

4 June 2020

Regional Development Composite Index

2018

Only four of the 25 NUTS 3 sub-regions stood above the national average

In 2018, according to the *regional development composite index*, four out of the 25 NUTS 3 sub-regions stood above the national average in terms of the overall regional development – the metropolitan areas of Lisboa and Porto, Cávado and Região de Aveiro.

In the *competitiveness index* only three sub-regions stood above the national average: Área Metropolitana de Lisboa, standing out from Área Metropolitana do Porto and Região de Aveiro. The *Competitiveness* revealed the highest disparity among the three dimensions of regional development.

In the *cohesion index*, seven NUTS 3, mostly from the mainland coast, stood above the national average. In this dimension, Área Metropolitana de Lisboa, Região de Coimbra and Cávado stood out with the highest *indexes*.

The *environmental index* results highlight the inner mainland sub-regions and the two autonomous regions with higher values. The national average was exceeded by 16 NUTS 3, showing a lower interregional disparity than the other dimensions. Terras de Trás-os-Montes was the sub-region with the highest score in the *environmental index*.

The **Regional Development Composite Index** (ISDR) relies on a conceptual framework which benefits from a multidimensional approach to regional development that encompasses three dimensions: *competitiveness*, *cohesion* and *environmental quality*. The technical note at the end of this press release contains the list of indicators considered and their relation with each of the three indexes.

The results now released includes retrospective changes in the information used, which essentially result from (i) the incorporation of the Regional Accounts information in the new base 2016 and (ii) the replacement of the indicator physicians employed at official clinics per 1 000 inhabitants by the indicator medical doctors per 1 000 inhabitants by place of residence.

With the release of the 2018 results, Statistics Portugal starts the production cycle of ISDR's version 2.1, comprising a data series for the 2011-2018 period.

The conceptual and computational methodological options as well as annual results data for the 2011-2018 period are available at www.ine.pt, in accordance with the technical note included in the end of this press release.

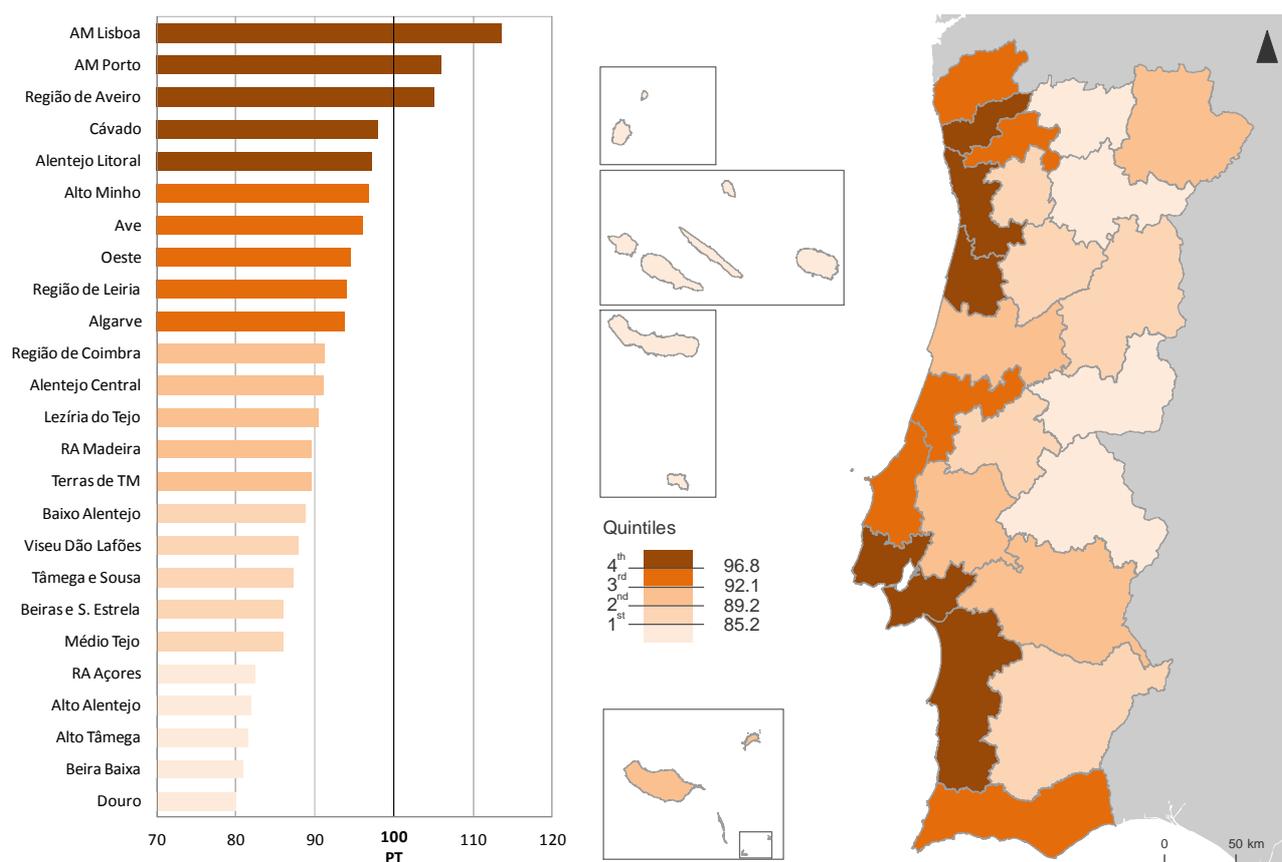
The NUTS 3 performance in 2018: *competitiveness, cohesion and environmental quality*

