
- **Use the RPI to initiate further analysis into the best practices and particularly effective actions and policies that promote achieving the Europe 2020 goals.** The implementation of the Europe 2020 goals is

taking place in a myriad of ways in the 27 Member States with the help and responsibility of hundreds of regional and local authorities (LRA). The LRAs have an in-depth understanding of the characteristics and needs of their localities and are best suited to develop tailor-made approaches to tackling issues of unemployment, education reform, social cohesion, etc. For that they also need up-to-date local data and statistics. The RPI helps to make such information more readily available to LRAs. And while it is complicated to associate regionally observed trends (e.g., a decrease in unemployment) with specific policies, actions and regulations put in place by LRAs and/or the national government, the RPI can become a tool in measuring such developments and helping to identify what actions, policies, etc. are responsible and contributing to this success.

2 Conceptual basis

The RPI builds on the five Europe 2020 headline targets and underlying eight indicators. These EU-level targets have been translated into **individual national targets**¹ (cf. Table 1) by the Member States reflecting more closely and appropriately national conditions and potentials.

Headline Target	EU-wide Indicator and Target	National Targets (Range)
Employment	75% of the 20-64 year-olds to be employed	62.9% - well over 80%
Research and Development	3% of the EU's GDP to be invested in R&D	0.5% - 4%
Climate change and energy sustainability	Greenhouse gas emissions 20% (or even 30%, if the conditions are right) lower than 1990	20% increase – 20% decrease compared with 1990
	20% of energy from renewables	10% - 49%
	20% increase in energy efficiency	0.2 – 38.3 Mtoe reduction
Education	Reducing the rates of early school leaving below 10%	4.5% - 29%
	At least 40% of 30-34-year-olds completing third level education	26% - 50%
Fighting poverty and social exclusion	At least 20 million fewer people in or at risk of poverty and social exclusion	Figures cannot be directly compared due to different methodologies

Table 1: List of the Europe 2020 indicators and their EU and national target values and ranges

These national targets form the basis for the RPI. Due to the lack of a further breakdown of the targets to the regional (i.e., NUTS 2) level, translating the objectives of the RPI into a conceptual framework required to either break-down the targets to NUTS 2 level or assume the same national targets for all NUTS 2 regions regardless of their feasibility and applicability. For the pilot version of the RPI it was decided to work with the available data and to avoid making extensive use of statistical methods to develop NUTS 2 level targets and fill data gaps. Instead, the RPI concept and database is built such that the national targets

¹ See http://ec.europa.eu/europe2020/pdf/targets_en.pdf for a complete list of EU and national targets.

can be replaced by regional values at any time in the future. An exception are the poverty and social exclusion indicators, which are generally expressed in a number of people and can hence be allocated to NUTS 2 level according to the regions' share in national population. Other allocation formulae are also possible, especially since the pure allocation according to population share ignores the existing distribution of jobs, income distribution and other poverty-relevant characteristics, and which therefore is not ideally suited to investments targeting poverty alleviation and mitigation of social exclusion. Thus, the current breakdown of the poverty and social exclusion targets from national to NUTS 2 level can also be changed in future versions of the RPI.

Using the national targets and available NUTS 2 data to the extent possible, the conceptual format of the RPI is built around the following metrics:

- Baseline value at a designated time t_0 ;
- Current value at the most recent available period t_n ;
- Change in value between baseline and current period evaluated as $\Delta = (t_0 - t_n)$;
- Distance to target expressed as the ratio between the current period's value to the respective target value: t_n/t_{target} , which can be used to bound the DTT values by 0 (farthest from target) and 100, if the target achieved and no additional credit given for overachieving the target.

In the final step, the RPI would be calculated as the appropriately weighted sum or average of the distance to target (DTT) values as shown below where i indexes the region and j indexes the indicator. The weights given to the indicators can in the simplest case be equal, hence reducing the RPI to the arithmetic average of the indicator DTT values (I^{DTT}) at time t , or be set according to a decision rule that determines the relative importance of each indicator. Due to the lack of data for several indicators, this step is currently not carried out but can be implemented in future versions of the RPI when the data basis has improved enough.

$$RPI_i = \sum_{j=1}^m w_j I_{jt}^{DTT} / \sum_{j=1}^m w_j$$

In addition to the RPI metrics a national progress indicator is calculated, which capitalizes on the better data availability and presence of agreed upon national targets. For this NPI the same metrics are calculated as for the RPI with the addition of the composite indicator according to the formula:

$$NPI_i = \frac{1}{m} \sum_{j=1}^m I_{jt}^{DTT}$$

Here i designates the country, j the indicator, t the time period, and I_{jt}^{DTT} the distance to target value for the jth indicator at time t . Differential weights can be implemented in a straight-forward manner.

3 Data compilation and calculations

Significant data limitations hamper the calculation of the RPI metrics as shown in Table 2 based on Eurostat data. Information at NUTS 2 level are not available for GHG emissions and early school leavers. In addition, data completeness is highly limited for the share of renewable energy and the number of people at risk of poverty and social exclusion.

In addition to the issue-specific and geographical gaps in data coverage, the timeliness of the available statistics is also less than ideal. Temporal data coverage at the time of the study was highest for the period 2008-2010. This means there is a trade-off between higher data availability and timeliness. A multi-year time lag in data availability reduces the utility of the data to local policymakers who want to know about recent trends as well as the immediate and longer-term impacts of policies are.

Indicator	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
GHG emissions	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Share of renewable energy	0%	7%	7%	7%	8%	8%	8%	8%	9%	9%	0%	0%	0%
Early school leavers	71%	79%	85%	74%	74%	85%	85%	90%	89%	92%	94%	93%	92%
Tertiary educational attainment	85%	86%	88%	90%	90%	90%	90%	92%	92%	96%	96%	96%	96%
Employment rate	0%	90%	91%	91%	91%	91%	91%	94%	94%	100%	100%	100%	100%
R&D spending	38%	40%	48%	69%	48%	74%	52%	78%	57%	87%	37%	2%	0%
Poverty and social exclusion	0%	0%	0%	1%	15%	41%	51%	56%	63%	63%	54%	38%	4%
Energy efficiency	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Table 2: Data availability for each of the Europe 2020 indicators at NUTS 2 level

With respect to the cross-regional comparability of indicators, the poverty and social exclusion indicator reflects different national practices in the sense that:

- (a) it encompasses multiple aspects of poverty, which are expressed through several indicators (at-risk-of-poverty and social exclusion, very low work intensity, severe material deprivation and long-term unemployment),
- (b) progress is measured in terms of the change in the absolute number of people whose livelihoods are improved, which requires the conversion of poverty rates etc. to population data and the calculation of change compared to a baseline year, and
- (c) the methodologies and definitions that are used nationally vary across Member States, which makes comparisons more difficult and requires additional calculations.

For this reason, the RPI and NPI metrics use whichever regional and national data is available with the comment that cross-country comparisons are limited by different definitions and measurement practices of poverty and social exclusions.

Lastly, the national targets of some Member States are specified as ranges, e.g., Cyprus specifies an employment rate target of 75-77%. In these cases, a conservative approach was taken by choosing the lower (easier to reach) end of the range. In the above example the 75% target is used to determine the DTT values.

