# Don't Stop Now

## Findings of the European Catch-Up Index 2016
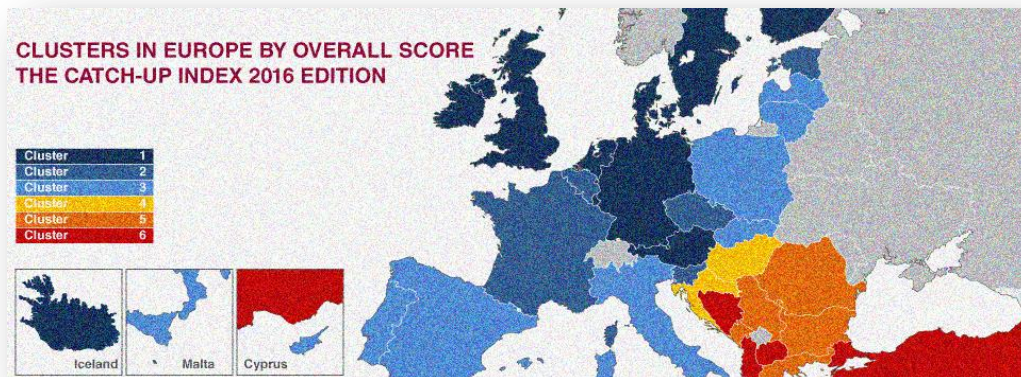


## Marin Lessenski

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## www.TheCatchUpIndex.eu

## About EuPI

The European Policy Initiative (EuPI) of OSI-Sofia aims to contribute to the efforts of the European Union Member States from Central and Eastern Europe to develop capacity for constructive co-authorship of common European policies at both government and civil society level. As a priority area of the European Policies Program of the Open Society Institute – Sofia, EuPI pursues improving the ability of new member states to effectively impact common European policies through good quality research, policy recommendations and networking. The initiative operates in the ten new member states from CEE through a network of experts and policy institutes.

**Web-site http://www.eupi.eu**

**Web-site: http://www.TheCatchUpIndex.eu**

**E-mail: eupi@osi.bg**

Address:
Open Society Institute – Sofia
European Policies Initiative (EuPI)
56 Solunska Str.
Sofia 1000
Tel.: (+359 2) 930 66 19
Fax: (+359 2) 951 63 48

## About the report

The report "Findings of the European Catch-Up Index 2016" presents the findings of the European Catch-Up Index project of the European Policies Initiative (EuPI) of the Open Society Institute- Sofia with funding provided by OSI-Sofia. This product is for non-commercial use only.

The views expressed in the report are those of the author and do not necessarily reflect the views of the Open Society Institute – Sofia.

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| The Catch-Up Index 2016 | | | | | |
|---|---|---|---|---|---|
| Group | Country | Economy Score | Quality of Life Score | Democracy Score | Governance Score | Overall Score |
| EU15+2 | Austria | 62 | 66 | 64 | 69 | 65 |
| EU15+2 | Belgium | 56 | 66 | 62 | 61 | 61 |
| EU15+2 | Cyprus | 43 | 53 | 47 | 52 | 49 |
| EU15+2 | Denmark | 70 | 68 | 75 | 73 | 71 |
| EU15+2 | Finland | 61 | 69 | 72 | 72 | 69 |
| EU15+2 | France | 57 | 65 | 53 | 58 | 58 |
| EU15+2 | Germany | 66 | 67 | 63 | 67 | 66 |
| EU15+2 | Greece | 31 | 47 | 34 | 34 | 36 |
| EU15+2 | Ireland | 63 | 64 | 66 | 67 | 65 |
| EU15+2 | Italy | 43 | 55 | 49 | 41 | 47 |
| EU15+2 | Luxembourg | 74 | 71 | 67 | 72 | 71 |
| EU15+2 | Malta | 54 | 51 | 60 | 55 | 55 |
| EU15+2 | Netherlands | 69 | 70 | 71 | 72 | 71 |
| EU15+2 | Portugal | 42 | 49 | 54 | 58 | 51 |
| EU15+2 | Spain | 48 | 53 | 54 | 51 | 52 |
| EU15+2 | Sweden | 69 | 68 | 73 | 74 | 71 |
| EU15+2 | UK | 62 | 66 | 61 | 68 | 64 |
| EU10+1 | Bulgaria | 40 | 29 | 32 | 33 | 34 |
| EU10+1 | Croatia | 39 | 43 | 42 | 40 | 41 |
| EU10+1 | Czech Republic | 54 | 56 | 57 | 55 | 55 |
| EU10+1 | Estonia | 57 | 53 | 59 | 55 | 56 |
| EU10+1 | Hungary | 44 | 44 | 38 | 44 | 42 |
| EU10+1 | Latvia | 51 | 41 | 49 | 45 | 47 |
| EU10+1 | Lithuania | 52 | 46 | 52 | 50 | 50 |
| EU10+1 | Poland | 47 | 49 | 55 | 49 | 50 |
| EU10+1 | Romania | 43 | 28 | 38 | 35 | 36 |
| EU10+1 | Slovakia | 49 | 46 | 54 | 46 | 49 |
| EU10+1 | Slovenia | 48 | 59 | 54 | 53 | 54 |
| CC | Albania | 29 | 21 | 23 | 20 | 23 |
| CC | Macedonia | 36 | 21 | 19 | 25 | 26 |
| CC | Montenegro | 33 | 33 | 26 | 29 | 30 |
| CC | Serbia | 29 | 27 | 34 | 29 | 30 |
| CC | Turkey | 36 | 25 | 11 | 20 | 23 |
| PCC | BiH | 23 | 17 | 15 | 14 | 17 |
| PCC | Iceland | 60 | 67 | 70 | 68 | 66 |

# Bridging the Convergence Gaps: Still Catching-Up

Pont Neuf in Paris, built in the 16th century, is still the "new bridge" five centuries later.[1] In the same vein, the countries that joined the EU in 2004, 2007 and 2013 may still be referred to as the new member states, despite that they comprise a diverse group and often object to the term. Their similar trajectory of development and their experiences retain valuable lessons to be learned.

This report is based on the sixth edition of the Catch-Up Index, focusing on the process of these CEE countries catching up with the older EU member states. It measures the performance of 35 European countries in four categories – Economy, Quality of Life, Democracy and Governance – across 47 basic indicators. In a sense, this is the citizen bottom-up perspective of looking at the process to include a broader definition of catching-up to include not only economic convergence, but also quality of public services, level of democracy, and good governance. There have been five editions of the index since 2011.

The countries included in the index are the EU members, official candidate and potential candidate countries. This creates a certain drawback as the comparison of the EU10+1 is made against one of the most developed, wealthy, best governed and democratic countries in the world, which happen to be the older EU member states. This unavoidably feeds frustration at some of the results in failure to compete successfully and timely. But with all the failings and reservations the results show two things: there is a process of catching-up and the countries inside the EU are performing better than those outside of it – i.e. the candidate countries excluding Iceland.

With all the limitations of such composite indices, it is a useful start for further debate or research. It offers wealth of data, the opportunity to compare different countries and indicators over time or look for correlations between different factors. One of the most valuable features is the online platform, which contains the latest index data and which allows for working in real-time with the data, visualization of results and importantly, the opportunity to create own models and indices of catching-up.

This edition of the index is based on data, released no later than the end of 2016, hence the number of the index edition. The last year 2016 was marked by the Brexit referendum and the prospect of one member state leaving the EU. This alone is a bitter setback to the idea of European integration. It is still unclear which way the EU might go – whether this will be a wake-up call and a chance for reinvigoration or the road to irrelevance.

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[1] The credit goes to Jeremy Shapiro, who suggested the comparison.

It is clear that the accessions in 2004, 2007 and 2013 for the CEE countries were not the end, but marked a stage in their development. Despite the gloom and doom of 2016, the even worse expectations for 2017 and shifting of priorities either out of necessity or because of popular mood or populist tactics, there is no reason to abandon the catching-up process now. On the contrary, better catching-up will offer solution to standing and future problems. Post-2016, the task of the EU10+1 countries will be to find their place in a changing EU and the success or failure in catching-up will be one of the factors to identify their positions in regard to the emerging core-periphery or multi-speed Europe debates.

## About the European Catch-Up Index

*The Catch Up Index* measures the performance of 35 countries – the EU member states, the candidate and potential candidate countries across four categories - Economy, Quality of Life, Democracy and Governance. There are scores for each category and an Overall Score, composed of the scores for the four categories.

Each category is measured through selected indicators and sub-indicators. The various data for the indicators is converted into scores and weighted on the basis of the index methodology The standardized scores make possible different rankings, comparisons, benchmarking, monitoring of performance for countries and groups of countries across categories and indicators. The metrics is based on rescaling the raw data on a scale from 0 to 100 (lowest to highest), giving the scores of a country, and positions from 1 to 35 (highest to lowest), giving the ranking of a country.

*The Catch-Up Index* has been initially designed to capture the progress of the EU10+1 countries – the EU members from Central and Eastern Europe, including Croatia in 2013- in catching up with the rest to of the EU (EU15+2) by measuring their overall performance across the four categories – Economy, Quality of Life, Democracy and Governance. This is the sixth edition of the index, with previous editions of 2011, 2012, 2013, 2014, 2015.

## Categories, scores and ranks: about the methodology approach

The Catch-Up Index model is simple and is designed to assess the performance of the selected countries across the four categories. Each country is ascribed a score in each category, and the Overall Score is the average of those in the four categories combined. The countries are then ranked according to that score. Performance in the broad categories is assessed on the basis of indicators and sub-indicators, each having a different weight assigned to it, depending on its importance in the Catch-Up Index model. The raw data from different sources is standardized on a scale of 0 to 100 points, so that comparisons or other processing of scores can be made between countries, categories and indicators. The countries' performance is measured relative to each other and not to external targets, because the standardization method assigns the highest score to the best performing country and vice versa. As mentioned above, the scores run on a scale from 0 (lowest score) to 100 (highest score), while the ranks range from 1 (highest position) to 35 (lowest position) – the number of countries included in the index.

The EU member states are divided into four main groups – the EU10+1 and the EU15+2, the CC – candidate countries and PCC – the potential candidate countries. The EU10+1 group includes the ten post-communist countries from Central and Eastern Europe (CEE), which joined in 2004, 2007 and Croatia in 2013. The other, the control group is the EU15+2 – the older member states plus Cyprus and Malta, which also joined in 2004 but come from a different context and path of development, and thus are closer in characteristics to the older EU members.

The model uses a set of several yardsticks - or benchmarks – against which to assess the progress or lagging of the EU10+1 in meeting the standards of the rest of the EU. The benchmarks can be considered to be targets for the EU10+1.

The index takes as its main benchmark the "EU15+2 Average", which is the mean of the scores of these countries in a given category or indicator as a component of the overall score. The average (or mean of the scores) was preferred to the median (the "middle number" in a range of scores in this case) for a number of practical reasons. The "EU15+2 Average" is a group score and does not correspond to a specific country. Sometimes, the median is also used and the corresponding score can be associated with a particular country.

The other two important benchmarks are the "EU15+2 Maximum", which is the highest score in the group and the "EU15+2 Minimum", which is the lowest score in the EU15+2 group. Both the maximum and the minimum score can be associated with a respective country.

Once the "maximum", "average" and "minimum" are established and the countries are ranked according to their score, it can be easily observed if a particular country is above, below or near any of these benchmarks and how near or far it is to the target.

Other group scores – "average" for the EU10+1, the candidates or potential candidates – can be drawn depending on the task of the comparison.

The "EU15+2 Average" is the main benchmark, because the maximum may be an unrealistically high target, while setting the minimum – the lowest score – as a goal would have no motivational value.

# Highlights of Index 2016

## Convergence, divergence, "core and periphery" in Index 2016
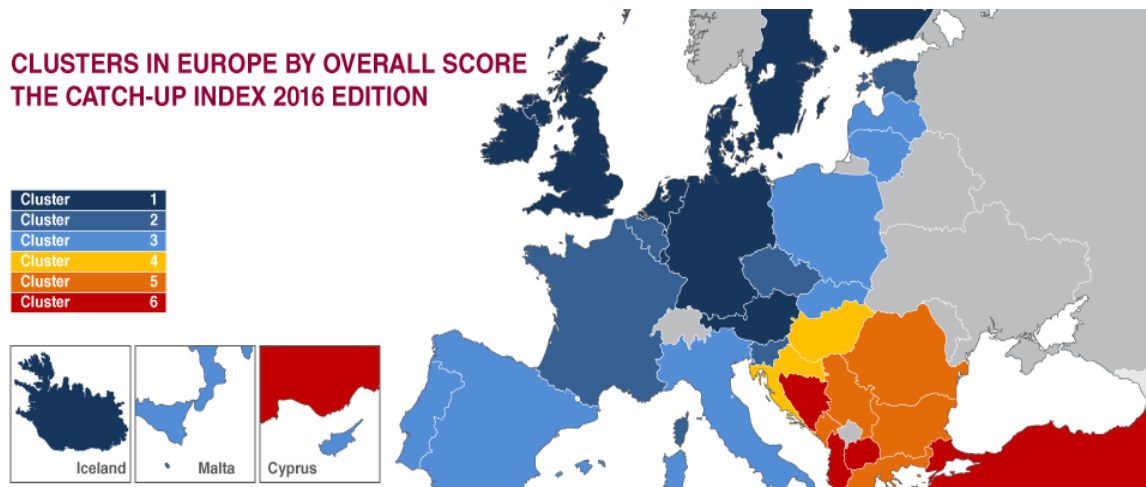


The geographic pattern of the catching up seems to have changed as indicated by the map of the cluster analysis of index scores. Previously, there was a trend of North-South divide replacing the old East-West divide. In the current index, there is an "extended" Southeastern Europe and the rest with a transitional cluster between them. There is a core of countries in the Northwest and West of the Europe with a hard core of the countries in the first two clusters and adjacent countries that follow closely in the third cluster of countries. All Balkan countries fall into the last two clusters of the catching-up. Their closest neighbors of Hungary and Croatia are part of the middle "transitional" cluster. The inclusion of a country in a transition group in this case is not necessarily a good thing– it shows a meeting place of countries that either climb or go down in the ranking. The trends from 2011 to 2016 show that Hungary is worsening its performance, while Croatia registers no change.

# The catching-up is happening, but it is not equally spread

| EU10+1 Catching-Up by Overall Score: Change of Scores and Ranks | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Group | Country | Overall Score 2016 | Rank 2016 | Score change vs 2015 | Score change vs 2014 | Score change vs 2013 | Score change vs 2012 | Score change vs 2011 | Rank Change vs 2015 | Rank Change vs 2014 | Rank change vs 2013 | Rank change vs 2012 | Rank change vs 2011 |
| EU15+2 | Maximum | 71 | 1 | | | | | | | | | | |
| EU15+2 | Average | 60 | | | | | | | | | | | |
| EU10+1 | Estonia | 56 | 13 | 1 | 2 | 3 | 4 | 4 | 0 | 1 | 3 | 5 | 5 |
| EU10+1 | Czech Republic | 55 | 15 | 1 | 1 | 0 | 0 | 2 | -1 | 0 | -2 | 0 | 2 |
| EU10+1 | Slovenia | 54 | 16 | 1 | 1 | -1 | -2 | -2 | 0 | 0 | -2 | -3 | -3 |
| EU10+1 | Poland | 50 | 19 | -1 | 0 | 1 | 1 | 3 | -1 | -1 | 1 | 1 | 3 |
| EU10+1 | Lithuania | 50 | 20 | 0 | 2 | 3 | 5 | 5 | -1 | 2 | 2 | 4 | 4 |
| EU10+1 | Slovakia | 49 | 22 | 0 | 0 | -1 | 0 | 2 | 0 | -1 | -3 | -1 | -1 |
| EU10+1 | Latvia | 47 | 24 | 0 | 3 | 4 | 6 | 6 | 0 | 0 | 1 | 3 | 3 |
| EU10+1 | Hungary | 42 | 25 | 0 | -1 | -2 | -3 | -4 | 0 | 0 | -1 | -2 | -2 |
| EU10+1 | Croatia | 41 | 26 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EU15+2 | Minimum | 36 | 27 | | | | | | | | | | |
| EU10+1 | Romania | 36 | 28 | 0 | 2 | 2 | 1 | 4 | 0 | 2 | 1 | 0 | 1 |
| EU10+1 | Bulgaria | 34 | 29 | 0 | -1 | -1 | -1 | -1 | 0 | 0 | -1 | 0 | -1 |

There is a process of convergence of the newer member states with the older EU members. The EU10+1 is the group with largest concentration of countries improving their scores and ranking compared to the older member states and candidate countries. Most of these countries in most cases are performing reasonably well in the process, if the benchmark for success is the average result of the reference EU15+2 group. Some EU10+1 come very close, even though their scores do not exceed the average scores of the older member states groups – with the only exception of Estonia in the Economy category.