Competitiveness index

The 2018 results revealed that the sub-regions with higher scores in the *competitiveness index* are concentrated in the mainland coast. Área Metropolitana de Lisboa (113.50) scored the highest index standing out from the other sub-regions with values above the national average: Área Metropolitana do Porto (105.98) and Região de Aveiro (105.03). In general, the inner mainland and the autonomous regions scored lower *competitiveness* indexes compared to coastal mainland.

Within the three dimensions of development, the *competitiveness index* in the Portuguese NUTS 3, revealed the highest regional disparity, according to the coefficient of variation¹.

Figure 1: Competitiveness (Portugal = 100), NUTS 3, 2018



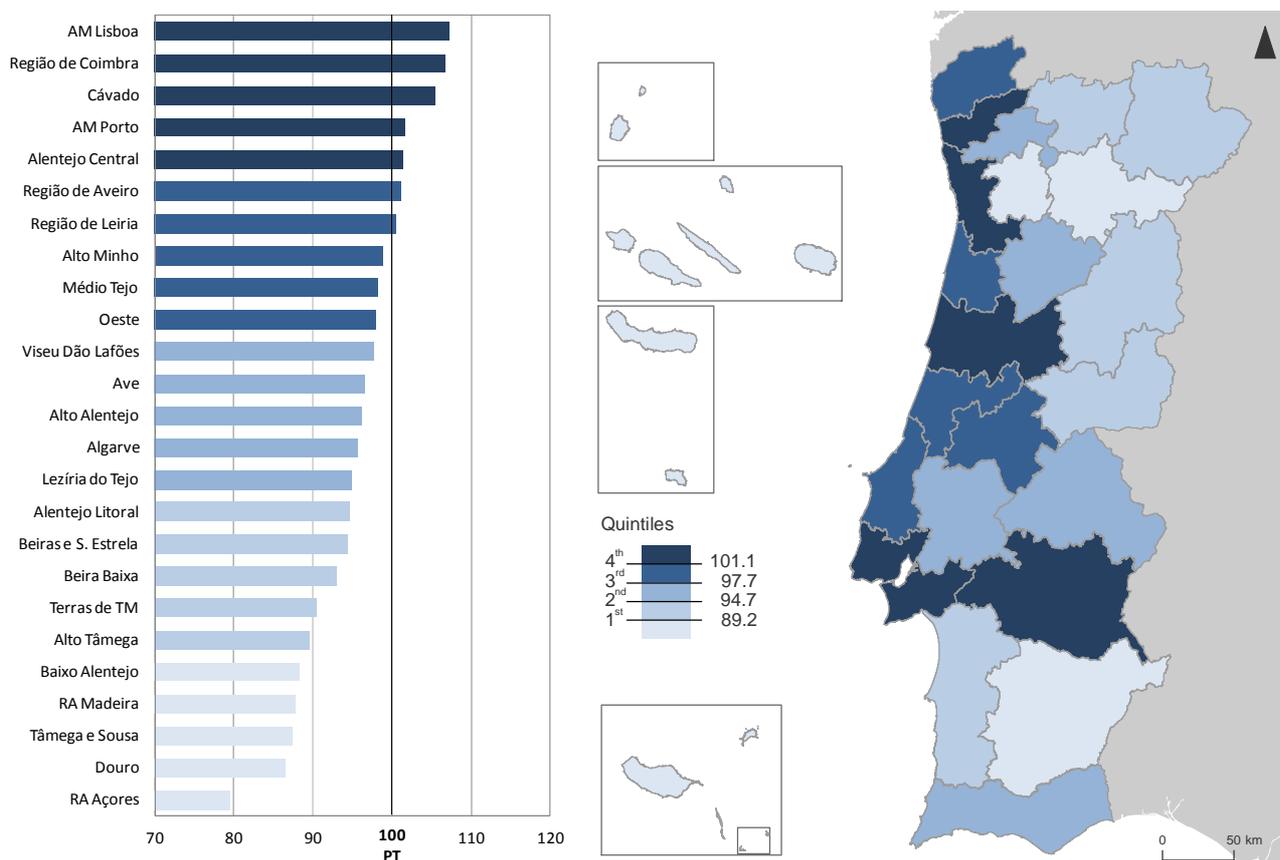
¹ In 2018, the coefficient of variation of the competitiveness index was 9.1%, for the cohesion index was 7.1% and for environmental quality index was 5.1%.