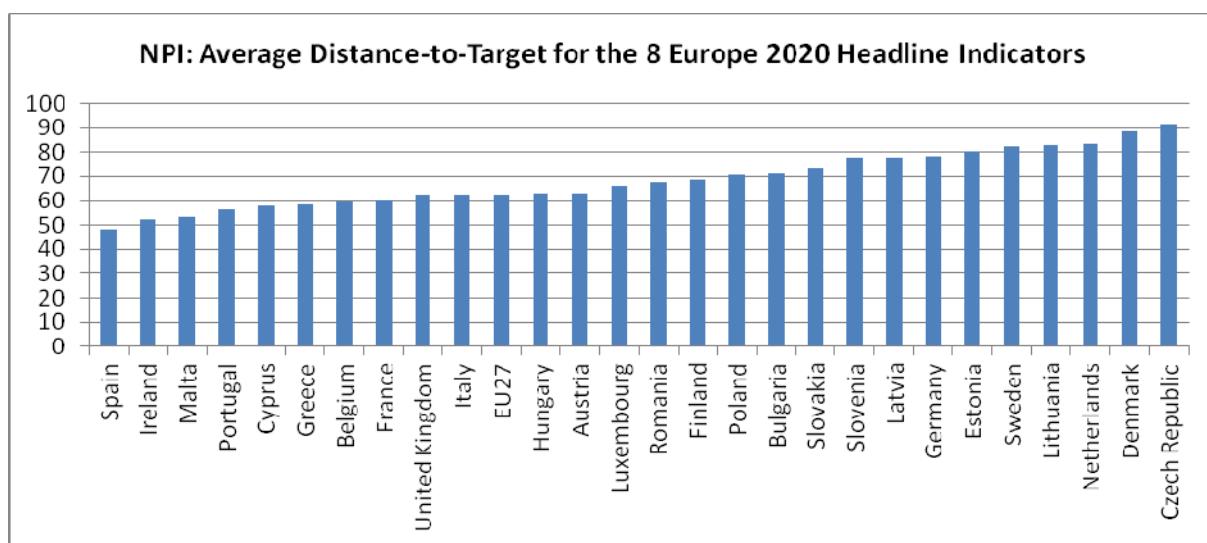
4 Findings and conclusions

4.1 The National Progress Indicator

The calculations for both the RPI and NPI reflect the diversity of European regions and Member States as well as the significant economic and social impacts of the economic and financial crises. From a bird's eye perspective the chart in Figure 1 shows the ranking of countries according to their current average distance to targets.²

The EU27 as a whole averages just over 60% of the distance to the targets. Five countries – Czech Republic, Denmark, Netherlands, Lithuania and Slovenia – have on average achieved at least 80% of the path to the 2020 targets while five other countries – Luxembourg, Spain, Ireland, Cyprus and Malta – are less than 50% along the way. Luxembourg even has a negative average result, which means that on average it is farther away now from reaching the targets than during the baseline period of 2000. The remaining countries fall in between the top and bottom five countries, yet their indicator-specific developments can be markedly different. Figure 1 masks many and interesting differences at the dimensional and indicator levels as shown in Table 3 and Figure 2.

It is also noted that if the implicit weights of the indicators are changed, e.g., to reflect different EU or national priorities, the resulting ranking will change. It is therefore important to view the aggregate NPI as a starting point for further analysis.



² The UK has specified targets only for GHG emission reductions and renewable energy. Its NPI is therefore only the average of the two corresponding distances to their corresponding target values. Other countries also do not have targets for some of the indicators, such that their NPI values are based on an average of less than the eight Europe 2020 indicators.

Figure 1: The National Progress Indicator for the 27 EU Member States and the EU27 sorted from country with the smallest progress to country with the most progress

Table 3 represents a heat map with coloring corresponding to the degree to which the Member States and the EU27 have already achieved the specified targets in each of the three dimensions of the strategy. Green indicates that on average at least 75% of the targets have been reached, orange corresponds to 50-75% and red indicates less than 50% progress towards the targets.

Country	Average Sustainability Score	Average Smart Growth Score	Average Social Inclusion Score
Spain	45.01	67.73	41.71
Ireland	36.53	85.17	54.64
Malta	19.98	83.94	55.96
Portugal	55.77	61.59	46.67
Cyprus	28.77	98.00	62.00
Greece	50.09	96.56	59.68
Belgium	43.80	80.70	61.57
France	48.88	80.93	55.03
United Kingdom	62.67	NA	NA
Italy	54.39	82.58	55.38
EU27	53.74	78.58	60.62
Hungary	56.67	82.95	61.23
Austria	55.27	71.17	56.40
Luxembourg	33.70	81.09	100.00
Romania	66.27	53.32	75.89
Finland	57.14	97.25	62.92
Poland	56.44	65.80	86.74
Bulgaria	62.65	56.36	87.03
Slovakia	56.43	63.63	86.42
Slovenia	86.70	90.17	66.00
Latvia	60.92	73.33	100.00
Germany	61.39	85.31	84.95
Estonia	66.67	88.54	93.61
Sweden	63.95	92.13	100.00
Lithuania	72.93	74.21	100.00
Netherlands	59.01	90.80	96.20
Denmark	75.18	100.00	100.00
Czech Republic	86.15	80.00	93.33

Table 3: Heat map of the progress made by the EU27 and the Member States along the three dimensions of the Europe 2020 Strategy: smart, sustainable and inclusive growth.

The sustainability dimension consists of the indicators GHG emissions, energy efficiency and the share of renewable energy. The smart growth dimension includes tertiary educational attainment and investment in R&D spending. The poverty and social dimension incorporates the early school leavers, employment rate as well as poverty and social exclusion. Overall, fourteen countries – and hence the EU27 as a whole – are lagging on the sustainability metrics while only Spain averages less than 50% on the poverty and social inclusion dimension. All countries average at least 50% on the smart growth dimension and 18 of those have already achieved an average of 75% of the distance to their national targets.

Drilling down to the indicator level, as shown in Figure 2, allows for further comparisons across countries and gives more detailed insights into the areas in which countries need to invest more effort to achieve their commitments under the Europe 2020 strategy.

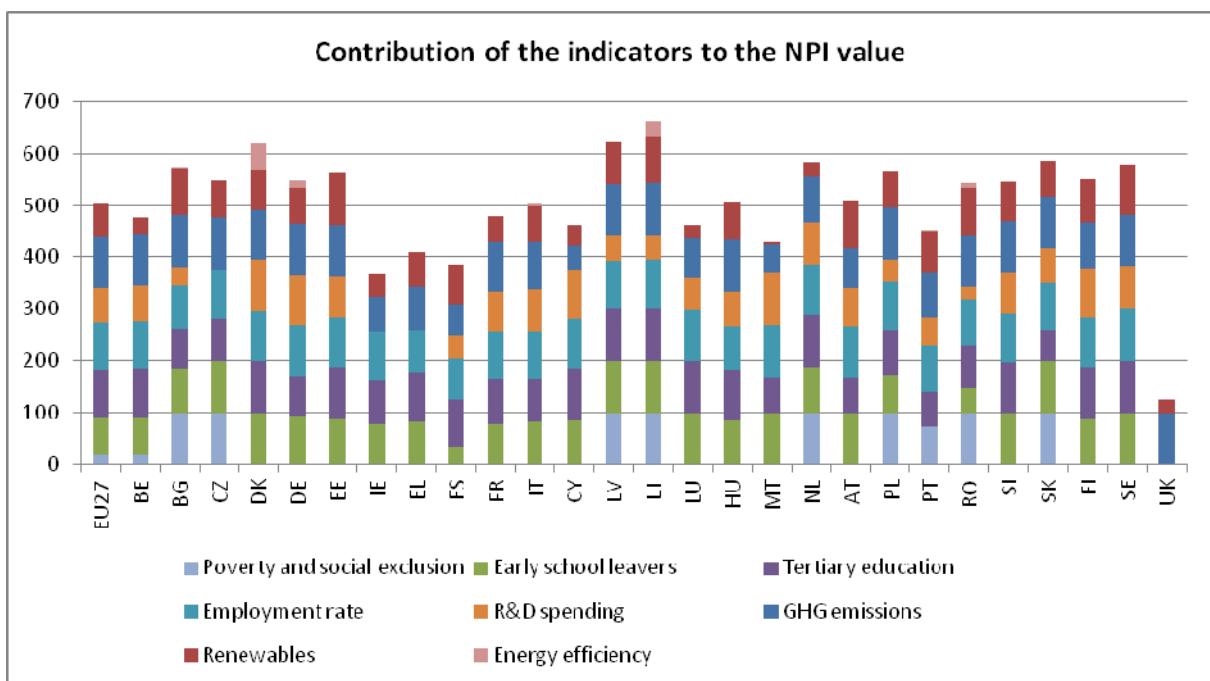


Figure 2: Progress on the individual Europe 2020 indicators at the EU27 and Member State level. The maximum possible score is 800 and the lowest possible score is 0.