But at the same time there is still a considerable difference between the best performers in the EU15+2 and EU10+1 if the benchmark is the maximum score. Even the best newer member states cannot compete with the best performers of the older members groups. This is frustrating, but it should be kept in mind that the benchmark countries are among the best performers in the world, so there is a disappointment from too high expectations.

There is not only progress. Along with convergence, there is also divergence as countries fail to perform and instead regress and this is applicable to newer and older member states alike.

# Best performers among the EU10+1 countries

**Change in Ranks of the EU10+1 Countries: 2011 - 2016**

| Country | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|
| Bulgaria | 13 | 13 | 13 | 14 | 13 | 13 |
| Croatia | 17 | 15 | 14 | 15 | 14 | 15 |
| Czech Republic | 18 | 18 | 16 | 16 | 16 | 16 |
| Estonia | 21 | 20 | 19 | 18 | 18 | 19 |
| Hungary | 22 | 21 | 20 | 21 | 19 | 20 |
| Latvia | 23 | 23 | 22 | 22 | 22 | 22 |
| Lithuania | 24 | 24 | 24 | 24 | 24 | 24 |
| Poland | 26 | 26 | 25 | 25 | 25 | 25 |
| Romania | 27 | 27 | 26 | 26 | 26 | 26 |
| Slovakia | 28 | 28 | 28 | 29 | 28 | 28 |
| Slovenia | 29 | 29 | 29 | 30 | 29 | 29 |
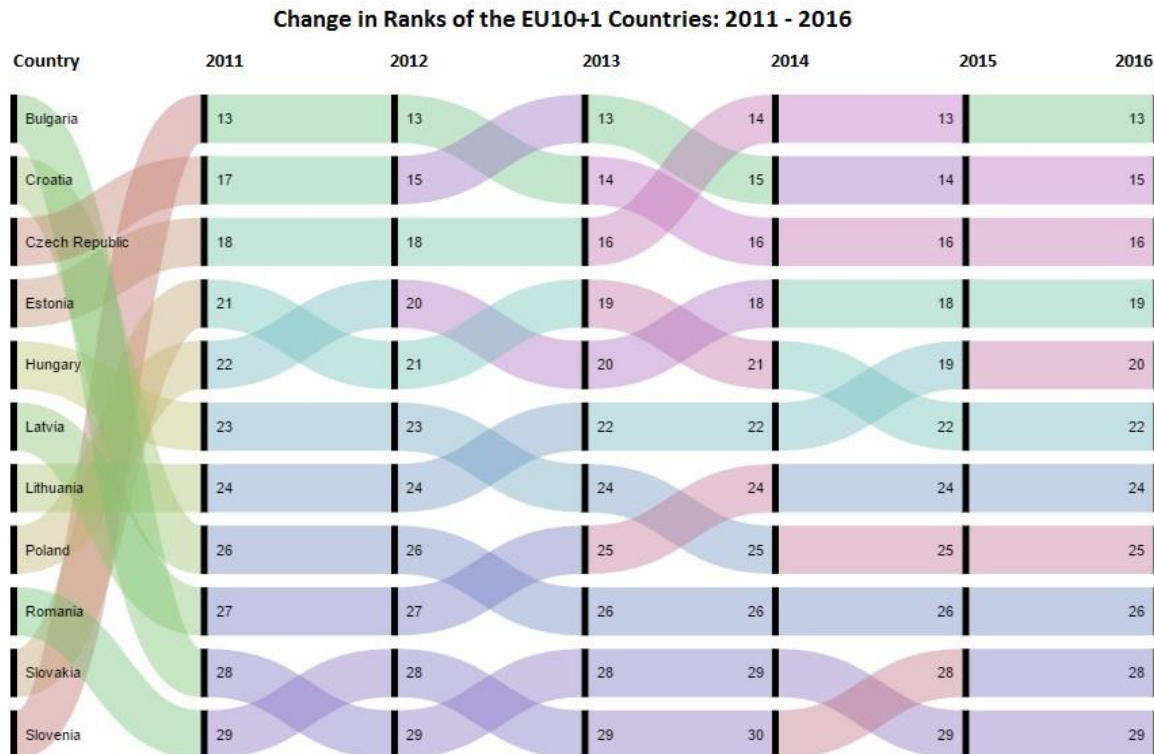
In the index 2016, the best performers are Estonia, the Czech Republic and Slovenia as the three of them dominate the rankings by overall score and the four different categories. Only Poland manages to join the trio of best performers with its previous achievements in the Democracy category. Bulgaria and Romania remain at the bottom of the ranking.

Estonia managed to jump five places from 2011 to 2016 – from 18th to 13th position out of 35. The Czech Republic reached 15th position in 2016 from 17th in 2011. Slovenia is 16th in this index edition, dropping from 13th position in 2011, but it is still a very good performance.

Poland (19nd), Slovakia (22nd), Lithuania (20th) and Latvia (24th) are the countries that are well positioned to make the move to a higher position if they continue catching-up successfully as they moved up by 3-4 places from 2011. Hungary and Croatia have suboptimal performance as Hungary is regressing and Croatia shows no change in the five previous editions of the index. Romania, occupying 28th position out of 35 in total, is the second to last among the EU10+1 countries but at least has been making small advances reflected in its scores and ranking.

## Catching-up by category



Distances between EU15+2 and EU10+1 Scores
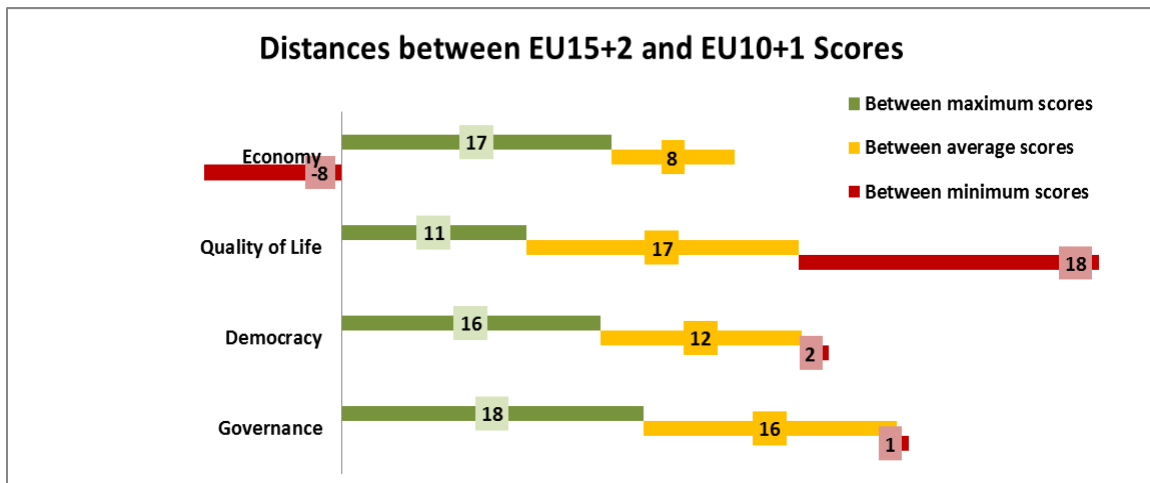
The unevenness in performance can be identified in the different categories. The CEE countries as a group are performing relatively better in the Economy category, and worst in the Quality of Life, when the average score is used as the benchmark. The difference between the average EU10+1 score and the average EU15+2 score in Economy is just 8 points, increases to a difference of 12 points in Democracy and 16 points in Governance. The wider gap of 17 points is in the Quality of Life category.



Average Scores of the EU15+2 and EU10+1 Groups
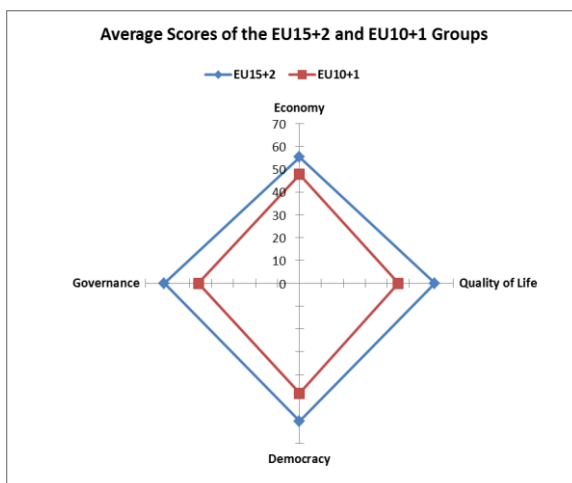
But when it is somewhat different when the maximum scores are compared: the best EU15+2 score far outperforms the best EU10+1 score by 17 points in Economy, 18 in Governance and 16 in Democracy. The difference is smaller in Quality of Life.

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## Catching-up by select indicators

It is indicative that the best performing countries in the EU10+1 group have more uniform performance in the four categories – i.e. similar scores – than the countries which are underperforming, where the scores might differ substantially in the different categories. This means that success in catching-up comes with due attention in all four categories. For example, skipping on democracy or other key aspect will affect economy too.
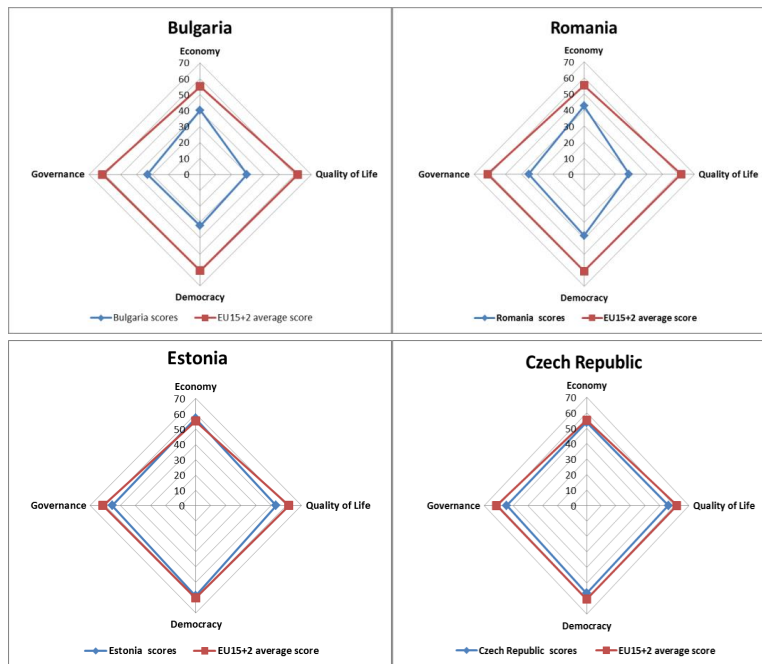


The performance in the forty seven indicators used to measure the four categories varies as in the majority of cases the EU10+1 are neither the poorest nor the best performers. But there are some select cases in individual indicators:

- The GDP and Consumption per capita, part of Economy and Quality of Life categories respectively, are examples of the challenges of catching-up. In GDP per capita the Czech Republic and Slovenia with 48 points each are far below the 100 points of the best older member states and the 61 points of the average of the EU15+2 countries. In Consumption, Lithuania with 49 points, the Czech Republic and Slovakia with 45 points are far from the 89 of the EU15+2 best score and the 66 points on average.

- Inequality is relatively low in several CEE countries, which perform well in the Inequality indicator (Gini) as the Czech Republic is 3rd among 35 countries – i.e. it is among the most equal countries in the index – followed by Slovenia and Hungary on 9th and 13th place respectively.

- The quality of education, measured through the PISA scores (and part of the Quality of Life category), is very high in Estonia as it excels among all 35 countries in the index, occupying the 1st place, followed by Slovenia (3rd) and Poland (8th). All three above the average and the Czech Republic has the same score as the average benchmark.

It may be no coincidence that the best performing CEE countries in the Index 2016 by overall score are also best performers in quality of education.

| PISA (education sub-indicator) | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Estonia | 77 | 1 |
| Maximum EU15+2 | 76 | 2 |
| Slovenia | 69 | 3 |
| Poland | 66 | 8 |
| Average EU15+2 | 59 | |
| Czech Republic | 59 | 16 |
| Latvia | 57 | 17 |
| Lithuania | 50 | 21 |
| Croatia | 50 | 22 |
| Hungary | 50 | 23 |
| Slovakia | 44 | 25 |
| Bulgaria | 31 | 27 |
| Romania | 30 | 29 |
| Minimum EU15+2 | 30 | 30 |

| Trust in People | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 100 | 1 |
| Latvia | 66 | 6 |
| Slovenia | 66 | 7 |
| Romania | 64 | 9 |
| Lithuania | 59 | 13 |
| Average EU15+2 | 58 | |
| Poland | 57 | 14 |
| Estonia | 53 | 16 |
| Slovakia | 53 | 17 |
| Czech Republic | 43 | 24 |
| Hungary | 43 | 25 |
| Croatia | 40 | 26 |
| Minimum EU15+2 | 28 | 28 |
| Bulgaria | 23 | 30 |

- Trust in People, part of the Democracy category, is a fundamental measure of a democratic society. The EU10+1 countries are perforing somewhat surprisingly well. Latvia, Slovenia, Romania have very high levels of trust in others and along with Lithiania are above the average bechmark. Poland, Estonia and Slovakia are perfoming well too.

# The correlation between categories: a model of convergence?



**Scores across the Four Categories**

Categories (x-axis): Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Portugal, Spain, Sweden, UK, Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia, Croatia, Macedonia, Turkey, Montenegro, Iceland, Albania, BiH, Serbia

Legend: ◆ Economy Score ■ Quality Score ▲ Democracy Score ✕ Governance Score

Despite the setbacks in Europe in democracy and economy lately, the index shows there is correlation between the main categories of the index – Economy, Quality of Life, Democracy and Governance. These factors cannot be disentangled from the overall performance and achievements in one area are closely related to performance in another one as the graph comparing the scores across the four categories show. Only Turkey and to a lesser extent Macedonia are outliers as the Economy performance is better that Democracy one.
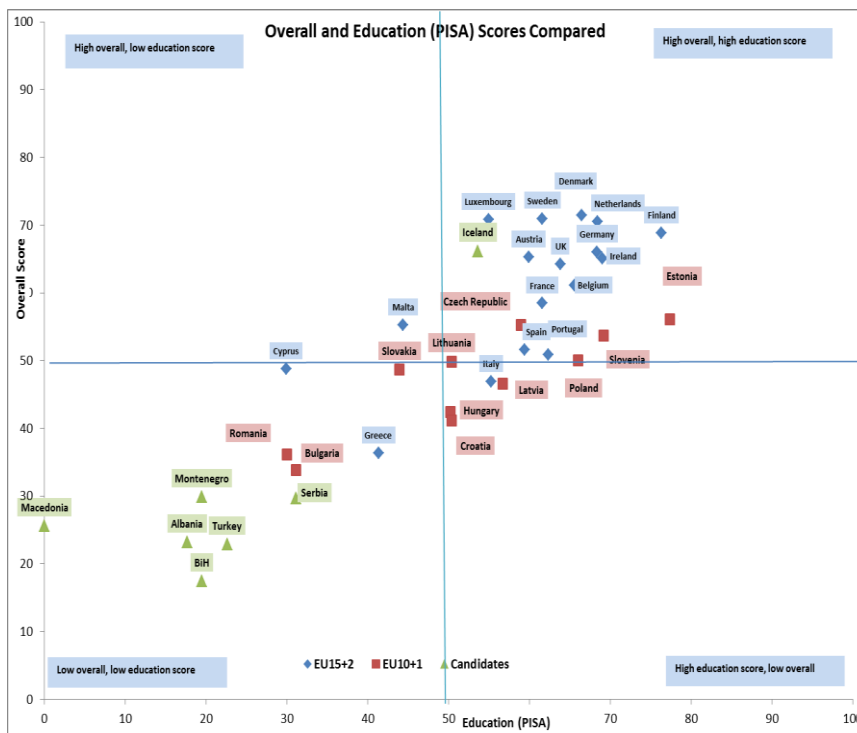
Another interesting observation is about the link between education performance and the overall performance in the index. The comparison between education (the international PISA test results) scores and the overall performance



**Overall and Education (PISA) Scores Compared**

High overall, low education score — High overall, high education score
Low overall, low education score — High education score, low overall

Legend: ◆ EU15+2 ■ EU10+1 ▲ Candidates

Axes: Overall Score (y), Education (PISA) (x)

shows that EU10+1 countries with better PISA scores are more successful in catching-up than the other CEE countries.