Cohesion index

In the *cohesion index*, the results display a more balanced territorial picture than the one resulting from competitiveness as seven sub-regions exceeded the national average, highlighting the Área Metropolitana de Lisboa (107.15) with the highest cohesion index, but also, in the northern coast, Cávado (105.43) and Área Metropolitana do Porto (101.53), in the central coast, Região de Coimbra (106.62) and, further south, Alentejo Central (101.28).

The two autonomous regions, the territory of Norte region, formed by Tâmega e Sousa and by Douro and, in south, the Baixo Alentejo scored the lowest cohesion indexes.

Figure 2: Cohesion (Portugal = 100), NUTS 3, 2018



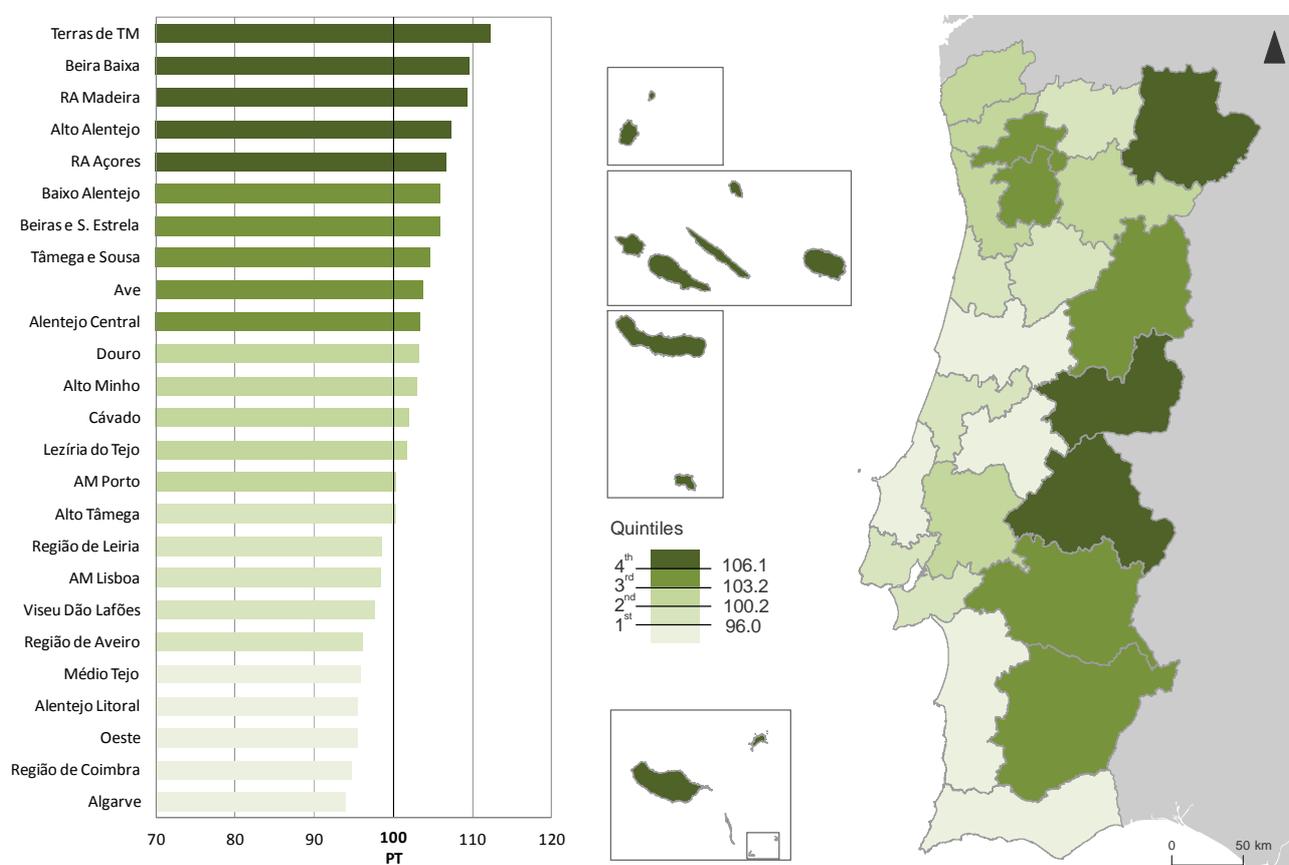
Environmental quality index

The 2018 results tend to have a territorial pattern symmetrical to *competitiveness*, with a concentration of sub-regions with higher *environmental indexes* in the inner mainland and in the two autonomous regions, suggesting that *environmental quality* progressively increases from the coast towards the inner mainland. In this context, is important to highlight the coastal mainland NUTS 3 – Área Metropolitana do Porto (101.53), Alto Minho (102.89) and Cávado (101.93) – with results above the national value.