The columns in the chart show how the distance-to-target values stack up. If a country had already achieved all targets, its column would equal 800 and each indicator contributes its maximum score of 100 to the column's height. Since no country has yet achieved all eight targets, the width of the indicators varies according to their current progress towards the targets. Countries whose columns also extend into the negative territory have one or more indicators where they have actually moved away from the target.

The chart shows that the energy efficiency and poverty indicators are contributing the least to countries' NPI scores. The employment rate, GHG emissions and tertiary degree indicators have shown the most progress for the majority of countries. The UK is missing targets for all but the GHG emissions and renewable energy indicators and therefore has the lowest cumulative score.

These presentations are not prescriptive in terms of successful or failing policies, but serve as means to visualize and summarise the information so that it can be used for policy development and evaluation. To compare individual countries the results are shown in spider graphs for the Netherlands and Austria (Figure 3).

This type of chart quickly highlights how countries differ in their progress towards the goals, where the goals have been achieved and where additional effort may be needed.

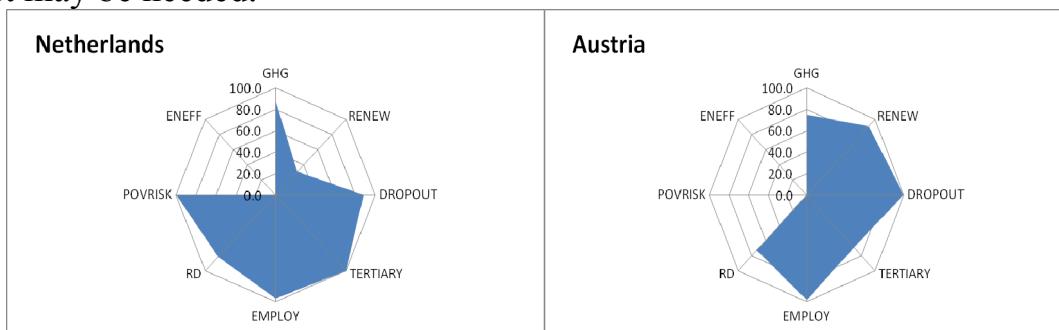


Figure 3: Spider charts of the DTT values for the eight Europe 2020 indicators for the Netherlands and Austria

The Netherlands are, for example, doing very well on improving GHG emissions (GHG), reducing poverty and social exclusion (POVRISK), the employment rate (EMPLOY) and the share of 30-34 year olds with tertiary degrees (TERTIARY). Investments in R&D (RD) and the school drop-out rate (DROPOUT) are also at high levels relative to the Netherlands' targets for these indicators, while energy efficiency has actually declined in absolute terms. In comparison, Austria is showing a very different picture of progress. Renewable energy share, GHG emissions, early school leaving and employment rate are all at high levels. Instead, the problem areas are energy efficiency and poverty.

Additional analysis could try to elicit the differences in policies and geographical, socio-economic and other contexts that lead to these different performance snapshots of groups of EU countries. However, any comparison of country-level results using DTT values (and any aggregates thereof) must consider that countries specified individual targets. Ambitiously set targets are hence more likely to not yet be achieved while conservative goals may already indicate success where in fact not much progress in absolute terms has been made.

4.2 The Regional Progress Indicator

Due to more heterogeneous data availability the results for the RPI are based on the most recent available year, which for most regions falls into the period 2009-2012 depending on the indicator. Emphasis was placed on balancing data coverage for individual regions and cross-regional comparability of the time periods considered.

The analysis focused on which regions are progressing quickly towards the Europe 2020 goals or have already reached them. Knowledge of these regions can be used to identify commonalities and/or best practices that could be tested in other regions. The following tables show the ten leading regions on each of the available Europe 2020 indicators for the most recent year available.

Spending on R&D

Spending on R&D is high in several regions in Germany but also in regions in the UK, Denmark, Sweden and France. All of the top 10 regions (shown in Table 4) already exceed the EU target of 3% and also their country's targets, which are highest in Finland and Sweden at 4% of GDP. In comparison, Cyprus and Malta only aspire to 0.5% and 0.67%, respectively. Correspondingly, the current levels of R&D spending vary widely across regions from 0.1% in Poland (region Lubuskie) to nearly 8% in Germany (Braunschweig).

Region	Country	R&D Spending (% of GDP, MRYA)
Braunschweig	DE	7.99
Prov. Brabant Wallon	BE	7.66
Stuttgart	DE	6.34
East Anglia	UK	5.57
Hovedstaden	DK	5.31
Oberbayern	DE	4.66
Sydsverige	SE	4.65
Tübingen	DE	4.58
Östra Mellansverige	SE	4.56
Midi-Pyrénées	FR	4.40

Table 4: Leading regions in levels of R&D spending (at least 2.6% of GDP). Note: MRYA=most recent year available in the period 2005-2011.

Employment rate

The employment rate indicator has complete coverage in 2012 and shows generally good performance across the majority of regions. At the top with 80%

and more – and exceeding the EU-wide target of 75%– are again regions in Northern Europe as well as regions in Germany, the Netherlands and the UK. Sweden has set the highest goal with “well above 80%, which it so far only meets in the Stockholm, Småland and Western Sweden regions out of eight regions overall (however, its lowest level is achieved in South Sweden with 76.8%, which is still higher than the EU-wide target). Not surprisingly, the top regions are largely urban areas. At the low end with between 43%-45% are three Italian regions (Sicily, Campalia and Calabria).

Region	Country	Employment level (20-64 years, 2012)
Åland	FI	86.4
Stockholm	SE	82.4
Freiburg	DE	81.8
Oberbayern	DE	81.3
Herefordshire, Worcestershire and Warwickshire	UK	81.1
Småland med öarna	SE	80.8
Utrecht	NL	80.7
Tübingen	DE	80.6
Schwaben	DE	80.3
Berkshire, Buckinghamshire and Oxfordshire	UK	80.3

Table 5: Leading regions on employment level (at least 70% of 20-64 year olds).

Tertiary education

The tertiary education indicator has nearly complete coverage in 2012. Similarly to R&D spending, this indicator favours urban areas, especially medium-to-large cities and urbanized agglomerations, over rural regions due to the necessarily different composition of the local economies. It is therefore not surprising that Table 6 is dominated by regions such as Inner London (UK), the province of Brabant (BE), and Helsinki (FI). All of the top ten regions exceed the European goal of 40%, but several major cities have only middling shares of 30-34 year olds with advanced degrees: Vienna (AT) with 28%, Cologne (DE) with 28.6%, Berlin (DE) with 37.0% and Prague (CZ) with 37.5%. Low rates of professionals with tertiary degrees are mainly found the rural areas of nearly every country but Italy stands out with all of its 21 NUTS 2 regions having shares of 20% and below.

Region	Country	Tertiary Education (%, 2012)
Inner London	UK	63.0
Prov. Brabant Wallon	BE	51.2
Helsinki-Uusimaa	FI	48.9
Berkshire, Buckinghamshire and Oxfordshire	UK	47.5
País Vasco	ES	46.6
Hovedstaden	DK	46.2
Eastern Scotland	UK	46.2
Outer London	UK	45.8
Surrey, East and West Sussex	UK	45
Stockholm	SE	44.4

Table 6: Leading regions in levels of tertiary education (at least 35% of 30-34 year olds).