Moreover, the comparison between the education (PISA) and consumption as a measure of wealth show that they do not necessarily coincide. Although cause and effect cannot be identified, a not very wealthy country can still perform very well in education and thus have better overall performance.



Education (PISA) and Consumption (Wealth) Scores Compared
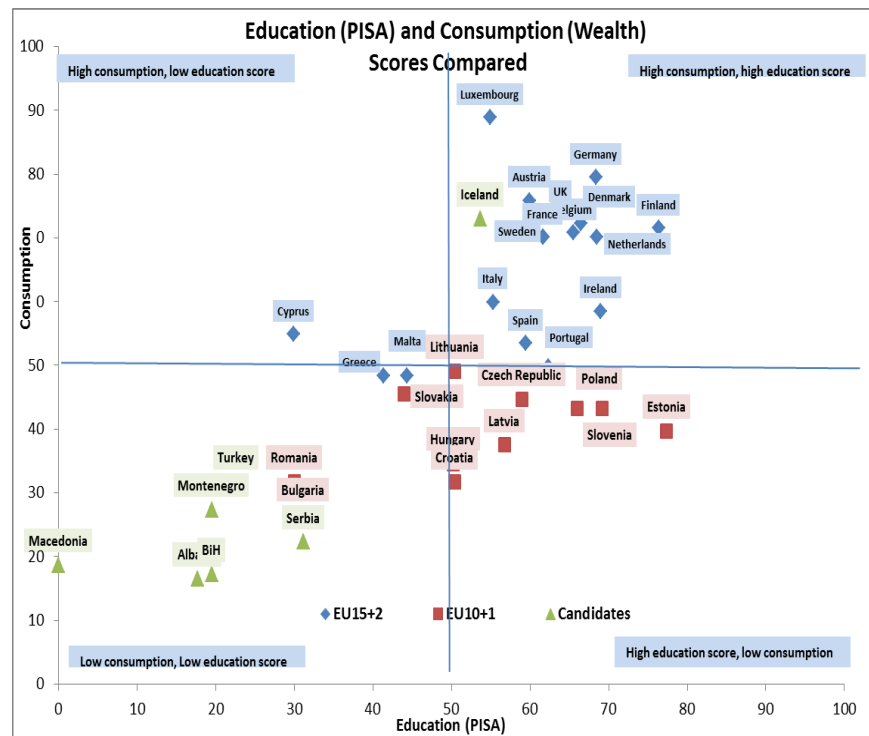
# Ranking and Clusters in Index 2016

| Group | Country | Score | Rank | Cluster |
|-------|---------|-------|------|---------|
| EU15+2 | Denmark | 71 | 1 | 1 |
| EU15+2 | Sweden | 71 | 2 | 1 |
| EU15+2 | Luxembourg | 71 | 3 | 1 |
| EU15+2 | Netherlands | 71 | 4 | 1 |
| EU15+2 | Finland | 69 | 5 | 1 |
| PCC | Iceland | 66 | 6 | 1 |
| EU15+2 | Germany | 66 | 7 | 1 |
| EU15+2 | Austria | 65 | 8 | 1 |
| EU15+2 | Ireland | 65 | 9 | 1 |
| EU15+2 | UK | 64 | 10 | 1 |
| EU15+2 | Belgium | 61 | 11 | 2 |
| EU15+2 | France | 58 | 12 | 2 |
| EU10+1 | Estonia | 56 | 13 | 2 |
| EU15+2 | Malta | 55 | 14 | 2 |
| EU10+1 | Czech Republic | 55 | 15 | 2 |
| EU10+1 | Slovenia | 54 | 16 | 2 |
| EU15+2 | Spain | 52 | 17 | 3 |
| EU15+2 | Portugal | 51 | 18 | 3 |
| EU10+1 | Poland | 50 | 19 | 3 |
| EU10+1 | Lithuania | 50 | 20 | 3 |
| EU15+2 | Cyprus | 49 | 21 | 3 |
| EU10+1 | Slovakia | 49 | 22 | 3 |
| EU15+2 | Italy | 47 | 23 | 3 |
| EU10+1 | Latvia | 47 | 24 | 3 |
| EU10+1 | Hungary | 42 | 25 | 4 |
| EU10+1 | Croatia | 41 | 26 | 4 |
| EU15+2 | Greece | 36 | 27 | 5 |
| EU10+1 | Romania | 36 | 28 | 5 |
| EU10+1 | Bulgaria | 34 | 29 | 5 |
| CC | Montenegro | 30 | 30 | 5 |
| CC | Serbia | 30 | 31 | 5 |
| CC | Macedonia | 26 | 32 | 6 |
| CC | Albania | 23 | 33 | 6 |
| CC | Turkey | 23 | 34 | 6 |
| PCC | BiH | 17 | 35 | 6 |

**Overall Score: Ranking and Clusters 2016**

The cluster analysis is based on the scores of the countries, which divides them into six hierarchical groups. The tables below show the scores, ranks and the results of the cluster analysis by overall score and in the four different categories.

The table of clusters by Overall Scores shows that two thirds of the countries in the index are in the better performing clusters. The core consists of the somewhat inevitable group of Northwestern and Northern countries as well as Germany. But it is telling that three newer member states – Estonia, the Czech Republic and Slovenia – are in the second cluster, very close to the core. The third cluster consists of decently performing countries of newer and older member states.

The fourth cluster is "transitional", in which the countries are either moving up or going down the ranking. In the current index, the CEE neighbors of Hungary and Croatia make up this cluster in the lower end of the ranking.

The last two clusters – fifth and sixth - consist of the countries at the bottom of the ranking. Except Greece, they are all newer members or candidate countries.

## Economy scores and ranking

| Economy Scores: Ranking and Clusters 2016 | | | | |
|---|---|---|---|---|
| Group | Country | Score | Rank | Cluster |
| EU15+2 | Luxembourg | 74 | 1 | 1 |
| EU15+2 | Denmark | 70 | 2 | |
| EU15+2 | Netherlands | 69 | 3 | |
| EU15+2 | Sweden | 69 | 4 | |
| EU15+2 | Germany | 66 | 5 | |
| EU15+2 | Ireland | 63 | 6 | 2 |
| EU15+2 | UK | 62 | 7 | |
| EU15+2 | Austria | 62 | 8 | |
| EU15+2 | Finland | 61 | 9 | |
| PCC | Iceland | 60 | 10 | |
| EU15+2 | France | 57 | 11 | 3 |
| EU10+1 | Estonia | 57 | 12 | |
| EU15+2 | Belgium | 56 | 13 | |
| EU15+2 | Malta | 54 | 14 | |
| EU10+1 | Czech Republic | 54 | 15 | |
| EU10+1 | Lithuania | 52 | 16 | |
| EU10+1 | Latvia | 51 | 17 | |
| EU10+1 | Slovakia | 49 | 18 | 4 |
| EU10+1 | Slovenia | 48 | 19 | |
| EU15+2 | Spain | 48 | 20 | |
| EU10+1 | Poland | 47 | 21 | |
| EU10+1 | Hungary | 44 | 22 | |
| EU15+2 | Cyprus | 43 | 23 | |
| EU15+2 | Italy | 43 | 24 | |
| EU10+1 | Romania | 43 | 25 | |
| EU15+2 | Portugal | 42 | 26 | |
| EU10+1 | Bulgaria | 40 | 27 | 5 |
| EU10+1 | Croatia | 39 | 28 | |
| CC | Turkey | 36 | 29 | |
| CC | Macedonia | 36 | 30 | |
| CC | Montenegro | 33 | 31 | 6 |
| EU15+2 | Greece | 31 | 32 | |
| CC | Albania | 29 | 33 | |
| CC | Serbia | 29 | 34 | |
| PCC | BiH | 23 | 35 | |

The Economy ranking and clusters show a diverse picture of a smaller number of well performing countries in the first, second and a decently performing third cluster. The core consists as in other cases of North and Northwestern countries, but in the third cluster four out of seven countries are from the EU10+1 group – the three Baltic states and the Czech Republic.

In contrast to the other categories, the "transitional" fourth cluster consists of a considerable number of countries – 9 out of 35 - a mixture of newer and older member states. The last two clusters and the last in the ranking include one older and two newer member states along with the candidate countries.

## Quality of Life scores and ranking

| Group | Country | Score | Rank | Cluster |
|-------|---------|-------|------|---------|
| **Quality of Life Scores: Ranking and Clusters 2016** | | | | |
| EU15+2 | **Luxembourg** | 71 | 1 | |
| EU15+2 | **Netherlands** | 70 | 2 | |
| EU15+2 | **Finland** | 69 | 3 | |
| EU15+2 | **Sweden** | 68 | 4 | |
| EU15+2 | **Denmark** | 68 | 5 | |
| EU15+2 | **Germany** | 67 | 6 | 1 |
| PCC | **Iceland** | 67 | 7 | |
| EU15+2 | **Belgium** | 66 | 8 | |
| EU15+2 | **United Kingdon** | 66 | 9 | |
| EU15+2 | **Austria** | 66 | 10 | |
| EU15+2 | **France** | 65 | 11 | |
| EU15+2 | **Ireland** | 64 | 12 | |
| EU10+1 | **Slovenia** | 59 | 13 | |
| EU10+1 | **Czech Republic** | 56 | 14 | |
| EU15+2 | **Italy** | 55 | 15 | 2 |
| EU15+2 | **Cyprus** | 53 | 16 | |
| EU10+1 | **Estonia** | 53 | 17 | |
| EU15+2 | **Spain** | 53 | 18 | |
| EU15+2 | **Malta** | 51 | 19 | |
| EU15+2 | **Portugal** | 49 | 20 | |
| EU10+1 | **Poland** | 49 | 21 | 3 |
| EU15+2 | **Greece** | 47 | 22 | |
| EU10+1 | **Slovakia** | 46 | 23 | |
| EU10+1 | **Lithuania** | 46 | 24 | |
| EU10+1 | **Hungary** | 44 | 25 | |
| EU10+1 | **Croatia** | 43 | 26 | 4 |
| EU10+1 | **Latvia** | 41 | 27 | |
| CC | **Montenegro** | 33 | 28 | |
| EU10+1 | **Bulgaria** | 29 | 29 | |
| EU10+1 | **Romania** | 28 | 30 | 5 |
| CC | **Serbia** | 27 | 31 | |
| CC | **Turkey** | 25 | 32 | |
| CC | **Macedonia** | 21 | 33 | |
| CC | **Albania** | 21 | 34 | 6 |
| PCC | **BiH** | 17 | 35 | |

The Quality of Life ranking and clusters show that 24 out of 35 countries – nearly 70% - in the index have very good to decent standard of living and public services. This includes seven of the eleven newer member states with three others close in the "transitional" fourth cluster. At the bottom of the ranking are two of the newer member states and the candidate countries. It is worth noting that Greece is among the better performers, retaining good scores in the Quality of Life despite setbacks in the Economy category and other indicators.

## Democracy scores and ranking

| Democracy Scores: Ranking and Clusters 2016 | | | | |
|---|---|---|---|---|
| Group | Country | Score | Rank | Cluster |
| EU15+2 | Denmark | 75 | 1 | 1 |
| EU15+2 | Sweden | 73 | 2 | 1 |
| EU15+2 | Finland | 72 | 3 | 1 |
| EU15+2 | Netherlands | 71 | 4 | 1 |
| PCC | Iceland | 70 | 5 | 1 |
| EU15+2 | Luxembourg | 67 | 6 | 2 |
| EU15+2 | Ireland | 66 | 7 | 2 |
| EU15+2 | Austria | 64 | 8 | 2 |
| EU15+2 | Germany | 63 | 9 | 2 |
| EU15+2 | Belgium | 62 | 10 | 2 |
| EU15+2 | UK | 61 | 11 | 2 |
| EU15+2 | Malta | 60 | 12 | 2 |
| EU10+1 | Estonia | 59 | 13 | 3 |
| EU10+1 | Czech Republic | 57 | 14 | 3 |
| EU10+1 | Poland | 55 | 15 | 3 |
| EU15+2 | Portugal | 54 | 16 | 3 |
| EU15+2 | Spain | 54 | 17 | 3 |
| EU10+1 | Slovakia | 54 | 18 | 3 |
| EU10+1 | Slovenia | 54 | 19 | 3 |
| EU15+2 | France | 53 | 20 | 3 |
| EU10+1 | Lithuania | 52 | 21 | 3 |
| EU15+2 | Italy | 49 | 22 | 3 |
| EU10+1 | Latvia | 49 | 23 | 3 |
| EU15+2 | Cyprus | 47 | 24 | 3 |
| EU10+1 | Croatia | 42 | 25 | 4 |
| EU10+1 | Romania | 38 | 26 | 4 |
| EU10+1 | Hungary | 38 | 27 | 4 |
| EU15+2 | Greece | 34 | 28 | 4 |
| CC | Serbia | 34 | 29 | 4 |
| EU10+1 | Bulgaria | 32 | 30 | 4 |
| CC | Montenegro | 26 | 31 | 5 |
| CC | Albania | 23 | 32 | 5 |
| CC | Macedonia | 19 | 33 | 6 |
| PCC | BiH | 15 | 34 | 6 |
| CC | Turkey | 11 | 35 | 6 |

The Democracy scores and ranking show that the first dozen places are occupied by West European countries with the Scandinavian ones in the lead.

The third cluster is the largest one with a mix of South and Central European countries. Seven out of the eleven newer member states are part of it and the other four are in the fourth cluster. This confirms the observation that many the EU10+1 countries have decent performance and are catching-up with the rest, but for now they cannot reach the best performers.

The final two clusters are the smallest and consist of the EU candidate countries.