The national average in this dimension was exceeded by 16 NUTS 3 and it presents a lower territorial disparity compared to the other components. Among the sub-regions with indexes below the national average, were six out of the 10 most competitive NUTS 3: Região de Aveiro, Região de Leiria, Oeste, Área Metropolitana de Lisboa, Alentejo Litoral and Algarve.

Terras de Trás-os-Montes (112.18) was, in 2018, the NUTS 3 with the best performance in the *environmental quality index*.

Figure 3: Environmental quality (Portugal = 100), NUTS 3, 2018



The joint analysis of regional development

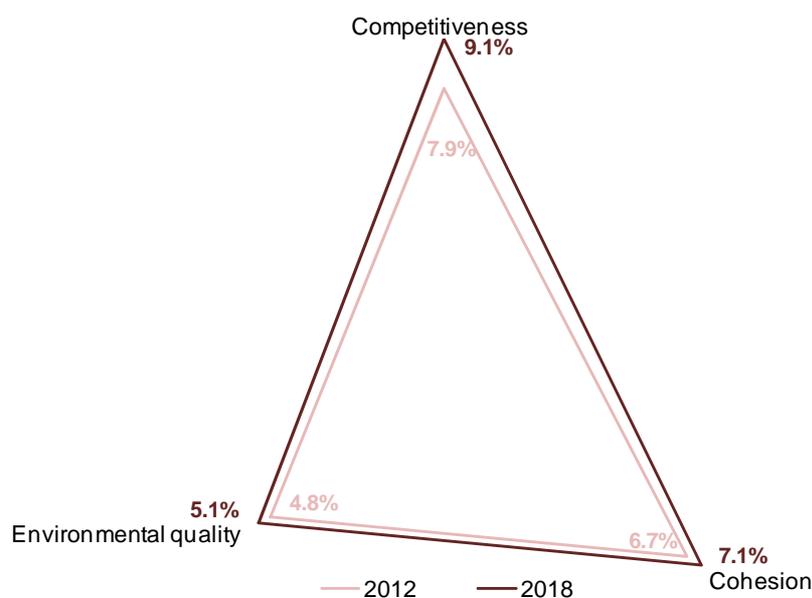
Evolution of interregional disparities

Considering the available ISDR series (2011-2018) and the 25 NUTS 3 sub-regions, the lowest level of interregional disparity was observed in 2012 in the *competitiveness* and in *cohesion index*; while in the case of the *environmental quality index* this situation occurred in 2011. The highest level of disparity was observed in 2015 for *cohesion* and *environmental quality indexes* and, in 2018, for the *competitiveness index*.

Throughout the ISDR series, the *competitiveness index* scored successively the highest level of disparity between the three partial indexes of regional development, followed by the *cohesion index* and, with a lower disparity, the *environmental quality index*.

In 2018 there was an increase in the territorial disparity in the three dimensions of regional development compared to 2012, highlighting the evolution showed in the *competitiveness index* coefficient of variation: 7.9% in 2012 and 9.1% in 2018. Compared with the previous year, there was an increase in the disparity of results in the *competitiveness* and *cohesion indexes* and a reduction in the *environmental quality index*.

Figure 4: Coefficient of variation of the partial indexes of competitiveness, cohesion and environmental quality, 2012 and 2018