Early school leavers

This indicator also has nearly complete coverage in 2012 and the top ranks are dominated by new EU Member States in Central and Eastern Europe. All ten are far below the Eu-wide target of 10%, indeed 105 regions had dropout rates below 10% in 2012. In contrast, the highest dropout rates exceed 25% with a maximum of 39.6%. Eight out of the ten regions with the highest dropout rates are in Spain and two are in Portugal.

Region	Country	Early school leaversn (%, 2012)
Praha	CZ	2.4
Małopolskie	PL	2.8
Západné Slovensko	SK	3
Střední Čechy	CZ	3.6
Jihovýchod	CZ	3.6
Jadranska Hrvatska	HR	3.8
Zahodna Slovenija	SI	3.8
Югозападен (Yugozapaden)	BG	4
Střední Morava	CZ	4.1
Świętokrzyskie	PL	4.2

Table 7: Leading regions in levels of low early school leavers rate (10% or below).

Poverty and social exclusion

The poverty and social exclusion indicator is the most challenging to evaluate because countries have specified reduction goals according to different poverty measurement methodologies. In addition, the choice of reference year plays an important role for the results due to the economic crisis and the situation for the new EU Member States, which have seen significant, albeit not continuous, upward trends in per capita income following their accession to the EU. Data coverage varies and the most recent available year for the period 2009-2012 was used.

The top ten regions with respect to the percentage of the population at risk of poverty and social exclusion are located in Romania, the Czech Republic, Finland, Slovakia and Italy. They tend to be urban areas with high average per capita GDP. The recent years have seen significant movements in this indicator and this indicator is also characterized by the largest relative spread in values. Poverty and social exclusion is highest in Sicily (IT), Campania (IT), Canary Islands (Spain), North-East Romania, Calabria (IT) and Inner London (UK) with values at or above 32%. Figure 1 shows the distribution of poverty and social exclusion across the NUTS 2 regions.

Region	Country	Reduction in poverty and social exclusion (% of target, MRYA)
Bucureşti - Ilfov	RO	3.4
Praha	CZ	6.2
Jihozápad	CZ	7
Helsinki-Uusimaa	FI	7.1
Bratislavský kraj	SK	7.2
Sírední Čechy	CZ	7.3
Provincia Autonoma di Bolzano/Bozen	IT	7.9
Severovýchod	CZ	8.2
Emilia-Romagna	IT	8.2
Valle d'Aosta/Vallée d'Aoste	IT	8.4

Table 8: Leading regions in the share of people at risk of poverty and social exclusion (% of population)

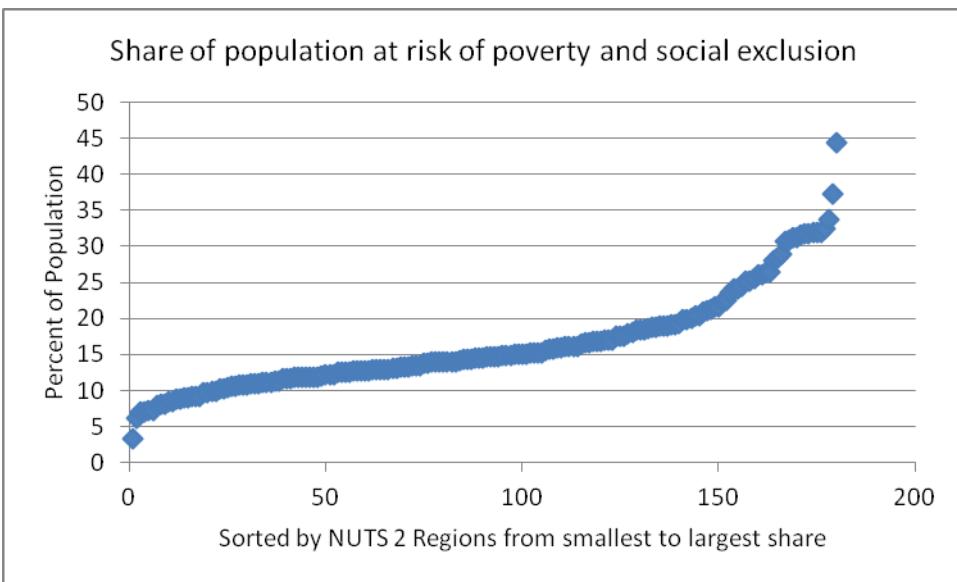


Figure 4: Distribution of values for the poverty and social exclusion indicator for the MRYA in the period 2009-2012.

Renewable energy

The renewable energy indicator has very low data availability (only 24 data points for the MRYA), which makes its evaluation more difficult. Nonetheless, Table 9 shows substantial variation in the share of renewable energy across regions. It is highest in Latvia and lowest in Vienna (AT) at 0.04%.

Region	Country	Renewable energy share (%, MRYA)
Latvija	LV	29.94
Lietuva	LT	18.4
Közép-Dunántúl	HU	8.95
Região Autónoma da Madeira	PT	7.48
Észak-Alföld	HU	6.48
Região Autónoma dos Açores	PT	6.47
Észak-Magyarország	HU	6.13
Nyugat-Dunántúl	HU	5.79
Dél-Dunántúl	HU	5.57
Kύπρος (Kýpros)	CY	4.38

Table 9: Leading regions in the share of renewable energy (MRYA).

Trend analysis

To shed more light on the progress that has been made by the regions a trend analysis has been carried out using Eurostat's criterion of a 1% annual growth rate as a sign for an significant trend. Three time periods were examined. The first considers the time before the onset of the financial and economic crises, i.e., the period up to 2007. The second evaluates developments since 2007 and the third assesses progress since the worst of the dual crises was over in the majority of EU Member States starting in 2009. These time periods are termed pre-crisis, crisis onset and recovery.

Table 10 shows the number of regions with positive, negative and neutral trends for the pre-crisis period 2000-2007.

Indicator	Period	Positive trend	Neutral trend	Negative trend
Employment rate	pre-crisis	85	153	7
	crisis onset	17	171	67
	recovery	35	171	66
Tertiary education	pre-crisis	196	30	6
	crisis onset	235	16	0
	recovery	222	30	10
Early school leavers	pre-crisis	113	47	31
	crisis onset	161	39	39
	recovery	153	30	63
R&D spending	pre-crisis	74	40	36
	crisis onset	68	11	20
	recovery	50	11	39
Poverty and social exclusion	pre-crisis	65	16	23
	crisis onset	35	25	58
	recovery	32	9	58

Table 10: Summary of trend analysis for the three time periods. Note: regions with missing trend assessments due to lack of data are not counted.

The table above provides several insights. First, for all time periods tertiary education levels and early school leaver rates were showing significantly positive developments in the majority of regions. The employment rate in contrast hovered at stagnating levels for most regions and R&D spending as well as poverty and social exclusion exhibited a more mixed picture. Second, the trend assessments clearly show the devastating impact of the economic and financial crises. In all indicators, the number of regions with positive trends plummeted from pre-crisis to levels. And in all but the employment rate indicator, recovery levels are still below the values seen in the crisis onset period and the recovery has been slow at best.