# Governance scores and ranking

| Governance Scores: Ranking and Clusters 2016 | | | | |
|---|---|---|---|---|
| Group | Country | Score | Rank | Cluster |
| EU15+2 | Sweden | 74 | 1 | 1 |
| EU15+2 | Denmark | 73 | 2 | 1 |
| EU15+2 | Finland | 72 | 3 | 1 |
| EU15+2 | Luxembourg | 72 | 4 | 1 |
| EU15+2 | Netherlands | 72 | 5 | 1 |
| EU15+2 | Austria | 69 | 6 | 1 |
| PCC | Iceland | 68 | 7 | 1 |
| EU15+2 | UK | 68 | 8 | 1 |
| EU15+2 | Germany | 67 | 9 | 1 |
| EU15+2 | Ireland | 67 | 10 | 1 |
| EU15+2 | Belgium | 61 | 11 | 2 |
| EU15+2 | France | 58 | 12 | 2 |
| EU15+2 | Portugal | 58 | 13 | 2 |
| EU15+2 | Malta | 55 | 14 | 3 |
| EU10+1 | Estonia | 55 | 15 | 3 |
| EU10+1 | Czech Republic | 55 | 16 | 3 |
| EU10+1 | Slovenia | 53 | 17 | 3 |
| EU15+2 | Cyprus | 52 | 18 | 3 |
| EU15+2 | Spain | 51 | 19 | 3 |
| EU10+1 | Lithuania | 50 | 20 | 3 |
| EU10+1 | Poland | 49 | 21 | 3 |
| EU10+1 | Slovakia | 46 | 22 | 4 |
| EU10+1 | Latvia | 45 | 23 | 4 |
| EU10+1 | Hungary | 44 | 24 | 4 |
| EU15+2 | Italy | 41 | 25 | 4 |
| EU10+1 | Croatia | 40 | 26 | 4 |
| EU10+1 | Romania | 35 | 27 | 5 |
| EU15+2 | Greece | 34 | 28 | 5 |
| EU10+1 | Bulgaria | 33 | 29 | 5 |
| CC | Serbia | 29 | 30 | 5 |
| CC | Montenegro | 29 | 31 | 5 |
| CC | Macedonia | 25 | 32 | 5 |
| CC | Albania | 20 | 33 | 6 |
| CC | Turkey | 20 | 34 | 6 |
| PCC | BiH | 14 | 35 | 6 |

There is a large group of well-governed countries in the first and second clusters and all of them are older member states. The third cluster is composed of the better performing CEE countries with only Cyprus and Spain being the exception. The last two clusters include the lowest scoring countries with a mix of older, newer and candidate countries. But there is a geographic pattern as they include all Balkan countries.

## The Changing Map of Europe in the Index 2016 Clusters



CLUSTERS IN EUROPE BY OVERALL SCORE
THE CATCH-UP INDEX 2016 EDITION

Cluster 1
Cluster 2
Cluster 3
Cluster 4
Cluster 5
Cluster 6

Iceland    Malta    Cyprus
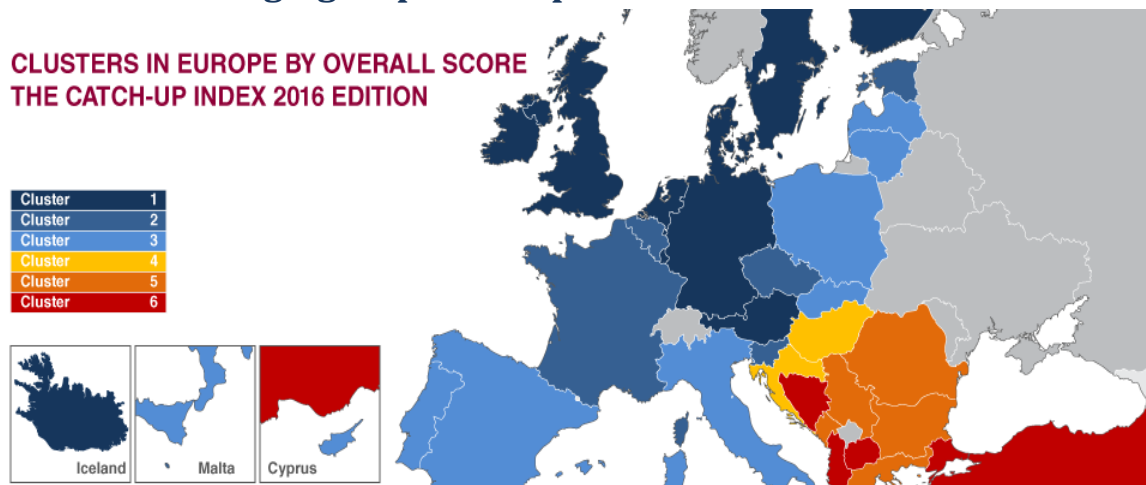
When the results of the cluster analysis are displayed on a map, there are visible geographic patterns. The top performing clusters occupy most of the map with the notable exception of an extended Southeastern Europe that includes Hungary as well as Greece and Turkey. In fact, the fourth cluster with Hungary and Croatia includes countries that are "transitional" either advancing up or regressing down the ladder. The good news is that a number of EU10+1 countries are in the company of the older EU member states – clearly catching up.

ECONOMY CLUSTERS IN EUROPE
CATCH-UP INDEX 2016 EDITION

| Cluster | 1 |
| Cluster | 2 |
| Cluster | 3 |
| Cluster | 4 |
| Cluster | 5 |
| Cluster | 6 |

Iceland    Malta    Cyprus
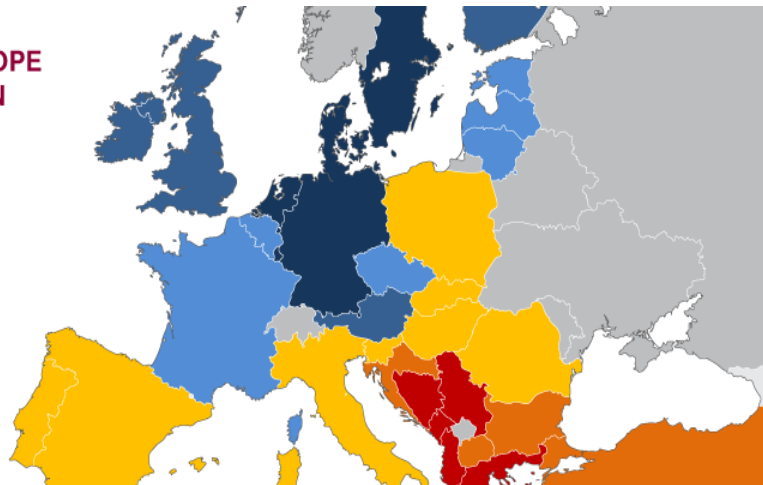
The map of Economy clusters shows a core of the best performing countries – Germany and its northwestern and northern neighbors – followed by small group consisting of the UK, Ireland and Austria in the second cluster and France, Belgium, the Czech Republic and the Baltic countries in the third cluster. The fourth "transitional cluster" of countries includes Southern Europe and CEE countries. The Southeast European countries make up the last two clusters, but exclude Romania, which performed better and joined the fourth cluster.



QUALITY OF LIFE CLUSTERS IN EUROPE
CATCH-UP INDEX 2016 EDITION

| Cluster | 1 |
| Cluster | 2 |
| Cluster | 3 |
| Cluster | 4 |
| Cluster | 5 |
| Cluster | 6 |

Iceland    Malta    Cyprus
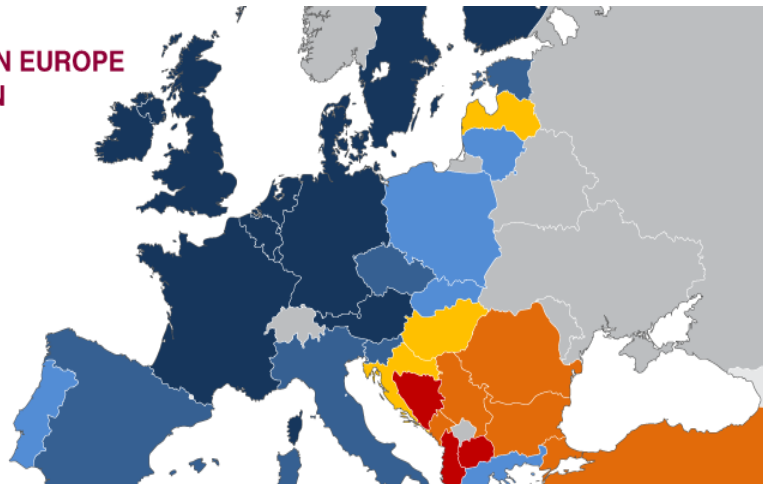
The Quality of Life cluster map offers an intriguing view on the catching up in level of public services and standards of living. The majority of countries, included in the index, are in the better performing clusters – i.e. enjoying very good or good quality of life.  This includes Greece, which has managed to preserve its Quality of Life despite some setbacks and the relatively poor performance in other categories.

**DEMOCRACY CLUSTERS IN EUROPE**
**CATCH-UP INDEX 2016 EDITION**

| Cluster | 1 |
| Cluster | 2 |
| Cluster | 3 |
| Cluster | 4 |
| Cluster | 5 |
| Cluster | 6 |

Iceland    Malta    Cyprus
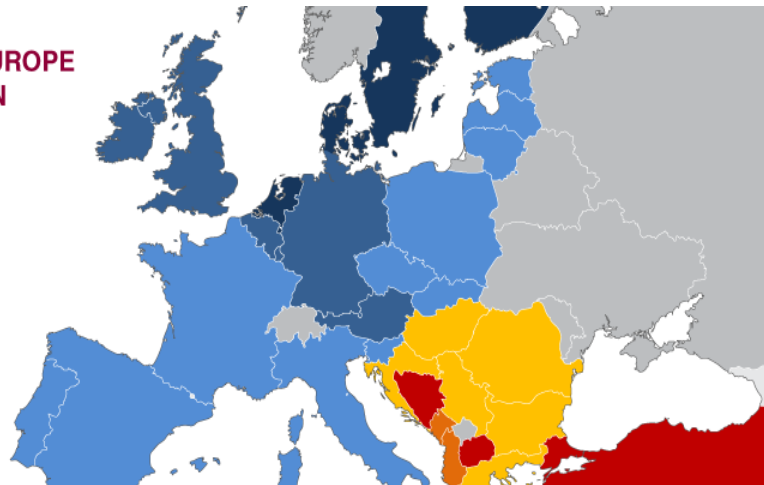
The Democracy clusters show a division between the enlarged Balkans that include Hungary and the rest of the EU. The better performing countries include most of the CEE states, including Poland as the 2016 indicators has not reflected the most recent criticism in drawbacks.



**GOVERNANCE CLUSTERS IN EUROPE**
**CATCH-UP INDEX 2016 EDITION**

| Cluster | 1 |
| Cluster | 2 |
| Cluster | 3 |
| Cluster | 4 |
| Cluster | 5 |
| Cluster | 6 |

Iceland    Malta    Cyprus
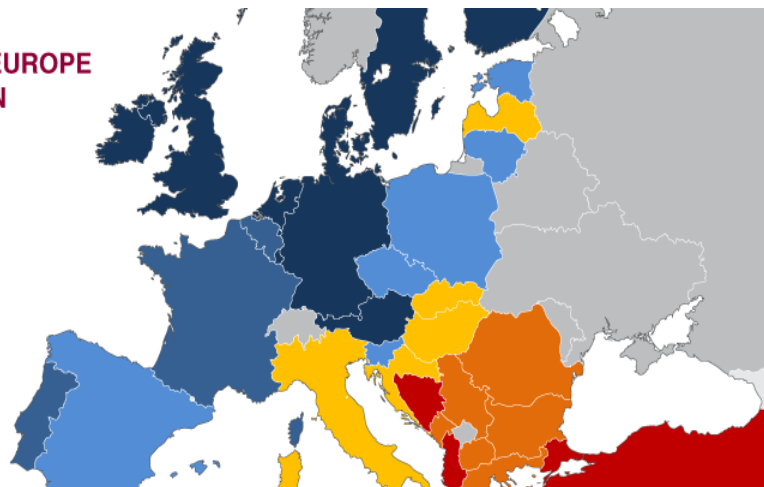
The Governance clusters map shows a certain geographic pattern, similar to other categories, where Southeastern Europe stands out as lagging behind. The "transitional" fourth cluster in the middle consists of four states in CEE – Croatia, Hungary, Slovakia and Latvia - as well as Italy.

## Diversity is inevitable, divergence is bad: a note on multi-speed Europe and the catch-up process

The Catch-Up Index registers the diversity in development of EU members. The differences will stay as the countries will never reach the same level, but this will be never a problem either. The problem will be if the differences persist and are too great to manage and divergences create too wide gaps between countries. This will add to political divergences at a time when Europe is contemplating the multi-speed model, despite disagreements on what this exactly is.

So far, the underlying assumption was positive: it was accepted that there may have been different speeds, but at least going in one direction. The 2016 Brexit referendum and the rise of anti-EU populist parties showed that the countries might start pulling into different directions. There is a suggestion that ensuing crisis should be used as an opportunity to jumpstart the renewal of the EU. Indeed, the backlash from Brexit brought about increased public support to the EU in other member states. There are different scenarios how the multi-speed EU could play out after Brexit. The most common hypothesis is a core-periphery scenario with the Eurozone or the Treaty of Rome signers serving as the core for reinvigorating the EU.

The Catch-Up Index offers another perspective on the core-periphery picture and the convergence-divergence dynamic. And no matter what model the EU opts for, the goals of catching-up as defined in the index will remain valid. Countries that have converged closer can more effectively cooperate in case of policy cohesion. The credibility and legitimacy of the EU depend on it at least in several practical aspects. Firstly, when the countries of the CEE joined the EU they had normative expectations for "return to Europe". But the citizens also expected improvement of quality of life, democracies, governance and economies of their countries along the lines of the other EU member states. Frustration from slow convergence would affect the attitudes to EU membership, despite that the resentment at EU is often deeply misplaced when used as a scapegoat for internal deficiencies. An example of failure to catch-up quickly has been the high rate of migration from many CEE countries to their Western counterparts. This is causing long-term demographic crisis in these countries and political backlash in some of the recipient countries. Bridging the convergence gap between the countries seems to be only workable solution to this trend as studies showed that other methods for bringing migrants back or raise fertility did not produce good results.

The countries that managed to improve conditions at home stopped or even reversed the trend of immigration. EU's funds aimed at tackling regional economic and social disparities are necessary, but not enough. People expect good governance and good public services and many still care for the quality of democracy. Therefore, catching-up should stay high on the agenda for the EU project to succeed.