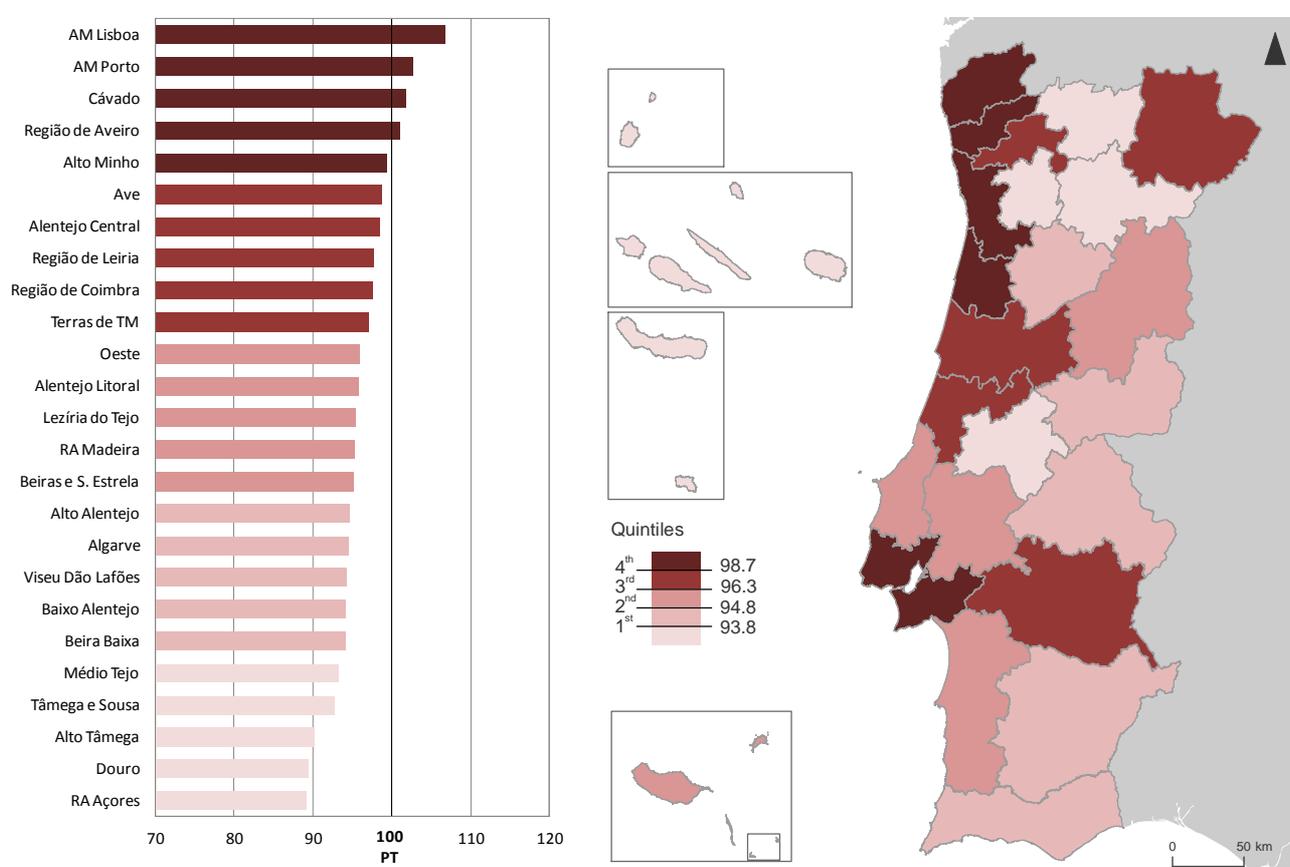


Overall index of regional development in 2018

The *overall index of regional development* is the result of the joint performance of the dimensions (partial indexes) *competitiveness*, *cohesion* and *environmental quality*.

The 2018 results shows that, four out of the 25 NUTS 3 sub-regions scored above the national average – the metropolitan areas of Lisboa (106.59) and Porto (102.66), Cávado (101.70) and Região de Aveiro (101.84).