Indicator	Pre-crisis				Crisis onset				Recovery			
	Regions improving	Regions stagnating	Regions declining	Regions without data	Regions improving	Regions stagnating	Regions declining	Regions without data	Regions improving	Regions stagnating	Regions declining	Regions without data
Employment rate among 20-64 year olds	85	153	7	27	17	171	67	17	35	171	66	0
Tertiary educational attainment	196	30	6	40	235	16	0	21	222	30	10	10
Early school leavers	113	47	31	81	161	39	39	33	153	30	63	26
R&D spending	74	40	36	122	68	11	20	173	50	11	39	172
People at risk of poverty and social exclusion	65	16	23	168	35	25	58	154	32	9	58	173
GHG emissions	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data
Share of renewable energy**	not evaluated	not evaluated	not evaluated	not evaluated	not evaluated	not evaluated	not evaluated	not evaluated	not evaluated	not evaluated	not evaluated	not evaluated
Increase in energy efficiency	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data

Table 11: Summary of trend assessment on a regional basis for the three time periods considered.

*Trend is assessed by calculating the annualised growth rate over the given time period. A trend is considered significant if it exceeds 1% in absolute terms.

** The renewable energy indicator has not been evaluated due to data scarcity.

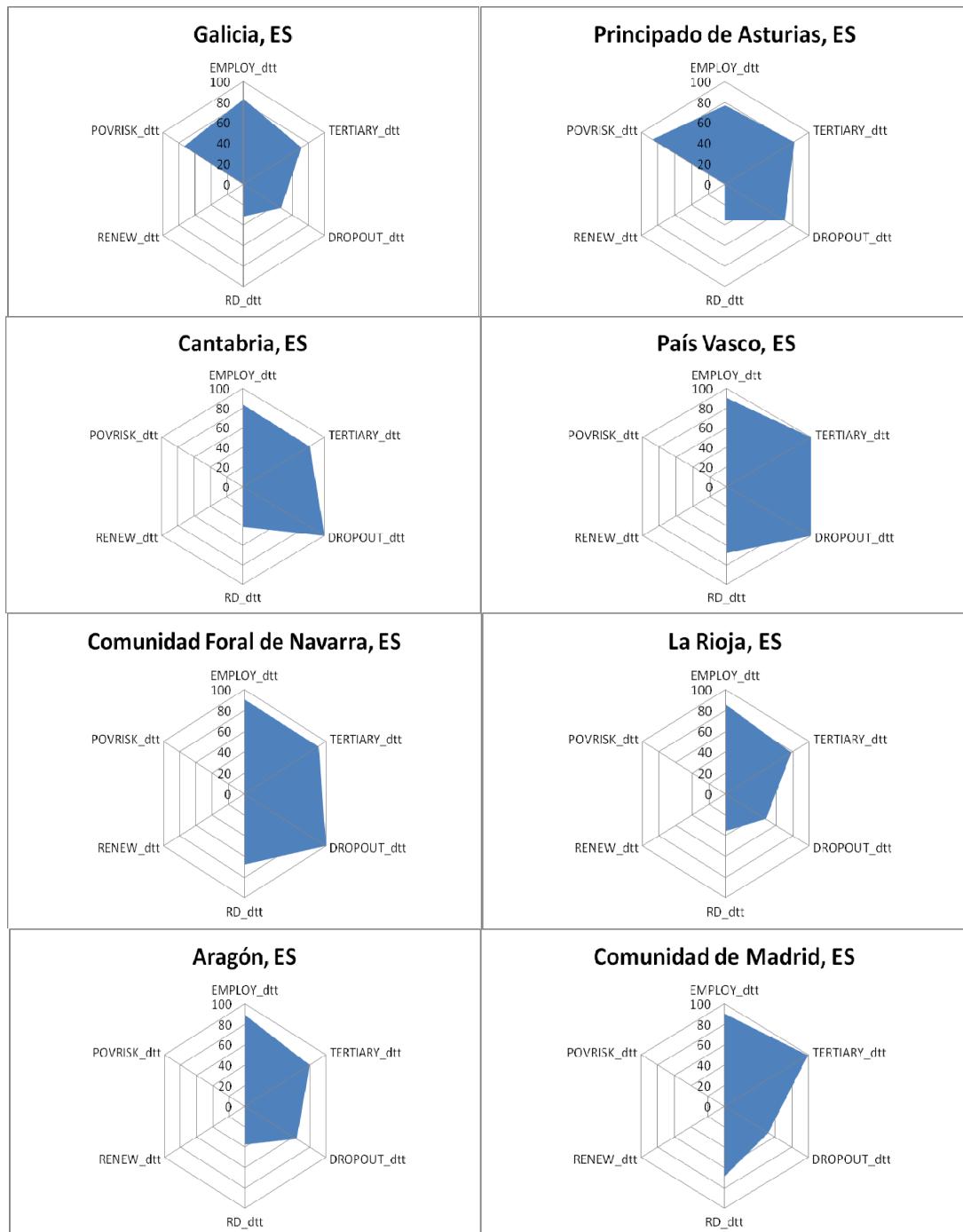
After examining time trends at the indicator level, it is also useful to look at it at the regional level. The following table summarizes how many and which regions are leading in terms of overall progress and which are falling behind. Among the NUTS 2 regions with the highest level of data availability (at least 80%) for the pre-crisis (2000 – 2007) and the recovery period (2009 – present), Table 12 shows how these regions' positive, stagnating or negative indicator trends changed between the two periods. Of these 29 regions (all in Spain and Italy), 25 have experienced a decline in progress, two improved and two remained unchanged.