# Changes in Scores and Ranks: 2011 – 2016

| | The Catch-Up Index 2016: Trends by Overall Scores | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Group | Country | Overall Score 2016 | Rank 2016 | Score change vs 2015 | Score change vs 2014 | Score change vs 2013 | Score change vs 2012 | Score change vs 2011 | Rank Change vs 2015 | Rank Change vs 2014 | Rank change vs 2013 | Rank change vs 2012 | Rank change vs 2011 |
| EU15+2 | Austria | 65 | 8 | 0 | 0 | 0 | 0 | 1 | -1 | -1 | -1 | -1 | -1 |
| EU15+2 | Belgium | 61 | 11 | -1 | -2 | -1 | -1 | 0 | 0 | -1 | 0 | -1 | 0 |
| EU15+2 | Cyprus | 49 | 21 | 0 | 0 | -3 | -6 | -6 | -1 | -2 | -3 | -7 | -7 |
| EU15+2 | Denmark | 71 | 1 | 1 | 1 | 0 | 0 | 0 | 2 | 2 | 1 | 2 | 1 |
| EU15+2 | Finland | 69 | 5 | -1 | -2 | -1 | -2 | -1 | 0 | -1 | 0 | -1 | 0 |
| EU15+2 | France | 58 | 12 | -1 | -2 | -2 | -2 | -1 | 0 | 0 | 0 | 0 | 0 |
| EU15+2 | Germany | 66 | 7 | -1 | 0 | 0 | 1 | 2 | -1 | -1 | -1 | -1 | 2 |
| EU15+2 | Greece | 36 | 27 | -1 | -1 | -2 | -5 | -8 | 0 | 0 | 0 | -2 | -2 |
| EU15+2 | Ireland | 65 | 9 | 1 | 2 | 3 | 3 | 1 | 0 | 2 | 1 | 2 | -1 |
| EU15+2 | Italy | 47 | 23 | 0 | 0 | 1 | -1 | -2 | 0 | 0 | 0 | -1 | -3 |
| EU15+2 | Luxembourg | 71 | 3 | 0 | -1 | 0 | -1 | -1 | -2 | -1 | 0 | -2 | -2 |
| EU15+2 | Malta | 55 | 14 | 1 | 0 | 1 | 1 | 1 | 1 | -1 | 1 | 2 | 2 |
| EU15+2 | Netherlands | 71 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| EU15+2 | Portugal | 51 | 18 | 2 | 2 | 3 | 1 | 0 | 3 | 2 | 3 | 1 | 1 |
| EU15+2 | Spain | 52 | 17 | -1 | 0 | -1 | -2 | -3 | 0 | 0 | 0 | 0 | -2 |
| EU15+2 | Sweden | 71 | 2 | 0 | -1 | -1 | -1 | 0 | 0 | -1 | -1 | 0 | 1 |
| EU15+2 | UK | 64 | 10 | 1 | 1 | 1 | 2 | 2 | 0 | -1 | -2 | -1 | 0 |
| EU10+1 | Bulgaria | 34 | 29 | 0 | -1 | -1 | -1 | -1 | 0 | 0 | -1 | 0 | -1 |
| EU10+1 | Croatia | 41 | 26 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EU10+1 | Czech Republic | 55 | 15 | 1 | 1 | 0 | 0 | 2 | -1 | 0 | -2 | 0 | 2 |
| EU10+1 | Estonia | 56 | 13 | 1 | 2 | 3 | 4 | 4 | 0 | 1 | 3 | 5 | 5 |
| EU10+1 | Hungary | 42 | 25 | 0 | -1 | -2 | -3 | -4 | 0 | 0 | -1 | -2 | -2 |
| EU10+1 | Latvia | 47 | 24 | 0 | 3 | 4 | 6 | 6 | 0 | 0 | 1 | 3 | 3 |
| EU10+1 | Lithuania | 50 | 20 | 0 | 2 | 3 | 5 | 5 | -1 | 2 | 2 | 4 | 4 |
| EU10+1 | Poland | 50 | 19 | -1 | 0 | 1 | 1 | 3 | -1 | -1 | 1 | 1 | 3 |
| EU10+1 | Romania | 36 | 28 | 0 | 2 | 2 | 1 | 4 | 0 | 2 | 1 | 0 | 1 |
| EU10+1 | Slovakia | 49 | 22 | 0 | 0 | -1 | 0 | 2 | 0 | -1 | -3 | -1 | -1 |
| EU10+1 | Slovenia | 54 | 16 | 1 | 1 | -1 | -2 | -2 | 0 | 0 | -2 | -3 | -3 |
| CC | Albania | 23 | 33 | 2 | 2 | 0 | 3 | 3 | 1 | 2 | 1 | 2 | 2 |
| CC | Macedonia | 26 | 32 | -1 | 0 | -1 | -1 | -2 | 0 | 1 | 0 | 0 | 0 |
| CC | Montenegro | 30 | 30 | -2 | -5 | -4 | 0 | 0 | 0 | -2 | 0 | 0 | 0 |
| CC | Serbia | 30 | 31 | 2 | 3 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| CC | Turkey | 23 | 34 | -2 | -4 | -2 | -2 | -1 | -1 | -2 | -1 | -1 | -1 |
| PCC | BiH | 17 | 35 | -2 | -5 | -4 | -5 | -4 | 0 | -1 | 0 | -1 | -1 |
| PCC | Iceland | 66 | 6 | 1 | 1 | 4 | 3 | 1 | 2 | 2 | 3 | 2 | 0 |

## Economy: Changes in Ranks and Scores 2011-2016

| Group | Country | Economy Score 2016 | Rank 2016 | Score change vs 2015 | Score change vs 2014 | Score change vs 2013 | Score change vs 2012 | Score change vs 2011 | Rank Change vs 2015 | Rank Change vs 2014 | Rank change vs 2013 | Rank change vs 2012 | Rank change vs 2011 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EU15+2 | Austria | 62 | 8 | -1 | -2 | -1 | -1 | 0 | -2 | -2 | -1 | -1 | 0 |
| EU15+2 | Belgium | 56 | 13 | -2 | -2 | -1 | -2 | 0 | -2 | -3 | -3 | -3 | -1 |
| EU15+2 | Cyprus | 43 | 23 | 0 | -1 | -6 | -11 | -13 | 2 | 0 | -5 | -11 | -10 |
| EU15+2 | Denmark | 70 | 2 | 1 | 0 | 2 | 1 | 2 | 0 | 0 | 1 | 0 | 1 |
| EU15+2 | Finland | 61 | 9 | -1 | -3 | -2 | -4 | -3 | -2 | -4 | -3 | -4 | -4 |
| EU15+2 | France | 57 | 11 | -1 | -1 | -3 | -1 | 0 | -1 | -2 | -2 | -2 | 0 |
| EU15+2 | Germany | 66 | 5 | 1 | 3 | 2 | 3 | 4 | 0 | 2 | 0 | 1 | 2 |
| EU15+2 | Greece | 31 | 32 | 0 | -1 | -1 | -4 | -8 | 0 | 0 | 2 | -1 | -5 |
| EU15+2 | Ireland | 63 | 6 | 2 | 5 | 7 | 7 | 2 | 3 | 5 | 6 | 5 | 3 |
| EU15+2 | Italy | 43 | 24 | -2 | -1 | -1 | -3 | -4 | -2 | 0 | -1 | -3 | -2 |
| EU15+2 | Luxembourg | 74 | 1 | -1 | -1 | -1 | -2 | -2 | 0 | 0 | 0 | 0 | 0 |
| EU15+2 | Malta | 54 | 14 | 2 | 3 | 7 | 3 | 4 | 1 | 1 | 7 | 3 | 3 |
| EU15+2 | Netherlands | 69 | 3 | 1 | 2 | 3 | 1 | 0 | 1 | 1 | 1 | 1 | -1 |
| EU15+2 | Portugal | 42 | 26 | -2 | 0 | 0 | -3 | -6 | -2 | 0 | 0 | -3 | -7 |
| EU15+2 | Spain | 48 | 20 | -2 | 0 | -1 | -4 | -6 | -1 | 0 | -3 | -5 | -5 |
| EU15+2 | Sweden | 69 | 4 | 0 | -1 | 0 | 0 | 2 | -1 | -1 | -2 | -1 | 0 |
| EU15+2 | UK | 62 | 7 | 1 | 0 | -1 | 0 | 0 | 1 | 1 | 1 | 1 | -1 |
| EU10+1 | Bulgaria | 40 | 27 | 1 | 2 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 1 |
| EU10+1 | Croatia | 39 | 28 | -1 | 0 | -4 | -4 | -3 | -1 | 0 | -3 | -3 | -3 |
| EU10+1 | Czech Republic | 54 | 15 | 2 | 2 | 3 | 4 | 5 | 2 | -1 | 1 | 3 | 3 |
| EU10+1 | Estonia | 57 | 12 | 0 | 2 | 3 | 5 | 5 | 1 | 1 | 1 | 4 | 4 |
| EU10+1 | Hungary | 44 | 22 | 1 | 1 | 0 | 1 | 3 | 1 | 0 | 2 | 4 | 4 |
| EU10+1 | Latvia | 51 | 17 | -1 | 2 | 4 | 7 | 8 | -1 | 0 | 2 | 5 | 6 |
| EU10+1 | Lithuania | 52 | 16 | -1 | 1 | 1 | 5 | 6 | -2 | 0 | -1 | 3 | 5 |
| EU10+1 | Poland | 47 | 21 | 0 | 1 | 2 | 2 | 5 | 0 | 0 | 1 | 3 | 3 |
| EU10+1 | Romania | 43 | 25 | 1 | 3 | 3 | 3 | 5 | 1 | 2 | 2 | 2 | 4 |
| EU10+1 | Slovakia | 49 | 18 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| EU10+1 | Slovenia | 48 | 19 | -2 | -1 | -3 | -6 | -7 | -1 | -2 | -5 | -6 | -5 |
| CC | Albania | 29 | 33 | 0 | -2 | -3 | -2 | 2 | 0 | 0 | 0 | 1 | 2 |
| CC | Macedonia | 36 | 30 | 1 | 2 | 1 | 1 | 3 | 0 | 1 | 1 | 0 | 3 |
| CC | Montenegro | 33 | 31 | 1 | -9 | -6 | -2 | -1 | 0 | -6 | -2 | 1 | 1 |
| CC | Serbia | 29 | 34 | 2 | -2 | -3 | -4 | -4 | 0 | 0 | -2 | -1 | -3 |
| CC | Turkey | 36 | 29 | -2 | -2 | 0 | -1 | 1 | 0 | 1 | 1 | 0 | 1 |
| PCC | BiH | 23 | 35 | -2 | -6 | -7 | -2 | -4 | 0 | 0 | 0 | 0 | -1 |
| PCC | Iceland | 60 | 10 | 2 | 3 | 3 | 6 | 1 | 2 | 2 | 1 | 4 | 0 |

## Quality of Life: Change in Ranks and Scores 2011-2016

| Group | Country | Overall Score 2016 | Rank 2016 | Score change vs 2015 | Score change vs 2014 | Score change vs 2013 | Score change vs 2012 | Score change vs 2011 | Rank Change vs 2015 | Rank Change vs 2014 | Rank change vs 2013 | Rank change vs 2012 | Rank change vs 2011 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EU15+2 | Austria | 66 | 10 | 0 | 1 | 1 | 1 | 1 | -2 | 1 | -1 | -1 | -1 |
| EU15+2 | Belgium | 66 | 8 | 0 | 0 | 0 | 0 | 1 | -1 | -1 | -1 | -1 | 2 |
| EU15+2 | Cyprus | 53 | 16 | -2 | -2 | -3 | -5 | -5 | -1 | -1 | -1 | -3 | -2 |
| EU15+2 | Denmark | 68 | 5 | 2 | 2 | 2 | 2 | 2 | 4 | 3 | 3 | 1 | 1 |
| EU15+2 | Finland | 69 | 3 | 0 | 0 | -2 | -1 | 0 | 0 | 0 | -1 | -1 | 0 |
| EU15+2 | France | 65 | 11 | 1 | 0 | 1 | 1 | 0 | 0 | -2 | -1 | -1 | -3 |
| EU15+2 | Germany | 67 | 6 | -1 | -2 | 0 | 1 | 3 | -2 | -2 | 0 | 2 | 5 |
| EU15+2 | Greece | 47 | 22 | 1 | 1 | -2 | -8 | -9 | 0 | -1 | -2 | -5 | -5 |
| EU15+2 | Ireland | 64 | 12 | 1 | 1 | 0 | 0 | -1 | 0 | 0 | -1 | -1 | -5 |
| EU15+2 | Italy | 55 | 15 | 0 | 0 | 0 | -2 | -3 | 1 | 1 | 1 | 0 | -2 |
| EU15+2 | Luxembourg | 71 | 1 | 0 | -1 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 0 |
| EU15+2 | Malta | 51 | 19 | 0 | 0 | -3 | 0 | 1 | 0 | -1 | -2 | 0 | 0 |
| EU15+2 | Netherlands | 70 | 2 | -1 | 0 | -1 | -1 | 0 | 0 | 0 | -1 | -1 | 0 |
| EU15+2 | Portugal | 49 | 20 | 1 | 3 | 3 | 2 | 2 | 1 | 2 | 3 | 3 | 1 |
| EU15+2 | Spain | 53 | 18 | 1 | 0 | 1 | -1 | -5 | -1 | -1 | 0 | 0 | -2 |
| EU15+2 | Sweden | 68 | 4 | 1 | 0 | -2 | -1 | 0 | 2 | 1 | -1 | 0 | 1 |
| EU15+2 | UK | 66 | 9 | 1 | 1 | 4 | 4 | 2 | 1 | 1 | 3 | 3 | 3 |
| EU10+1 | Bulgaria | 29 | 29 | 0 | 0 | 0 | -1 | -1 | 1 | 1 | 1 | 2 | 1 |
| EU10+1 | Croatia | 43 | 26 | 0 | 1 | 2 | 3 | -1 | 0 | 0 | 0 | -1 | -1 |
| EU10+1 | Republic | 56 | 14 | 0 | 0 | -2 | 1 | 3 | -1 | 0 | -1 | 2 | 4 |
| EU10+1 | Estonia | 53 | 17 | 1 | 3 | 5 | 5 | 4 | 1 | 2 | 4 | 3 | 3 |
| EU10+1 | Hungary | 44 | 25 | 0 | 0 | 0 | -4 | -4 | 0 | 0 | 0 | -4 | -3 |
| EU10+1 | Latvia | 41 | 27 | -1 | 1 | 3 | 5 | 5 | 0 | 0 | 0 | 0 | 0 |
| EU10+1 | Lithuania | 46 | 24 | 0 | 0 | 0 | 7 | 5 | -1 | 0 | 0 | 2 | 2 |
| EU10+1 | Poland | 49 | 21 | 1 | 0 | 1 | 2 | 4 | -1 | -1 | 1 | 3 | 2 |
| EU10+1 | Romania | 28 | 30 | -2 | -1 | 0 | -3 | 1 | -1 | -1 | 1 | 0 | 1 |
| EU10+1 | Slovakia | 46 | 23 | 2 | 0 | -3 | -1 | 1 | 1 | 0 | -4 | -1 | 1 |
| EU10+1 | Slovenia | 59 | 13 | 3 | 1 | 2 | 1 | 2 | 1 | 0 | 1 | 1 | 2 |
| CC | Albania | 21 | 34 | 2 | 4 | 1 | 0 | -1 | 1 | 1 | 1 | 0 | -1 |
| CC | Macedonia | 21 | 33 | -2 | -1 | -2 | -2 | -4 | 0 | 0 | 0 | -1 | -1 |
| CC | Montenegro | 33 | 28 | -4 | -5 | 0 | -1 | 1 | 0 | 0 | 0 | 1 | 1 |
| CC | Serbia | 27 | 31 | 4 | 1 | -3 | -7 | -6 | 1 | 1 | -2 | -3 | -3 |
| CC | Turkey | 25 | 32 | -2 | -3 | 1 | 3 | 3 | -1 | -1 | 0 | 1 | 2 |
| PCC | BiH | 17 | 35 | -4 | -5 | -4 | -1 | -1 | -1 | -1 | -1 | 0 | 0 |
| PCC | Iceland | 67 | 7 | -1 | -1 | 0 | 0 | -3 | -2 | -1 | -2 | -2 | -3 |