Figure 5: Overall index of regional development (Portugal = 100), NUTS 3, 2018



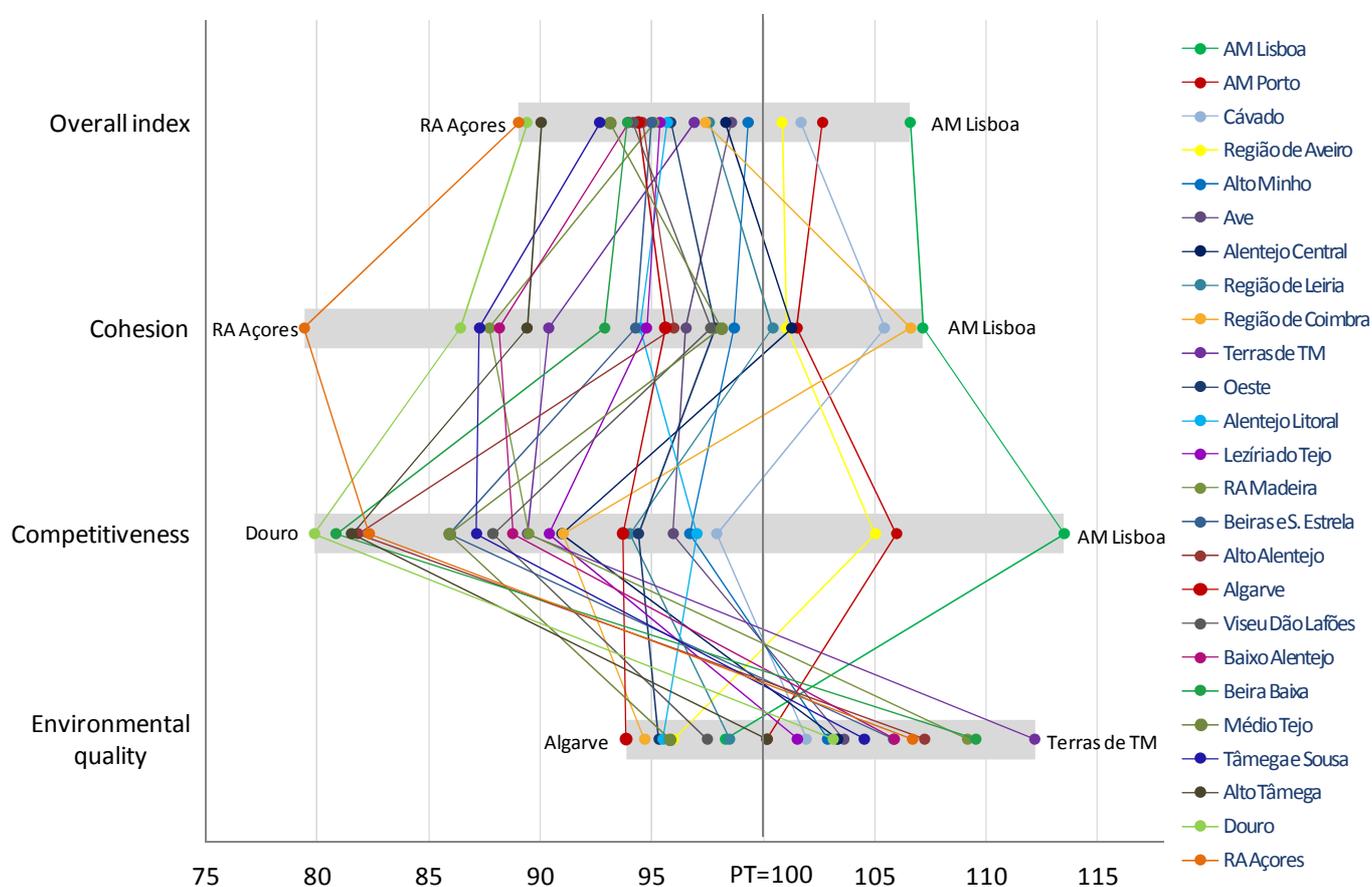
In 2018, considering the results of the 25 NUTS 3 sub-regions, the *competitiveness* and *cohesion* indexes showed a positive correlation with the *overall index of regional development* (of +0.9 and +0.8, respectively), while in case of *environmental quality* there was a low and negative correlation (-0.2). At the dimension level, there is a positive association between the Portuguese sub-regions performance in the *competitiveness* index and in the *cohesion* index (+0.7) while the correlations between the *environmental quality* and the *competitiveness* index and between *environmental quality* component and *cohesion* were negative (-0.4 and -0.6, respectively).

Figure 6: Correlation matrix, NUTS 3, 2018

	Overall index	Competitiveness	Cohesion	Environmental quality
Overall index	-			
Competitiveness	0,9	-		
Cohesion	0,8	0,7	-	
Environmental quality	-0,2	-0,4	-0,6	-

The differentiated behavior in the three dimensions of development reflects the multidimensionality and the complexity of regional development that the *Regional Development Composite Index* intends to capture through the identification of the heterogeneity of the regional profiles.

Figure 7: Overall index of regional development, competitiveness, cohesion and environmental quality (Portugal = 100), NUTS 3, 2018