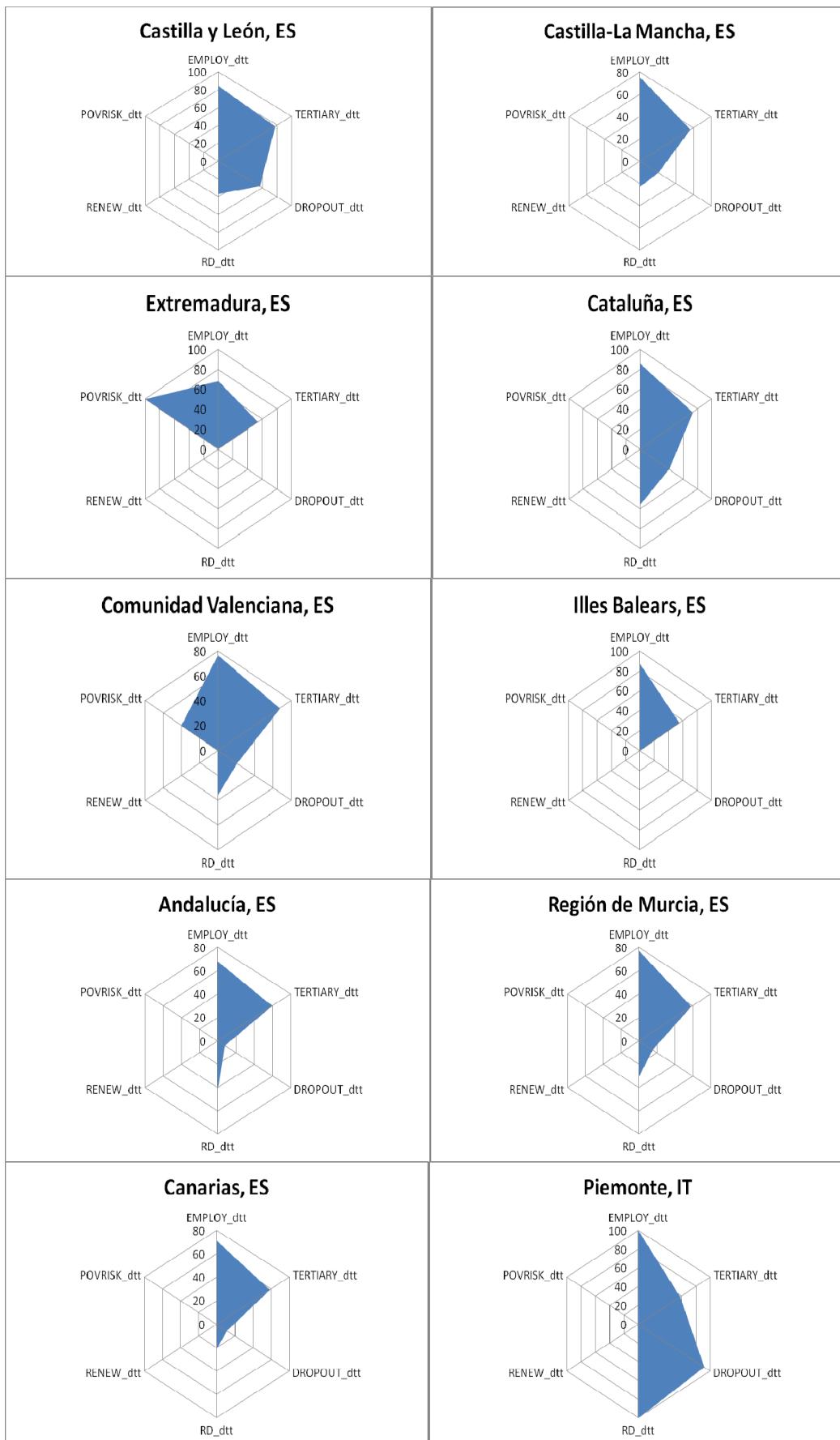
Region	Country	Pre-Crisis (2000-2007)			Recovery (2009-MRYA)		
		Positive	Stagnating	Negative	Positive	Stagnating	Negative
Galicia	ES	5	0	0	2	2	1
Principado de Asturias	ES	3	1	1	4	0	1
Cantabria	ES	3	0	2	3	0	2
País Vasco	ES	4	1	0	2	1	2
Comunidad Foral de Navarra	ES	3	1	1	2	0	3
La Rioja	ES	3	0	2	1	2	2
Aragón	ES	3	0	2	2	1	2
Comunidad de Madrid	ES	4	0	1	2	1	2
Castilla y León	ES	3	0	2	2	0	3
Castilla-La Mancha	ES	2	2	1	3	0	2
Extremadura	ES	5	0	0	3	0	2
Cataluña	ES	4	0	1	2	0	3
Comunidad Valenciana	ES	3	1	1	2	0	3
Illes Balears	ES	3	2	0	3	0	2
Andalucía	ES	4	1	0	3	0	2
Región de Murcia	ES	4	1	0	4	0	1
Canarias	ES	3	1	1	3	0	2
Piemonte	IT	5	0	0	2	1	2
Valle d'Aosta /Vallée d'Aoste	IT	3	1	1	2	2	1
Liguria	IT	3	1	1	1	2	2
Lombardia	IT	5	0	0	4	1	0
Abruzzo	IT	4	1	0	2	1	2
Molise	IT	4	1	0	3	0	2
Campania	IT	5	0	0	2	1	2
Puglia	IT	3	1	1	2	1	2
Basilicata	IT	3	0	2	3	0	2
Calabria	IT	4	0	1	1	3	1
Sicilia	IT	3	2	0	1	1	3
Sardegna	IT	3	0	2	2	1	2

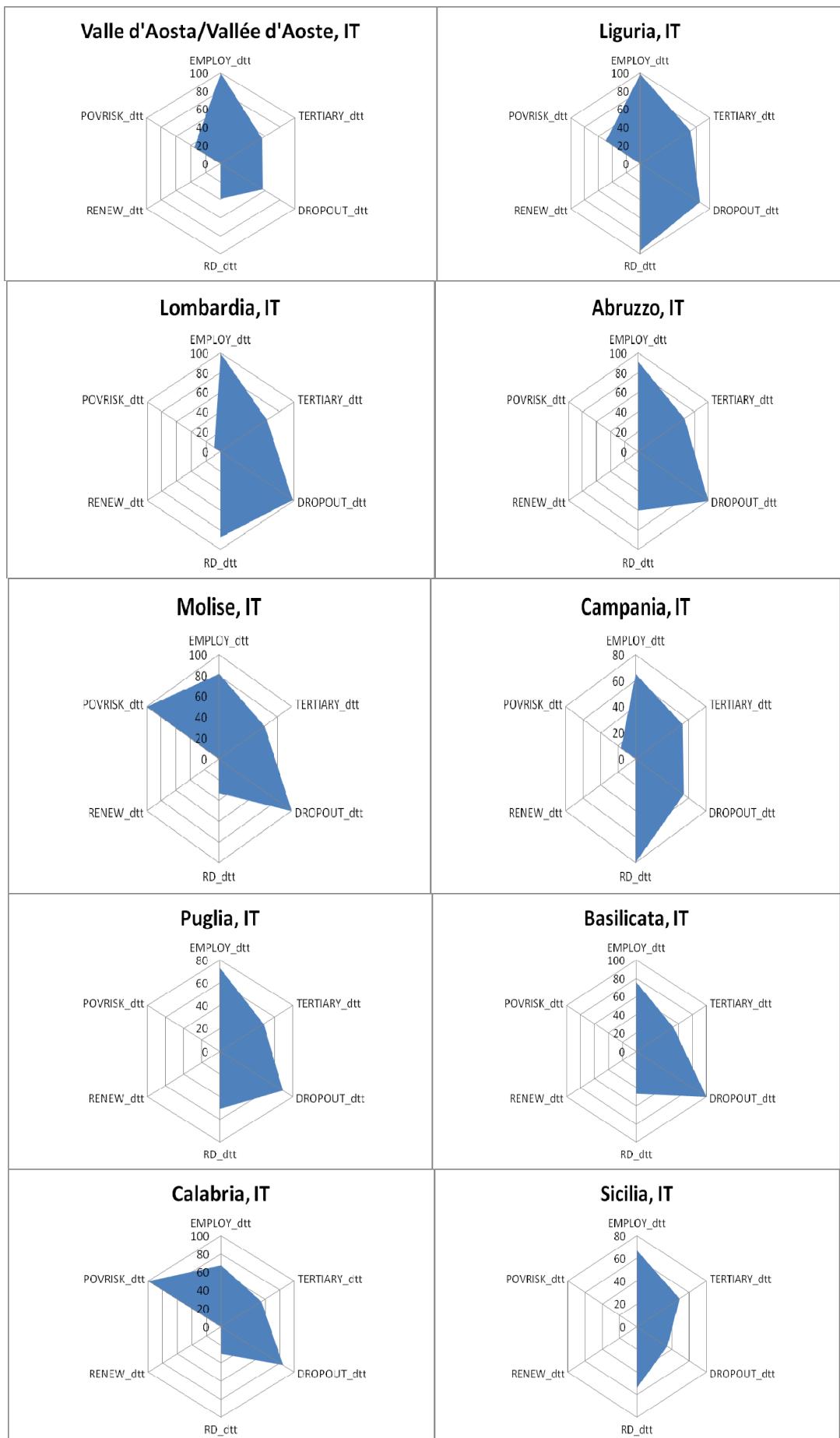
Table 12: Comparison of progress among the regions with complete data coverage during the recovery period (2009-present).

Cross-indicator analysis

For the same 29 regions analysed for their time trends, spider charts are presented to show the distribution of their current DTT values.







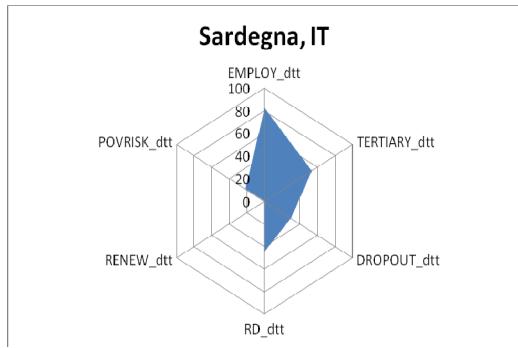


Figure 5: Spider charts of selected regions with full data coverage.