# Democracy: Change in Ranks and Scores 2011-2016

| Group | Country | Democracy Score 2016 | Rank 2016 | Score change vs 2015 | Score change vs 2014 | Score change vs 2013 | Score change vs 2012 | Score change vs 2011 | Rank Change vs 2015 | Rank Change vs 2014 | Rank change vs 2013 | Rank change vs 2012 | Rank change vs 2011 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EU15+2 | Austria | 64 | 8 | 0 | 0 | -2 | 5 | 2 | 1 | 1 | -2 | 2 | 1 |
| EU15+2 | Belgium | 62 | 10 | -2 | -2 | -1 | 2 | 0 | 0 | 0 | 0 | -1 | 0 |
| EU15+2 | Cyprus | 47 | 24 | 1 | 3 | 0 | -3 | -5 | 0 | -1 | -2 | -2 | -5 |
| EU15+2 | Denmark | 75 | 1 | 2 | 1 | -1 | 4 | 1 | 1 | 1 | 0 | 2 | 1 |
| EU15+2 | Finland | 72 | 3 | 0 | 0 | -1 | -4 | 1 | 0 | 0 | 0 | -2 | 1 |
| EU15+2 | France | 53 | 20 | -6 | -4 | -5 | -3 | -4 | -8 | -6 | -7 | -6 | -7 |
| EU15+2 | Germany | 63 | 9 | -2 | -1 | -2 | 1 | -1 | -1 | -1 | -2 | -1 | -1 |
| EU15+2 | Greece | 34 | 28 | -6 | -2 | -1 | -4 | -10 | -2 | -1 | -1 | -1 | -2 |
| EU15+2 | Ireland | 66 | 7 | 1 | 1 | 2 | 3 | 0 | 0 | 0 | 2 | 0 | 0 |
| EU15+2 | Italy | 49 | 22 | 1 | -1 | 5 | 3 | 2 | 0 | 0 | 1 | 1 | 2 |
| EU15+2 | Luxembourg | 67 | 6 | -1 | -3 | -4 | -1 | -2 | -1 | -1 | -1 | -1 | -1 |
| EU15+2 | Malta | 60 | 12 | 2 | 2 | 5 | 7 | 4 | 2 | 1 | 3 | 5 | 3 |
| EU15+2 | Netherlands | 71 | 4 | 0 | 0 | -1 | 2 | -1 | 0 | 0 | 0 | 0 | -1 |
| EU15+2 | Portugal | 54 | 16 | 3 | 2 | 2 | 3 | 2 | 5 | 4 | 3 | 4 | 2 |
| EU15+2 | Spain | 54 | 17 | -1 | 1 | 0 | 0 | -1 | 0 | 0 | -1 | -2 | -1 |
| EU15+2 | Sweden | 73 | 2 | -1 | -1 | -2 | 1 | -2 | -1 | -1 | 0 | 0 | -1 |
| EU15+2 | UK | 61 | 11 | 0 | 0 | -2 | 4 | 3 | 0 | 0 | 0 | 1 | 0 |
| EU10+1 | Bulgaria | 32 | 30 | -1 | -4 | -2 | -4 | -2 | -1 | -2 | -2 | -1 | -2 |
| EU10+1 | Croatia | 42 | 25 | 1 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 2 |
| EU10+1 | Czech Republic | 57 | 14 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | -1 | 0 |
| EU10+1 | Estonia | 59 | 13 | 0 | -1 | 0 | 0 | 2 | 0 | -1 | -1 | -2 | -1 |
| EU10+1 | Hungary | 38 | 27 | 1 | -4 | -5 | -7 | -13 | 0 | -2 | -3 | -3 | -5 |
| EU10+1 | Latvia | 49 | 23 | 2 | 6 | 9 | 8 | 5 | 0 | 1 | 3 | 3 | 2 |
| EU10+1 | Lithuania | 52 | 21 | 0 | 1 | 3 | 2 | 1 | -3 | 0 | 0 | 0 | -1 |
| EU10+1 | Poland | 55 | 15 | -1 | 2 | 2 | 1 | 3 | 1 | 3 | 3 | 3 | 6 |
| EU10+1 | Romania | 38 | 26 | 2 | 4 | 5 | 2 | 7 | 2 | 3 | 3 | 2 | 3 |
| EU10+1 | Slovakia | 54 | 18 | 1 | 1 | 3 | 1 | 5 | 1 | 1 | 2 | 1 | 5 |
| EU10+1 | Slovenia | 54 | 19 | 2 | 0 | -1 | 0 | -1 | 1 | -3 | -2 | -3 | -2 |
| CC | Albania | 23 | 32 | 3 | 0 | 3 | 3 | 7 | 1 | 0 | 2 | 2 | 2 |
| CC | Macedonia | 19 | 33 | 0 | 1 | -3 | -7 | -7 | -1 | 1 | -1 | -1 | -1 |
| CC | Montenegro | 26 | 31 | -4 | -4 | -7 | -6 | -3 | 0 | -1 | -1 | -1 | -1 |
| CC | Serbia | 34 | 29 | 0 | 4 | 5 | 3 | 7 | 1 | 2 | 2 | 2 | 2 |
| CC | Turkey | 11 | 35 | -1 | -3 | -4 | -8 | -4 | 0 | 0 | 0 | 0 | 0 |
| PCC | BiH | 15 | 34 | -1 | -5 | -6 | -7 | -5 | 0 | -1 | -1 | -1 | -1 |
| PCC | Iceland | 70 | 5 | 4 | 2 | 5 | 4 | 3 | 1 | 1 | 3 | 1 | 1 |

## Governance: Change in Ranks and Scores 2011-2016

| Group | Country | Governance Score 2016 | Rank 2016 | Score change vs 2015 | Score change vs 2014 | Score change vs 2013 | Score change vs 2012 | Score change vs 2011 | Rank Change vs 2015 | Rank Change vs 2014 | Rank change vs 2013 | Rank change vs 2012 | Rank change vs 2011 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EU15+2 | Austria | 69 | 6 | -1 | -1 | 1 | -1 | -1 | 0 | 0 | -1 | -1 | 0 |
| EU15+2 | Belgium | 61 | 11 | -1 | -3 | -3 | -2 | -2 | 0 | 0 | -1 | 0 | 0 |
| EU15+2 | Cyprus | 52 | 18 | -1 | 0 | -3 | -5 | -4 | -1 | 1 | -1 | -4 | -2 |
| EU15+2 | Denmark | 73 | 2 | -1 | 0 | -3 | -4 | -4 | 0 | 1 | -1 | -1 | -1 |
| EU15+2 | Finland | 72 | 3 | -2 | -3 | -1 | -2 | -1 | -2 | -1 | 0 | 0 | 0 |
| EU15+2 | France | 58 | 12 | 1 | -3 | -2 | -2 | -1 | 0 | 0 | 0 | 0 | 1 |
| EU15+2 | Germany | 67 | 9 | -1 | 0 | 1 | 0 | 0 | -1 | -1 | -2 | -2 | -2 |
| EU15+2 | Greece | 34 | 28 | 0 | -1 | -3 | -4 | -5 | 0 | -1 | -1 | -1 | -2 |
| EU15+2 | Ireland | 67 | 10 | 0 | 2 | 2 | 4 | 2 | -1 | -1 | -2 | 0 | -1 |
| EU15+2 | Italy | 41 | 25 | 1 | -1 | -1 | -2 | -2 | 0 | 0 | 0 | -2 | -2 |
| EU15+2 | Luxembourg | 72 | 4 | 1 | 2 | 4 | 1 | 1 | 1 | 1 | 2 | 0 | 0 |
| EU15+2 | Malta | 55 | 14 | 0 | -4 | -4 | -5 | -5 | -1 | -1 | -1 | -1 | -2 |
| EU15+2 | Netherlands | 72 | 5 | 0 | 0 | 0 | 1 | 1 | -1 | -1 | -1 | 1 | 0 |
| EU15+2 | Portugal | 58 | 13 | 4 | 4 | 5 | 3 | 2 | 2 | 1 | 5 | 4 | 2 |
| EU15+2 | Spain | 51 | 19 | -1 | -2 | -4 | -2 | -1 | 0 | -1 | -4 | -1 | -1 |
| EU15+2 | Sweden | 74 | 1 | 0 | -2 | -1 | -1 | -1 | 2 | 0 | 1 | 1 | 1 |
| EU15+2 | UK | 68 | 8 | 2 | 3 | 4 | 2 | 3 | 2 | 2 | 1 | 1 | 2 |
| EU10+1 | Bulgaria | 33 | 29 | 1 | 0 | -2 | -2 | -2 | 0 | 0 | -1 | -1 | -1 |
| EU10+1 | Croatia | 40 | 26 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| EU10+1 | Czech Republic | 55 | 16 | 1 | 2 | -1 | -2 | -1 | 0 | 0 | -2 | -1 | 1 |
| EU10+1 | Estonia | 55 | 15 | 1 | 2 | 3 | 5 | 5 | -1 | 0 | 4 | 4 | 4 |
| EU10+1 | Hungary | 44 | 24 | 1 | -2 | -5 | -3 | -3 | 0 | -2 | -2 | -2 | -2 |
| EU10+1 | Latvia | 45 | 23 | -1 | 1 | 1 | 5 | 5 | 0 | 1 | 0 | 2 | 2 |
| EU10+1 | Lithuania | 50 | 20 | 3 | 5 | 7 | 8 | 8 | 2 | 3 | 4 | 4 | 4 |
| EU10+1 | Poland | 49 | 21 | -2 | -2 | -2 | 0 | 1 | -1 | -1 | -1 | -1 | -1 |
| EU10+1 | Romania | 35 | 27 | 0 | 2 | 2 | 2 | 2 | 0 | 1 | 2 | 2 | 2 |
| EU10+1 | Slovakia | 46 | 22 | -2 | -2 | -4 | -1 | -1 | -1 | -1 | -1 | -1 | -1 |
| EU10+1 | Slovenia | 53 | 17 | 1 | 0 | -1 | -2 | -4 | 1 | 0 | -1 | -1 | -3 |
| CC | Albania | 20 | 33 | 2 | 7 | 4 | -1 | -1 | 1 | 2 | 2 | 0 | 0 |
| CC | Macedonia | 25 | 32 | -4 | -1 | 2 | 0 | 0 | -1 | 0 | 0 | -2 | 0 |
| CC | Montenegro | 29 | 31 | -1 | 0 | -1 | 5 | 3 | -1 | -1 | -1 | 1 | -1 |
| CC | Serbia | 29 | 30 | 4 | 7 | 8 | 11 | 11 | 2 | 3 | 3 | 4 | 4 |
| CC | Turkey | 20 | 34 | -3 | -7 | -7 | -6 | -6 | -1 | -3 | -3 | -3 | -3 |
| PCC | BiH | 14 | 35 | -2 | -5 | -5 | -3 | -3 | 0 | -1 | -1 | 0 | 0 |
| PCC | Iceland | 68 | 7 | -1 | 0 | 7 | 2 | 2 | 0 | 0 | 4 | 1 | 1 |

# The Catching-Up of the EU10+1 Countries

## The catching-up of the EU10+1 by Overall Score

The comparison by overall scores shows several things. There is no country that is near the top performing one of the EU15+2 group, but there are several countries that are very near the desired "average European" levels and nearly all of the newer member states are above the worst performing country in the EU15+2 group.

The current index shows also variations within the EU10+1 group in the catching up process. Three countries are close to the average score of the EU15+2 group and several others faring rather better than worse. But two of the countries are lagging behind and two others are in not substantially better shape.



**Catching-Up by Overall Score of the EU10+1**

Legend: ■ Overall Score 2016  ■ Maximum EU12+1  ▲ Average EU12+1  ◆ Minimum EU12+1
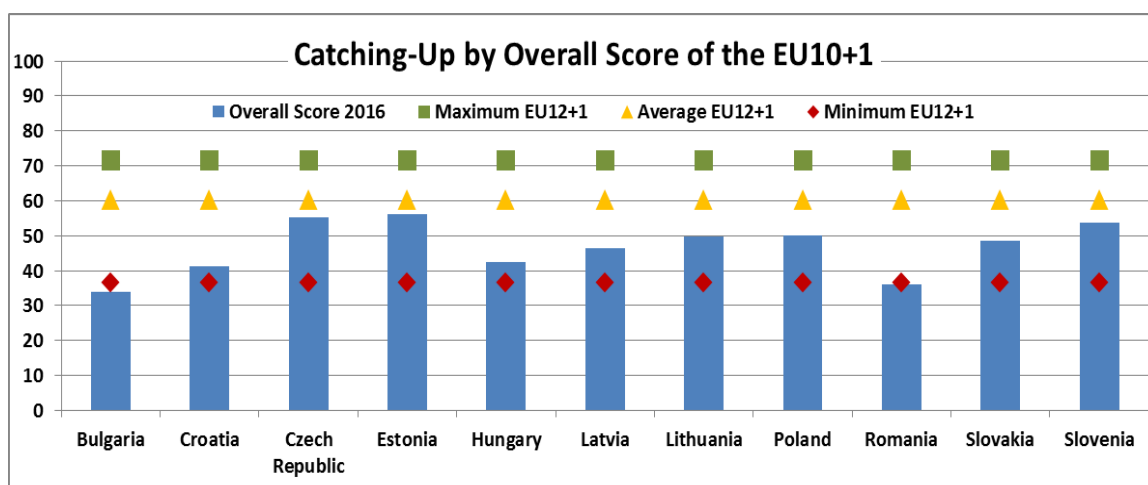
## Ranking the catching-up countries

The countries of EU10+1 group have many similarities, but they are not a uniform group. While their development has had similar trajectory, at some point they diverged resulting in different results. But this doesn't mean that the process has been one of steady progress only, on the opposite – the six year trend of the index shows that there can be regress too.

Three countries dominate the new index – Estonia, the Czech Republic and Slovenia. They do not only fare better than the rest of the fellow CEE countries, but manage to outperform a number of older member states ranking 13th, 15th and 16th respectively out of 35 countries.

Estonia is the country that continues to perform better through the years, improving both its scores and positions on an annual basis. Hungary, on the other hand, is an example of regression as it drops down the ranking and scores.

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EU10+1 Catching-Up by Overall Score: Change of Scores and Ranks** | | | | | | | | | | | | | | |
| Group | Country | Overall Score 2016 | Rank 2016 | Score change vs 2015 | Score change vs 2014 | Score change vs 2013 | Score change vs 2012 | Score change vs 2011 | Rank Change vs 2015 | Rank Change vs 2014 | Rank change vs 2013 | Rank change vs 2012 | Rank change vs 2011 |
| EU15+2 | Maximum | 71 | 1 | | | | | | | | | | |
| EU15+2 | Average | 60 | | | | | | | | | | | |
| EU10+1 | Estonia | 56 | 13 | 1 | 2 | 3 | 4 | 4 | 0 | 1 | 3 | 5 | 5 |
| EU10+1 | Czech Republic | 55 | 15 | 1 | 1 | 0 | 0 | 2 | -1 | 0 | -2 | 0 | 2 |
| EU10+1 | Slovenia | 54 | 16 | 1 | 1 | -1 | -2 | -2 | 0 | 0 | -2 | -3 | -3 |
| EU10+1 | Poland | 50 | 19 | -1 | 0 | 1 | 1 | 3 | -1 | -1 | 1 | 1 | 3 |
| EU10+1 | Lithuania | 50 | 20 | 0 | 2 | 3 | 5 | 5 | -1 | 2 | 2 | 4 | 4 |
| EU10+1 | Slovakia | 49 | 22 | 0 | 0 | -1 | 0 | 2 | 0 | -1 | -3 | -1 | -1 |
| EU10+1 | Latvia | 47 | 24 | 0 | 3 | 4 | 6 | 6 | 0 | 0 | 1 | 3 | 3 |
| EU10+1 | Hungary | 42 | 25 | 0 | -1 | -2 | -3 | -4 | 0 | 0 | -1 | -2 | -2 |
| EU10+1 | Croatia | 41 | 26 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EU15+2 | Minimum | 36 | 27 | | | | | | | | | | |
| EU10+1 | Romania | 36 | 28 | 0 | 2 | 2 | 1 | 4 | 0 | 2 | 1 | 0 | 1 |
| EU10+1 | Bulgaria | 34 | 29 | 0 | -1 | -1 | -1 | -1 | 0 | 0 | -1 | 0 | -1 |

# Comparison of two EU15+2 and EU10+1 groups by category
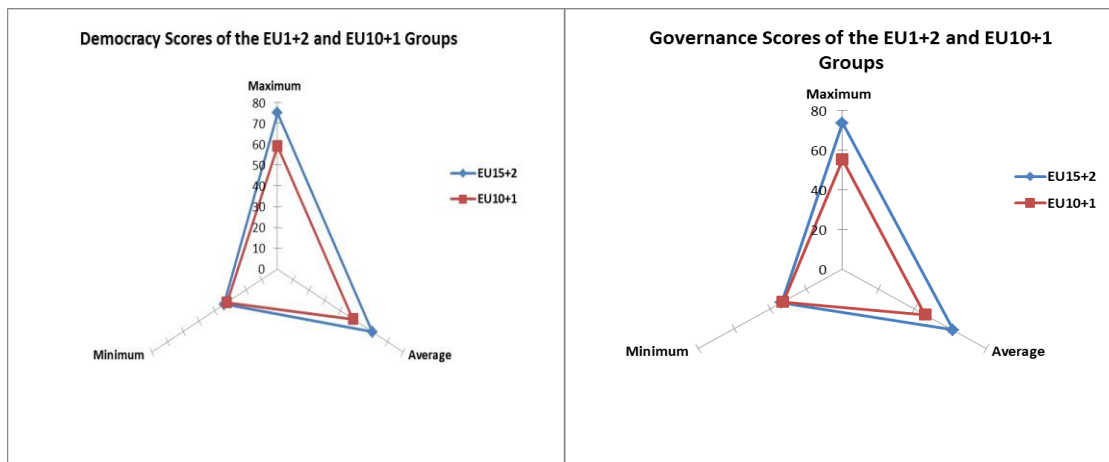


Average Scores of the EU15+2 and EU10+1 Groups
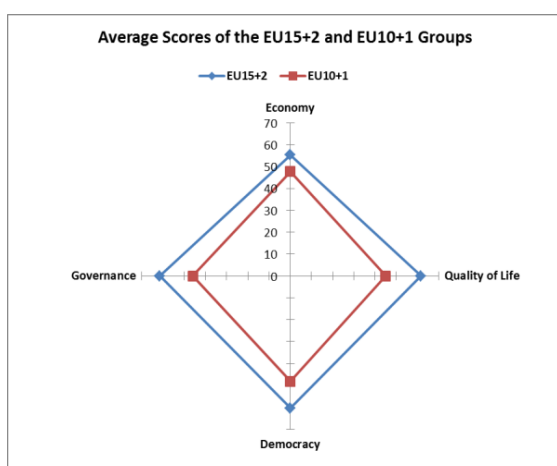
The comparison by average scores of the EU15+2 and EU10+1 groups indicates in which categories there are relatively successful and which are the problematic ones. In the current index, the newer EU member states are performing better in the Economy category and worst in the Quality of Life category. In the other two categories, the differences are smaller in Democracy and bigger in Governance. The performance by ranked categories is Economy, Democracy, Governance and Quality of Life.