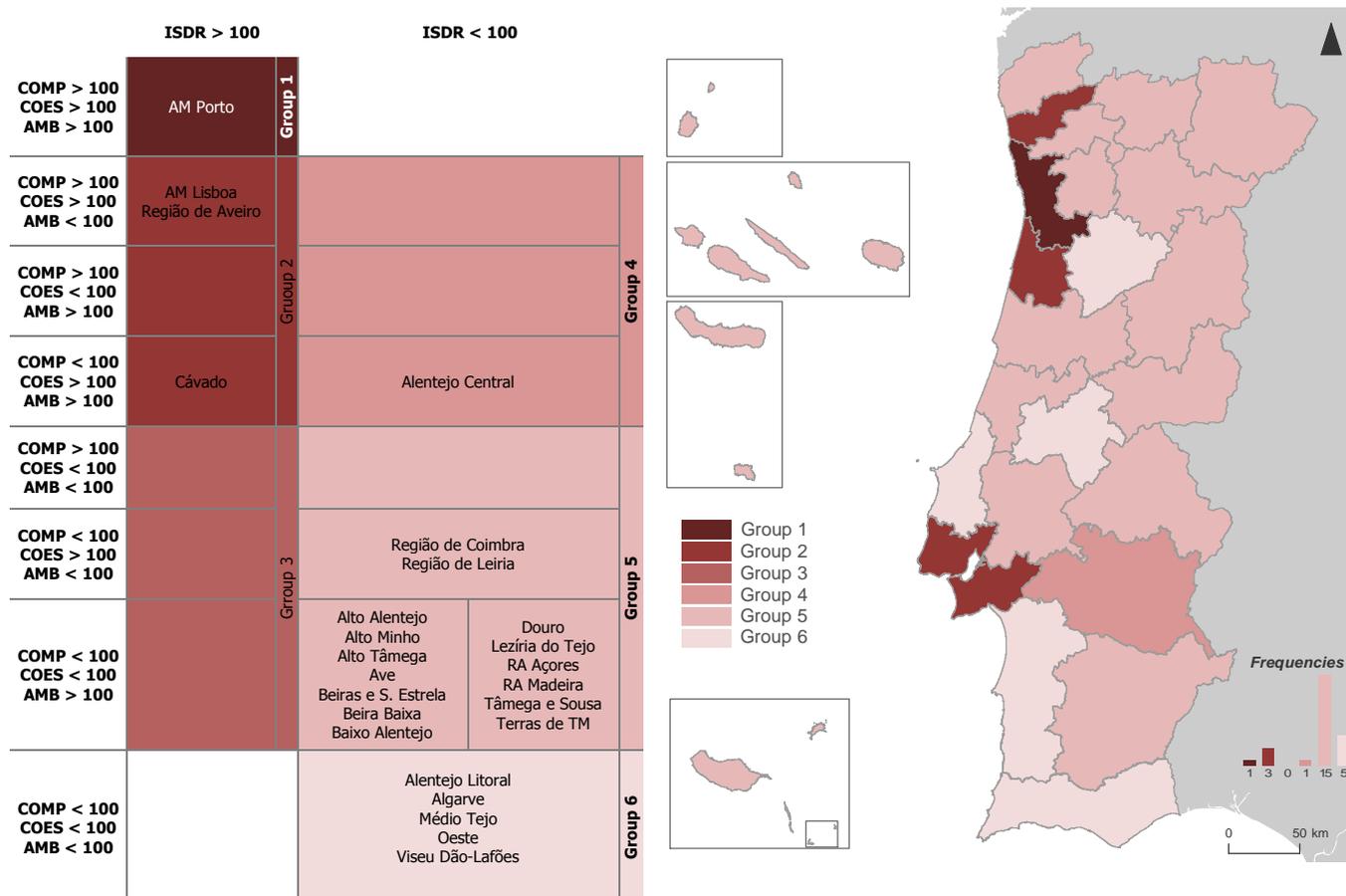


In 2018, Área Metropolitana do Porto was the only sub-region with a performance above the national average in the four composite indexes. Área Metropolitana de Lisboa, Região de Aveiro and Cávado were also above the national average in the *overall index of regional development* sharing the characteristic of staying below that reference in, at least, one of the three partial indexes: Área Metropolitana de Lisboa and Região de Aveiro did not exceed the national average in the *environmental quality index*; Cávado was below the national average in *competitiveness*.

At the opposite side, performing below the national average in the four indexes were the NUTS 3 Alentejo Litoral, Algarve, Médio Tejo, Oeste and Viseu Dão-Lafões.

The most common regional profile, covering 13 NUTS 3, consisted in an *environmental quality index* above the national average and results in *competitiveness* and *cohesion indexes* below the national value.

Figure 8: Overall index of regional development, competitiveness, cohesion and environmental quality: performance in relation to the national average (Portugal = 100), NUTS 3, 2018



Note: The acronym ISDR refers to the *overall index of regional development*, COMP to the *competitiveness index*, COES to the *cohesion index* and AMB to the *environmental quality index*.

Technical note

The *Regional Development Composite Index* (ISDR) is calculated annually for the Portuguese NUTS 3 sub-regions. Data collection is indirect and the variables used to compute the composite index result from administrative procedures and from statistical operations within the National Statistical System.

The relation with the three dimensions considered – *competitiveness*, *cohesion* and *environmental quality* – and the availability of the information determined the selection of the indicators for computing the index for the 25 Portuguese NUTS 3 level regions (NUTS-2013). It is, however, worthwhile to highlight the diversity of territorial contexts among these regions, of which the autonomous regions and the metropolitan areas are representative, as well as the heterogeneity regarding the size of the 25 Portuguese NUTS 3.

Based on a matrix of 65 statistical indicators, for the 25 Portuguese NUTS 3, properly normalized (statistical standardization and minmax rescaling, with the minimum and maximum reference values extracted from the set of 65 standardized indicators for the time span available), distributed by three dimensions – *competitiveness*, *cohesion* and *environmental quality* – and subsequently aggregated by a non-weighted average, for the dimensions level as well as from the dimensions level to the *overall index* level, four composite indicators are produced – *competitiveness*, *cohesion*, *environmental quality* and *overall index of regional development*. The four composite indicators are referenced to the national value (Portugal = 100), being the national value the average of the NUTS 3 indexes weighted by the resident population. As the national value, the indexes for the NUTS 2 regions correspond to the population weighted average indexes of their respective NUTS 3.