The spider charts provide further evidence that progress towards the available six indicators is not homogeneous across the regions. Employment rates are most consistent and data on renewable energy are too scarce to draw meaningful conclusions, but the remaining indicators exhibit substantial variation across regions and in some cases, the current poverty DTT values are even negative due to net additions to the number of people at risk of poverty and social exclusion.

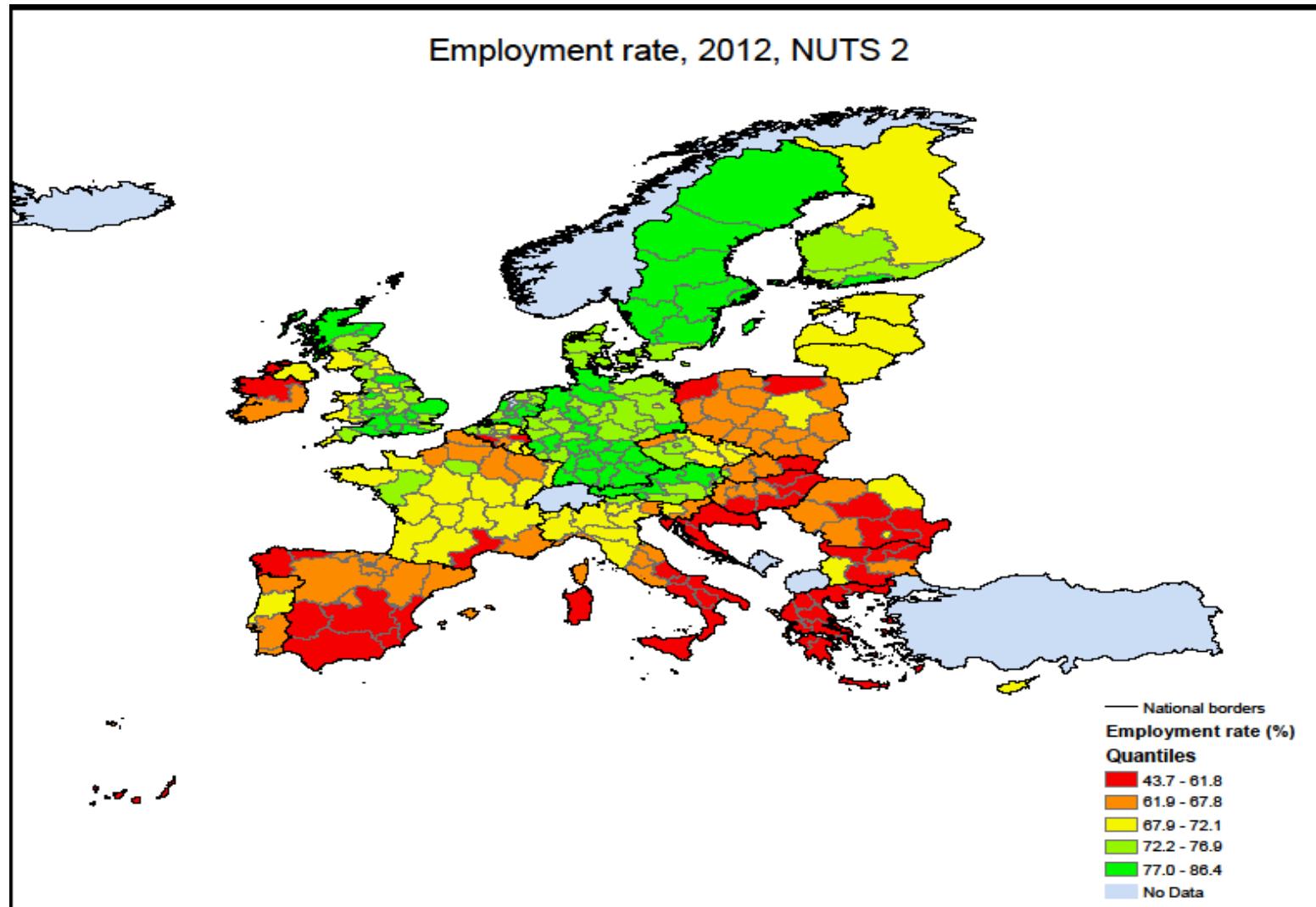
Spatial analysis

When the objective is to monitor progress towards the Europe 2020 Strategy, focus should not only rest on analyzing how the indicators change over time but across countries and regions. Visualising the spatial dimension can yield useful insights into spatial patterns, clusters, including across national and regional borders that would be lost in individual country or region analyses. For this reason the study also examined patterns at NUTS2 levels with respect to the current status of the available indicators, the regions' distance-to-target values and the trend over time. While the full set of maps is included in the full report, the following three examples show the types of information that can be gleaned from spatial visualization.

In the first map (Map 1) the current employment rate is shown. NUTS2 regions are grouped by quintile, i.e., the top 20% of regions have employment rates of 77-86.4% while the bottom 20% only reach 43.7-61.8%. Almost all NUTS2 regions in Sweden, Germany, the UK and the Netherlands fall into the leading group. Southern, Mediterranean and Eastern Europe, on the other hand, still has a long way to go to reach the EU target. With respect to their own national employment targets, Map 2 shows an overall similar picture but also more mixed results in the Balkans, France and Finland.³ This emphasizes the need for differentiated regional analyses as well as awareness of the choice of reference benchmarks.

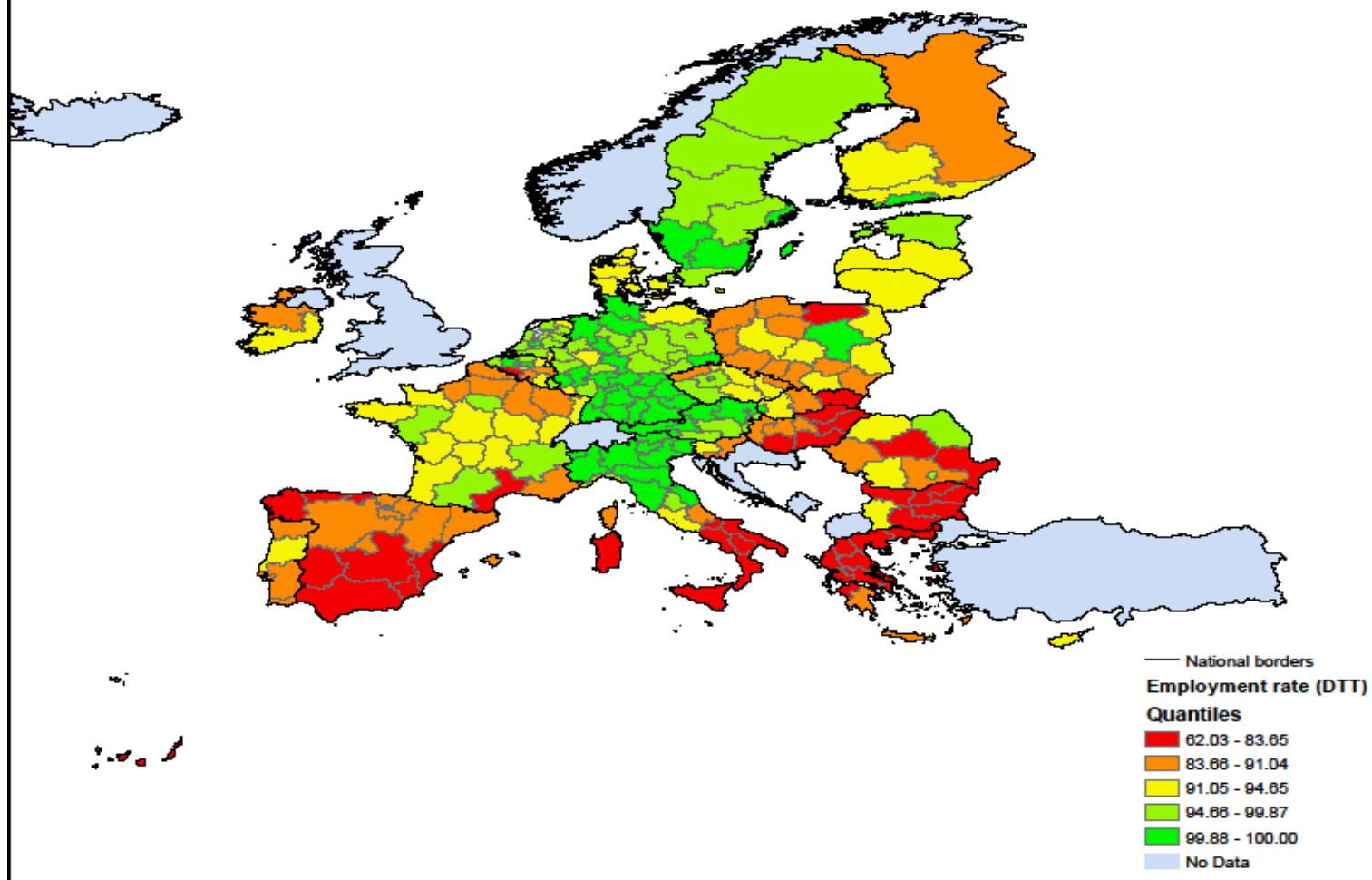
³ The UK has not specified an employment target and is therefore not included in the map.