In Economy, the comparison between the maximum, average and minimal scores of the two groups – EU15+2 and EU10+1 shows that there is still considerable difference between the best performers in each group, while the average and poorest performers are closer to each other.
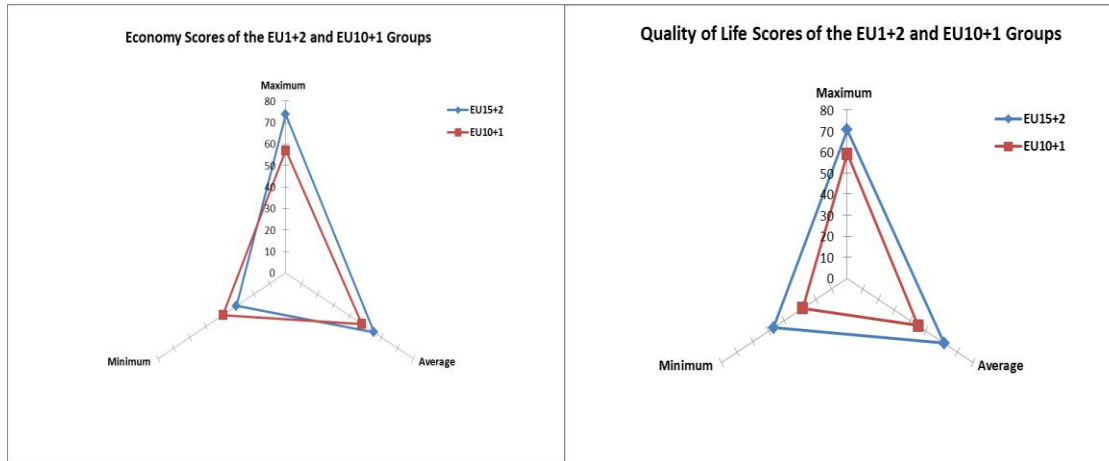


The catching-up in the Quality of Life category differs from overall pattern. There is a significant distance between the minimum and average scores of the older and newer EU members as smaller distance between the best performers in the group. This indicates the difficulty of catching-up by a number of CEE countries in this area and that the older member states still have a sizable advantage.



In Democracy, the difference in maximum and average scores of the two groups is very similar, while the lowest scores are the same for both groups. In Governance, the CEE countries have surpassed the worst performing country of the EU15+2 group, but cannot measure up to the best performign and the average results of the group.

## The Economy category explained: Methodology notes

The Economy category measures the economic performance and potential of the countries in the index. Each of the four categories in the Catch Up Index are ascribed equal importance in terms of calculating a country's overall score.

The Economy category is measured through a set of nine indicators, each of which captures a different aspect of economic performance. Some indicators gauge more than one aspect of economic performance. The metrics of the indicators are based on 14 sub-indicators, of varying weightings. The specific indicators and the weightings assigned to the sub-indicators reflect the unique model of the Catch Up Index.

The raw data used for the indicators (e.g. GDP per capita or other composite indicator scores or coefficients) are converted into a Catch-Up Index score on a scale of 0 to 100 (lowest to highest) to allow for a standardized score that can be compared across countries or categories and indicators. Each of the indicators has different weight assigned to it, according to its importance in the Catch Up Index model.

| Economy Indicators | Sub-indicators | Weight |
|---|---|---|
| GDP per capita | GDP per capita in PPS, EU27=100 | 25% (0,25) |
| Government debt | General government debt (% of GDP) | 13% (0,125) |
| Credit ratings | Sovereign credit ratings | 13% (0,125) |
| Employment | Employment rate % | 8% (0,083) |
| Energy Intensity | Energy intensity of the economy | 8% (0,083) |
| Information Society | Information and Communication Technology | 8% (0,083) |
| Research and Development | Patents granted by USPTO per capita | 4% (0,042) |
| | High-tech exports as % of manufactured exports | 4% (0,042) |
| Market development | Doing Business rank | 4% (0,042) |
| | Economic Freedom score | 4% (0,042) |
| Transport infrastructure | Motorways per area 1000 $km^2$ | 2% (0,021) |
| | Motorways per 100,000 inhabitants | 2% (0,021) |
| | Other roads per 1000 $km^2$ | 2% (0,021) |
| | Other roads per 100,000 inhabitants | 2% (0,021) |

**GDP per Capita** (PPS with EU27=100 basis, Eurostat) remains the most important indicator of economic activity and is assigned 25% weight in the total Economy category.

**Government Debt**, measured as a % of GDP, is second in importance with 12.5%. The global economic calamities of recent years, and especially the ongoing debt crisis in Europe, have clearly demonstrated the

critical importance of government debt as a factor for the economic vitality of a country.

The **Sovereign Credit Ratings** – or creditworthiness and level of investment risk - of a country are also attributed high importance in the index, with a 12.5% weight. The index uses a composite, rescaled score of the ratings of the three major agencies (Fitch, Moody's and Standard & Poor's).

**Employment**, with a weight of 8%, is a measure of an economy's potential to generate jobs and integrate as much as possible of the labor force in the labor market; this is measured through the share of working-age people in employment.

**Energy Intensity**, also ascribed an 8% weighting, is a measure of an economy's energy efficiency, calculating energy consumption divided by GDP as kilogram of oil equivalent per €1000. Energy intensity is also an important measure of an economy's competitiveness, because high energy inefficiency incurs more costs in production and services.

**Research and Development**, again with a weight of 8%, is a measure of the level of development and the "quality" of contemporary economies, including their competiveness. The index uses two sub-indicators. The first is the number of patents registered from a country with the United States Patent and Trademark Office (USPTO) annually on a per capita basis. The second indicator is the share of high-tech exports in a country's manufactured exports.

The **Market Development** indicator (also 8%) is the composite score of two sub-indicators – the World Bank's Ease of Doing Business ranking and the Heritage Foundation/Wall Street Journal Index of Economic Freedom. The latter defines the highest form of economic freedom as "an absolute right of property ownership, fully realized freedoms of movement for labor, capital, and goods, and an absolute absence of coercion or constraint of economic liberty beyond the extent necessary for citizens to protect and maintain liberty itself."

The **Transport Infrastructure Indicator** (8%) is a measure of a country's economic development and its potential for economic activity. The index uses four sub-indicators, based on calculating coefficients of motorways and other roads on a per capita and country area basis.

# The ingredients of democracy: Methodology notes

Catching up in Democracy is essential for the post-communist member states of the EU, particularly given that the Copenhagen accession criteria for EU membership primarily focused on democracy. But although EU membership has often been perceived as a watershed in the political transition of the EU10 group, or even the end of that transition, it now appears that the newer members may not have achieved parity with more developed European nations in their progress in building democratic institutions and societies.

The Catch-Up Index was designed to analyse several aspects of democracy that are of particular significance for the newer member states, and those that are aspiring to be.

The Democracy category has equal weighting with the other three categories in the Catch-Up Index (Economy, Quality of Life and Governance). This category is measured through a set of seven indicators, which use nine sub-indicators. The raw data drawn from opinion polls and other composite indicator scores are converted into the Catch-Up Index score on a scale of 0 to 100 (lowest to highest) to give a standardized score that allows for comparison across countries, categories and indicators. Each of the indicators has a different weight assigned to it according to its importance in the index model.

| Democracy Indicators | Sub-indicators | Weight |
|---|---|---|
| **Democracy Indices** | Freedom House score Freedom in the World | **20% (0,195)** |
| | Economist Intelligence Unit Democracy Index | **20% (0,195)** |
| **Media Freedom** | Freedom House Freedom of the Press score | **10% (0,98)** |
| | Reporters without Borders Press Freedom Index | **10% (0,98)** |
| **Satisfaction with democracy** | Satisfaction with democracy % | **10% (0,98)** |
| **Trust in People** | Trust in people | **10% (0,98)** |
| **Voice and Accountability** | Voice and Accountability - WGI | **10% (0,98)** |
| **Human Rights** | Disrespect for human rights by Global Peace Index | **10% (0,98)** |
| **E-participation** | E-participation index | **2% (0,024)** |

The first indicator used to measure democracy is composed of two established **composite democracy indices** – those of **Freedom House** and the **Economist Intelligence Unit (EIU).** Each was attributed very high importance in the Democracy category with 20% weight (or 40% for both) because they assess the overall democracy in a country. The Freedom of the World index was used from Freedom House, rather than the specialized post-communist states' Nations in Transit index, because it does not encompass the Western European states. The EIU Democracy Index was used because its scores are more nuanced than the Freedom of the World scores, which allows for better distinction between the quality of democracy in the European states.

**Media Freedom** was attributed special attention in the Catch-Up Index because the media is essential to the democratic process – especially in the post-communist states. The Catch-Up Index relies again on two established media freedom indices – of Freedom House and of Reporters without Borders. Each is assigned 10% weight, giving the Media Freedom indicator a 20% overall weight.

**Satisfaction with Democracy** measures the attitude of citizens towards the democratic systems of governance in their countries. This is one of the only two indicators (along with Trust in People) that relies on public opinion surveys (in this case the main source is Eurobarometer), and the scores are based on the proportion of citizens who approve their countries' democratic systems.

**Trust in People** measures the level of people's trust of those who are outside of their immediate family or close friends. Literature abounds on the importance of trust for democracy - above all Francis Fukuyama's "Trust",– or economy and the successful organization of society. In this case, the Catch-Up Index employs the measure of Trust in People as a proxy for civil society development, given the limitations of available data on similar indicators for all the countries in the index.

**Voice and Accountability**, with a weight of 10%, is a composite indicator of the World Bank's World Governance Indicators (WGI). This includes perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. The WGI scores also use World Bank assessments and reports that are not publicly available.

**Respect for Human Rights** is also deemed essential for a functioning democracy and carries a weight of 10%. The scores are based on Global Peace Index "Disrespect for human rights" indicator.

**E-participation** (2%) measures the level of participation in decision-making, governance or similar activities that is enabled by Information and Communication Technologies. For example, the facilitation of citizens' political participation through internet or cellular technologies within the broader "e-democracy" concept. Facebook advocacy or the "twitter revolutions" offer specific examples of similar phenomena.

## Quality of Life: Methodology notes

Quality of Life is the category most influenced by the "bottom-up" approach in constructing the index. The metrics of the category have been designed to establish how wealthy people are and to what degree social issues affect them, such as income inequality, risk of poverty and long-term unemployment. The indicators also aim to assess levels of access to higher education and the quality of education available, as well as whether people are living longer, healthier lives with access to good quality healthcare services.

These criteria are prerequisites for individuals to have good quality of life and for the "health" and successful development of society at large. It does not come as a surprise that the majority of the citizens of the newer member states (and the candidates) associate EU membership above all with improved quality of life, at least closer to that of their more established EU counterparts.

The raw data used for the indicators (e.g. life expectancy in years, and other composite indicator scores or coefficients) are converted into the standardized Catch-Up Index score, on a scale from 0 to 100 (lowest to highest), to allow for comparison across countries, categories and indicators. As was the case in the other categories, each of the indicators has a different weight assigned to it, reflecting its importance in the Catch-Up Index model.

| Quality of Life Indicators | Sub-indicators | Weight |
|---|---|---|
| Welfare of consumers | Actual individual consumption with EU27=100 | 20% (0,2) |
| Social issues | Inequality - Gini coefficient | 7% (0,067) |
| | Relative median at-risk-of-poverty gap (%) | 7% (0,067) |
| | Long-term unemployment rate (%) | 7% (0,067) |
| Education | Share (%) of early school leavers | 5% (0,05) |
| | Share of population (%) with university degree | 5%(0,05) |
| | PISA* score in reading literacy | 3% (0,033) |
| | PISA score in mathematical literacy | 3% (0,033) |
| | PISA score in scientific literacy | 3% (0,033) |
| Health | Healthy life expectancy at birth in years | 5% (0,05) |
| | Life expectancy in years | 5% (0,05) |
| | Infant mortality by age of 5 | 5% (0,05) |
| | EuroHealth Consumer Index | 5% (0,05) |
| Human Development | Human Development Index (UN) | 20% (0,2) |
| * Programme for International Student Assessment (OECD). | | |

**Welfare of Consumers** is attributed 20% weight in the category. It is based on data from Eurostat's Actual Individual Consumption dataset, which is calculated on EU27=100 basis (rescaling each country's data as a fraction of the EU mean).

**The Social Issues indicator**, with a total weight of 21%, comprises three sub-indicators that measure different aspects of social problems in a society. The first assesses social inequality using the Gini coefficient – the greater the inequality, the lower a country's score in the index. The second sub-indicator is based on Eurostat's relative median at-risk-of-poverty gap indicator. The third sub-indicator measures long-term unemployment in society, which signals the existence of more deep-seated social problems that the basic unemployment rate.

The **Education** indicator has been designed to reflect primarily the quality of education, rather than the quantity, given that the GDP share of education or the number of teachers or students do not always correspond to good outcomes. This is especially valid with regard to the new member states, where often inefficient and unreformed systems produce poor results, notwithstanding the funds or manpower channeled into them.

As is the case with many of the index indicators, their data can also be useful in assessing other aspects of the same category or, in this case, other categories. For example, as well as being a key indicator for Quality of life, education is relevant in assessing economic potential, democracy and good governance. The sub-indicator on early school-leavers assesses the share of young people giving up education and training prematurely; this may also help to gauge broader social problems. The second sub-indicator is the share of the population that hold university degrees. The next three education-related sub-indicators are based on the results of the Organisation for Economic Co-operation and Development's **Programme for International Student Assessment (**PISA). The PISA scores go beyond the performance of high-school students and survey the broader state of a country's education sector, for example qualification levels of teachers and the quality of universities.

The **Health** indicator is likewise designed to focus more on the outcomes than on less indicative criteria such as share of GDP or the number of medical workers. One sub-indicator is life expectancy, measuring how many years a person is expected to live, while another is healthy life expectancy, specifically taking into account life without major illness. The indicator for infant mortality is also indicative of the broader state of health services or social services in a country (or even the state of society more broadly) because it assesses the likelihood of children surviving to the age to 5. The fourth sub-indicator is a composite of the EuroHealth Consumer Index by the Health Consumer Powerhouse, which measures the quality of healthcare systems in a country (including by outcome).

The United Nations' **Human Development Index** is a composite index measuring life expectancy, literacy, education and standards of living for countries worldwide. It has similar dimensions to the Catch-Up Index, but includes additional data and methodology, which complements the other indicators but does not overlap with them.