The conceptual and computational methodological options are presented in the methodological document *Índice Sintético de Desenvolvimento Regional*, código 127 / versão 2.1, INE (available at www.ine.pt, in Metadata, Metadata System, Methodological documentation). The need for this methodological document revision in relation to version 2.0 results from changes in the information used, namely: i) the incorporation of the Regional Accounts information in the new base 2016 and; ii) the replacement of the indicator 'physicians employed at official clinics per 1 000 inhabitants' since the Official Clinics survey was suspended, and it has not been possible to update this information since the 2015 edition of ISDR. Therefore, the results now released are not directly comparable with previously published data.

Comparing to the results released in 2019 for the 2011-2017 period, the maximum and minimum reference values have changed as a result of the update in the retrospective series, however these values remain associated with the same region, same year and the same individual indicator – the minimum value corresponds to the *energy intensity of the economy in final energy* observed in 2014 in Alentejo Litoral and the maximum corresponds to the *lodging capacity in hotel establishments with 3 or more stars per 1 000 inhabitants* observed in 2014 in Algarve.

Annual figures for the 2011-2018 period, in accordance with the 2.1 version of the methodological document, are available at www.ine.pt, in Statistical information, Statistical data, Database.

The following table lists the 65 indicators that are part of the *Regional Development Composite Index* with the association to their respective dimension.

List of individual indicators of the *Regional Development Composite Index*

Designation	Competitiveness	Cohesion	Environmental quality
Gross domestic product per inhabitant	+		
Apparent labour productivity	+		
Proportion of sales and services rendered abroad in the turnover of companies	+		
Population density	+		
Persons employed in establishments by 100 inhabitants in active age	+		
Renewal index of the population in active age	+		
Proportion of employees with higher education	+		
Potential Broadband Territorial Coverage (ADSL)	+		
Lodging capacity in hotel establishments with 3 or more stars per 1 000 inhabitants	+		
Proportion of resident population in urban areas with 10 000 or more inhabitants	+		
Participation rate in youth oriented education/training modalities at upper secondary education	+		
Degree of specialisation within advanced competitive factors	+		
Proportion of sales and services rendered abroad in the turnover of companies in high and medium-high technology sectors	+		
Proportion of gross value added in international activities branches	+		
Technological intensity of industrial activity and services	+		
Proportion of persons employed in information and communication technology activities	+		
Proportion of employees that have changed enterprise of work related to total employment	+		
Enterprises birth rate	+		
Survival rate of enterprises on international activities' branches	+		
Proportion of persons employed in enterprises with mostly foreign capital	+		
Proportion of gross expenditure on research and development (GERD) by enterprises in enterprises' GVA	+		
Proportion of gross expenditure on research and development (GERD) in GDP	+		
Crude migratory rate	+		
Net attraction rate of employees	+		
Persons employed, inside and outside the territorial unit, of enterprises with head office in the territorial unit per person employed in the territorial unit of enterprises with head office outside the territorial unit	+		
Life expectancy at birth		+	
Quinquennial infant mortality rate		-	
Municipal dispersion of family income per inhabitant		-	
Family income per inhabitant		+	
Retention capacity of the generated income		+	
General fertility rate		+	
Young registered unemployment per young person		-	
Medical doctors per 1 000 inhabitants by place of residence		+	
Pharmacies and mobile medicine depots per 1 000 inhabitants		+	
Teachers per students enrolled in tertiary education		+	

Designation	Competitiveness	Cohesion	Environmental quality
Number of live shows performances per 1 000 inhabitants		+	
Proportion of resident population in urban areas with 5 000 or more inhabitants		+	
Gross enrolment rate in pre-primary education		+	
Gross enrolment rate in upper secondary education		+	
Average monthly earnings		+	
Average value of social security pensions		+	
Youth rate		+	
Beneficiaries of social integration income of social security per 1 000 inhabitants with 15 and more years old		-	
Retention and desistance rates in primary and lower secondary education		-	
Transition/ completion rate in upper secondary education		+	
Crime rate against people		-	
Registered unemployment per inhabitants in active age		-	
Gender disparity in the relationship between registered unemployment and the average resident population in active age		-	
Proportion of marriages between Portuguese and foreigners		+	
Teenage fertility rate		-	
Safe water for consumption			+
Air quality			+
Urban waste collected per inhabitant			-
Wastewater sewerage per capita			-
Local and regional non-governmental organizations for environment (ONGA) members per 1 000 inhabitants			+
Proportion of use of potential non-urban land			+
Proportion of urban waste landfilled			-
Proportion of urban waste selective collected			+
Proportion of classified areas in the total area			+
Burnt forest rate			-
Regional contribution to replacing fossil primary energy electricity production with renewable energy or lower emission content			+
Proportion of the surface area of rehabilitation works in the total surface area of completed works			+
Territorial concentration of new constructions			+
Fresh water supplied per inhabitant			-
Energy intensity of the economy in final energy			-