Map 3 shows the overall development of each region since 2009 with respect to the regionally available Europe 2020 indicators. The purpose of this map is to highlight any kind of progress, regardless of whether the region is already a leader or is struggling to reach the strategy's goals. Indeed, the map shows that several regions in countries such as Sweden, Germany and the UK that had already reached high levels on some Europe 2020 indicators are overall showing negative trends. In contrast many regions in Spain, Ireland, Eastern Europe, the Balkans and Greece are showing signs of recovery compared with 2009.

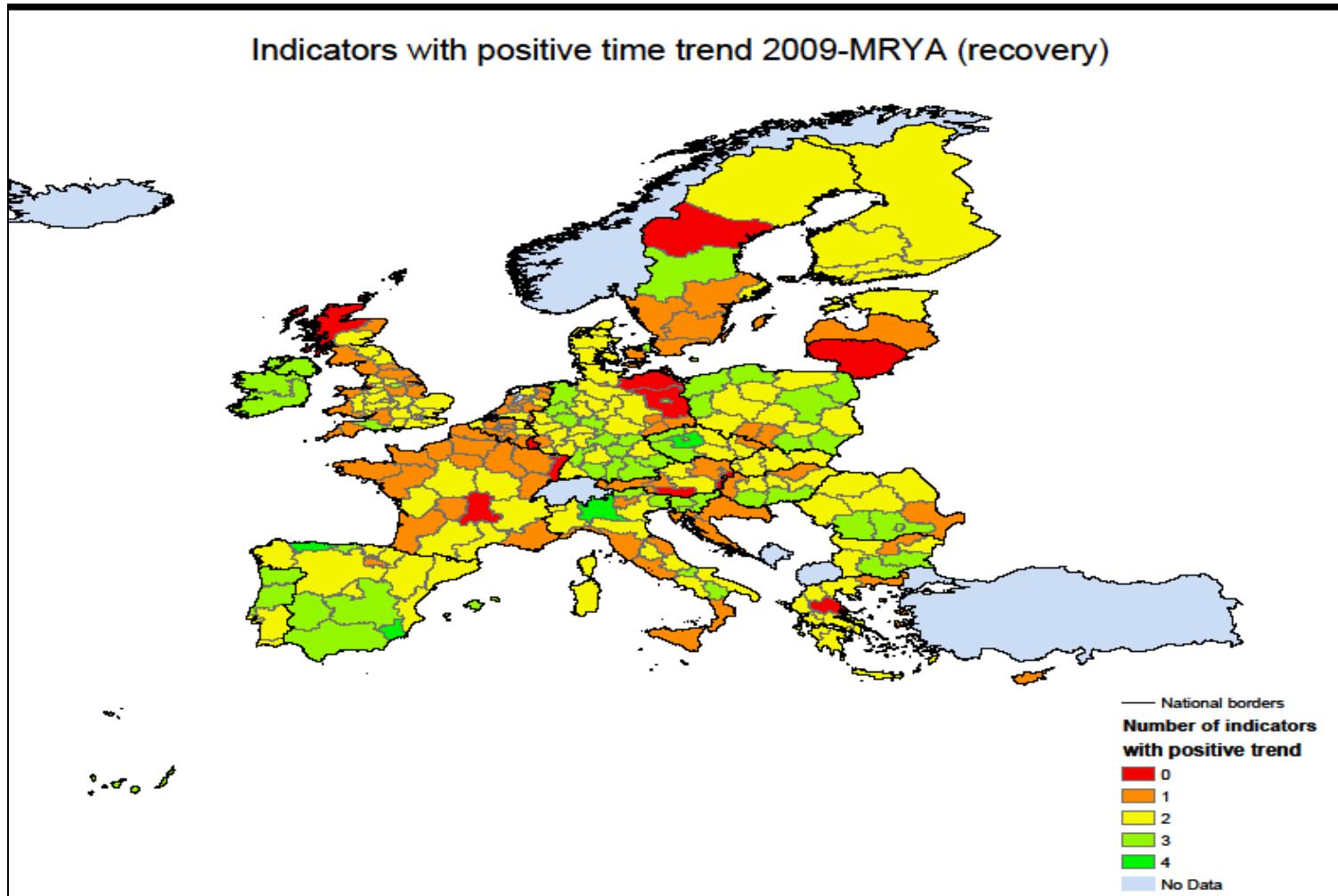


Map 1: Quintiles of the 2012 employment rate among people aged 20-64 years in NUTS2 regions.

Employment rate - distance-to-target values 2012, NUTS 2



Map 2: Quintiles of the 2012 distance-to-target distribution of employment rate among 20-64 year olds in NUTS2 regions.



Map 3: Trends in the Europe 2020 indicators since 2009. Green shades indicate an overall positive development and red shades indicate an overall worsening of the situation.

Looking ahead

The here presented national and regional progress indicators were developed to assist the work of the CoR in several aspects:

- Monitor and evaluate the implementation of the Europe 2020 Strategy at regional level;
- Facilitate comparisons across regions for the purpose of identifying approaches and policies that have shown proven results and that may be transferable to other regions;
- Provide a fact-based, quantitative basis for identifying best practices and knowledge that can be shared among the regions as well as identify problem areas that may require new or more differentiated approaches to lead to the successful completion of the Europe 2020 Strategy.

The NPI and RPI are work in progress and for the time being the focus has been on developing the conceptual foundation and to perform exploratory data analysis. Both indicators can be enhanced further through the use of more sophisticated statistical methods, for example, to fill data gaps, extrapolate trends to obtain more recent indicator estimates, and to develop regional targets. The initial spatial visualizations are also only a first step towards more in-depth analyses of spatial patterns.

It is important to emphasize that both measures should be used in conjunction with robust information and knowledge about local and regional contexts, policy processes, and additional statistics about the local and regional economy, socio-demographics and other factors known to influence the progress on Europe 2020 indicators. In particular, the spatial perspective should be considered as has been done in the ESPON Atlas of June 2013 regarding the territorial dimensions of the Europe 2020 Strategy.

The documentation and excel tables accompanying this summary and full report can help to advance the data and knowledge basis in the future if and when more detailed regional (NUTS2 level) data become available.