## Governance category explained: methodology notes

The newer and aspiring members typically perceive established EU member states to be well-governed, politically stable, have low levels of corruption, effective governance, a successful rule of law, and an absence of substantial tensions, conflicts and crime. Indeed, from a wider perspective this impression is accurate. The EU is truly an oasis of stable and well-governed states by comparison with some of the more unstable or failing states in other parts of the world. The EU is very much geared toward instilling "good governance" through its common institutions and the *acquis communautaire*.

But comparisons between EU members and aspiring candidates reveal differences even among relatively homogenous groups. Some of these differences are made strongly apparent, as in the case of the EU's monitoring of the progress of members Bulgaria and Romania in fighting corruption, organized crime and judicial reform, and the conditionality imposed on candidates.

The Catch-Up Index measures the quality of governance in a country through seven indicators based on ten sub-indicators.

| Governance Indicators | Sub-indicators | Weight |
|---|---|---|
| Corruption | Corruption Perceptions Index - Transparency International | 8% (0,08) |
| | Control of Corruption - World Governance Indicators | 8% (0,08) |
| Political stability | Political instability by Economist Intelligence Unit | 8% (0,08) |
| | Political Stability and Absence of Violence - World Governance Indicators | 8%(0,08) |
| Governement effectiveness | Governement eEffectiveness - World Governance Indicators | 16% (0,16) |
| Regulatory quality | Regulatory quality - World Governance Indicators | 16% (0,16) |
| Rule of law | Rule of Law – World Governance Indicators | 16% (0,16) |
| Conflict, tensions and crime | Conflicts and tensions in the country - selected Global Peace Index indicators | 8% (0,08) |
| | Homicide rates per 100,000 population | 8% (0,08) |
| E-government | E-government development index | 4% (0,04) |

The **Corruption** indicator is essential for gauging the quality of governance because corruption affects all aspects of the decision-making and implementation process. The Corruption indicator has a weighting of 16% in the Governance category, divided between two sub-indicators – Transparency International's Corruption Perceptions Index and the Control of Corruption dimension of the World Bank's World Governance Indicators. The first indicator measures public perceptions of the level of corruption in a country. The second indicator as defined by its authors "captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests."

The second indicator measures a country's level of **Political stability**, as in the threat of government destabilization through social unrest or unconstitutional or violent means through two sub-indicators. These are the Economist Intelligence Unit's Political Instability Index and the Political Stability and Absence of Violence dimension of the World Bank's World Governance Indicators. The EIU scores "show the level of threat posed to governments by social protest." The World Bank indicator measures "the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including domestic violence and terrorism." The level of political stability indicates any flaws in governance. Although this indicator also relates to democracy – in terms of the channeling of discontent through the process of representation and problem solving – political stability is more of a measure of governance. The indicator's weight is 16% divided between the two sub-indicators.

**Government effectiveness** is an indicator of whether governance is being conducted well; the World Bank states that it "captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies." Government effectiveness also has a weighting of 16% in the Governance category.

**Regulatory quality** is another World Governance Indicators that "captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development." This indicator too has a 16% weighting.

**Rule of law** is essential for good governance, as the newest EU members and candidates have found out the hard way. The indicator is again based on the World Governance Indicators, which state that it " captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence."

**Conflict, tensions and crime** is a composite indicator, based on two sub-indicators relating to a country's crime levels and conflicts and tensions. The conflicts and tensions sub-indicator is based on selected data from the Global Peace Index (Institute for Economics and Peace/Economist Intelligence Unit). The homicide rate on a per capita basis serves as a proxy for measuring the crime levels in a country, because data pertaining to other reported crimes is less easily comparable (different definitions or practices for registering crimes) or country data is unavailable. The indicator's weight of 16% is divided between the two sub-indicators.

The **E-government** indicator is based on the UN's E-government surveys and scores. It is included in the index because it is a measure of government efficiency and delivery of services to citizens, and because it facilitates transparency and accountability as the world grows more connected. Moreover, e-government indicates the level of development of contemporary societies. As the UN survey has identified, the scores comprise two basic aspects of e-government, 'government to citizen' (G to C) and 'government to government' (G to G), with a smaller element of 'government to business' interactions. Given that e-government is indicative of many aspects of good governance, but not indispensable, it is ascribed a weight of 4%.

# Catching-up in the Economy category

The EU10+1 countries are on average most successful in the Economy category, but this deserves a closer look at the individual results. Estonia performs strongly as it is above the average result of the control group of EU15+2. The two other Baltic countries and the Czech Republic follow closely. There is no country even close to the best performing older member state. All CEE countries are above the minimal score, but this is no special achievement as the result is quite low.
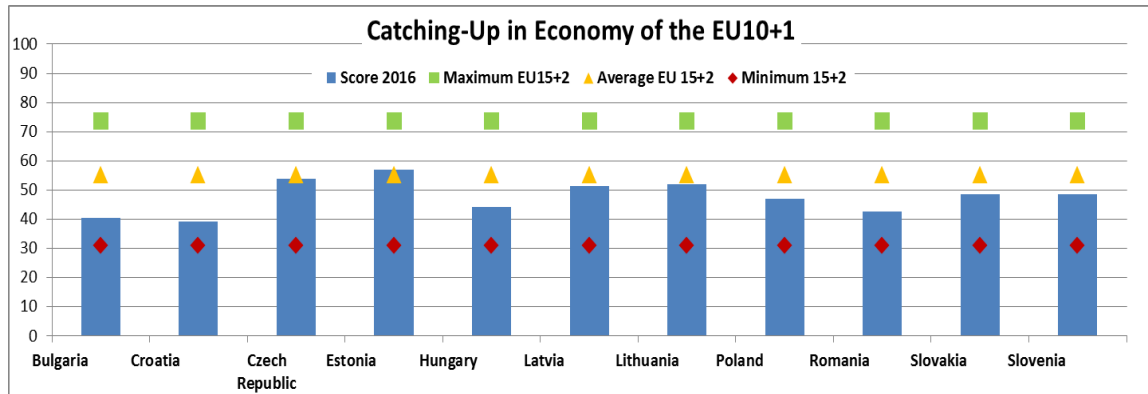


The comparison of scores and ranks from 2011 to 2016 in the Economy category shows that the highest ranked countries also show the best improvement on annual basis. Estonia, the Czech Republic, Lithuania and Latvia all improve by 3 to 6 positions in the ranking and by 5 to 8 points in the scores when the latest 2016 and the first 2011 results are compared. Only Slovenia and Croatia lose positions and points with respectively 5 and 3 places in the ranking and 7 and 3 score points.

| Group | Country | Economy Score 2016 | Rank 2016 | Score change vs 2015 | Score change vs 2014 | Score change vs 2013 | Score change vs 2012 | Score change vs 2011 | Rank Change vs 2015 | Rank Change vs 2014 | Rank change vs 2013 | Rank change vs 2012 | Rank change vs 2011 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EU15+2 | Maximum | 74 | 1 | | | | | | | | | | |
| EU10+1 | Estonia | 57 | 12 | 0 | 2 | 3 | 5 | 5 | 1 | 1 | 1 | 4 | 4 |
| EU15+2 | Average | 55 | | | | | | | | | | | |
| EU10+1 | Czech Repu | 54 | 15 | 2 | 2 | 3 | 4 | 5 | 2 | -1 | 1 | 3 | 3 |
| EU10+1 | Lithuania | 52 | 16 | -1 | 1 | 1 | 5 | 6 | -2 | 0 | -1 | 3 | 5 |
| EU10+1 | Latvia | 51 | 17 | -1 | 2 | 4 | 7 | 8 | -1 | 0 | 2 | 5 | 6 |
| EU10+1 | Slovakia | 49 | 18 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| EU10+1 | Slovenia | 48 | 19 | -2 | -1 | -3 | -6 | -7 | -1 | -2 | -5 | -6 | -5 |
| EU10+1 | Poland | 47 | 21 | 0 | 1 | 2 | 2 | 5 | 0 | 0 | 1 | 3 | 3 |
| EU10+1 | Hungary | 44 | 22 | 1 | 1 | 0 | 1 | 3 | 1 | 0 | 2 | 4 | 4 |
| EU10+1 | Romania | 43 | 25 | 1 | 3 | 3 | 3 | 5 | 1 | 2 | 2 | 2 | 4 |
| EU10+1 | Bulgaria | 40 | 27 | 1 | 2 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 1 |
| EU10+1 | Croatia | 39 | 28 | -1 | 0 | -4 | -4 | -3 | -1 | 0 | -3 | -3 | -3 |
| EU15+2 | Minimum | 31 | 32 | | | | | | | | | | |

EU10+1 Catching-Up in Economy: Change of Scores and Ranks

## Indicators in Economy

| GDP | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 100 | 1 |
| Average EU15+2 | 61 | |
| Czech Republic | 48 | 16 |
| Slovenia | 48 | 17 |
| Slovakia | 45 | 20 |
| Estonia | 44 | 21 |
| Lithuania | 44 | 22 |
| Minimum EU15+2 | 42 | 23 |
| Poland | 41 | 24 |
| Hungary | 41 | 25 |
| Latvia | 39 | 26 |
| Croatia | 36 | 27 |
| Romania | 36 | 28 |
| Bulgaria | 31 | 30 |

The GDP per capita indicators shows that the CEE countries are still far from the older member states average score. Five of them have scores above the minimum score in the EU15+2 group, but the rest are still underperforming.

The Employment indicator shows the CEE countries in better light as four of them – the three Baltic countries and the Czech Republic - have better scores that the older member states average.

| Employment | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 76 | 1 |
| Estonia | 69 | 7 |
| Czech Republic | 65 | 9 |
| Latvia | 61 | 11 |
| Lithuania | 59 | 12 |
| Average EU15+2 | 56 | |
| Slovenia | 55 | 14 |
| Hungary | 52 | 18 |
| Bulgaria | 50 | 20 |
| Poland | 50 | 21 |
| Slovakia | 49 | 23 |
| Romania | 47 | 25 |
| Croatia | 35 | 28 |
| Minimum EU15+2 | 24 | 29 |

| Research and Development | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| EU15+2 | 78 | 1 |
| Average EU15+2 | 60 | |
| Czech Republic | 49 | 14 |
| Hungary | 47 | 15 |
| Latvia | 47 | 16 |
| Estonia | 46 | 17 |
| Lithuania | 43 | 18 |
| Slovakia | 41 | 21 |
| Poland | 40 | 22 |
| Croatia | 39 | 23 |
| Slovenia | 38 | 25 |
| Bulgaria | 38 | 26 |
| Romania | 38 | 27 |
| Minimum EU15+2 | 34 | 29 |

The Rese arch and Development indicator is based on two sub-indicators – high-tech exports and number of filed patents in the US. The Czech Republic, Hungary and Latvia perform the best in the CEE group.

In Energy Efficiency the CEE countries do not perform very well as only Slovenia is above the minimum score, unlike the majority of other indicators. But comparison of data over the years shows that at least performance is improving over the years (no shown on this table).

| Energy Efficiency | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 72 | 1 |
| Average EU15+2 | 65 | |
| Slovenia | 54 | 17 |
| Minimum EU15+2 | 54 | 18 |
| Croatia | 53 | 19 |
| Lithuania | 51 | 20 |
| Latvia | 49 | 22 |
| Hungary | 49 | 23 |
| Slovakia | 49 | 24 |
| Poland | 46 | 25 |
| Romania | 46 | 26 |
| Czech Republic | 43 | 28 |
| Estonia | 22 | 31 |
| Bulgaria | 12 | 33 |

| Transport Infrastructure | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 79 | 1 |
| Slovenia | 66 | 3 |
| Estonia | 59 | 5 |
| Average EU15+2 | 54 | |
| Croatia | 51 | 15 |
| Lithuania | 50 | 17 |
| Latvia | 49 | 19 |
| Hungary | 47 | 21 |
| Slovakia | 42 | 25 |
| Minimum EU15+2 | 42 | 26 |
| Czech Republic | 41 | 28 |
| Poland | 40 | 30 |
| Bulgaria | 38 | 31 |
| Romania | 37 | 33 |

The Transport Infrastructure indicator uses four sub-indicators of roads and highways per capita and per area of a country as a proxy for the development of its overall infrastructure. Slovenia and Estonia perform very well taking 3rd and 5th place out of all 35 in the ranking and above the average benchmark.

The Government Debt indicator shows that over half of the eleven CEE countries perform very well with very low debt levels. Estonia is the best performer among all 35 countries in the index. Bulgaria is the second best in the group and 3rd place out of 35, followed by Latvia, Romania and the Czech Republic. The countries that have relatively poor performance are Hungary, Slovenia and Croatia. But except Croatia, all other countries are above the average benchmark of the EU15+2 countries.

| Government Debt | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Estonia | 84 | 1 |
| Maximum EU15+2 | 77 | 2 |
| Bulgaria | 74 | 3 |
| Latvia | 69 | 5 |
| Romania | 68 | 6 |
| Czech Republic | 66 | 9 |
| Lithuania | 65 | 10 |
| Poland | 60 | 13 |
| Slovakia | 59 | 14 |
| Hungary | 47 | 22 |
| Slovenia | 42 | 24 |
| Average EU15+2 | 40 | |
| Croatia | 40 | 26 |
| Minimum EU15+2 | 0 | 35 |

| Market Development | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 77 | 1 |
| Estonia | 76 | 3 |
| Lithuania | 68 | 7 |
| Latvia | 64 | 11 |
| Czech Republic | 62 | 13 |
| Poland | 57 | 15 |
| Average EU15+2 | 55 | |
| Slovakia | 48 | 18 |
| Romania | 45 | 22 |
| Bulgaria | 44 | 23 |
| Hungary | 43 | 25 |
| Slovenia | 39 | 27 |
| Croatia | 30 | 31 |
| Minimum EU15+2 | 12 | 34 |

The Market Development indicator uses two sub-indicators – the Doing Business of the World Bank and the Economic Freedom Index of the Heritage Foundation.

Estonia is at the top with the ranking with its 3rd place among 35 countries. Lithuania, Latvia, the Czech Republic are also performing well and above the average benchmark. Croatia trails behind occupying the 31st place.

The Information and Communication Technology index of the United Nations measures the level of development of the information society in a country. Estonia performs above the average benchmark of the EU15+2 countries and is on 10th position among 35 countries.

| Information&Communication Technology | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 80 | 1 |
| Estonia | 67 | 10 |
| Average EU15+2 | 62 | |
| Czech Republic | 50 | 16 |
| Slovenia | 50 | 17 |
| Lithuania | 47 | 20 |
| Latvia | 47 | 21 |
| Croatia | 46 | 22 |
| Slovakia | 44 | 23 |
| Hungary | 39 | 25 |
| Bulgaria | 39 | 26 |
| Poland | 38 | 27 |
| Minimum EU15+2 | 35 | 29 |
| Romania | 30 | 30 |

| Credit Indices | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 79 | 1 |
| Czech Republic | 61 | 11 |
| Estonia | 61 | 12 |
| Average EU15+2 | 60 | |
| Slovakia | 58 | 13 |
| Latvia | 52 | 16 |
| Lithuania | 52 | 17 |
| Poland | 51 | 18 |
| Slovenia | 49 | 19 |
| Hungary | 41 | 23 |
| Romania | 40 | 24 |
| Bulgaria | 39 | 25 |
| Croatia | 31 | 28 |
| Minimum EU15+2 | 8 | 35 |

The Credit Indices is the average score of the sovereign rating risks of the three big credit agencies - Moody's, S&P and Fitch. The Czech Republic and Estonia have equal scores and perform better than the average benchmark, followed closely by Slovakia on 11th, 12th and 13th position respectively.

## Catching-up in the Quality of Life category

The gap in Quality of Life continues to be the widest one between older and newer member states, compared in average scores between the groups. But data shows the diversity within the group as Slovenia and the Czech Republic are very close to the average benchmarks and Estonia and Poland are above the minimal score of the EU15+2.
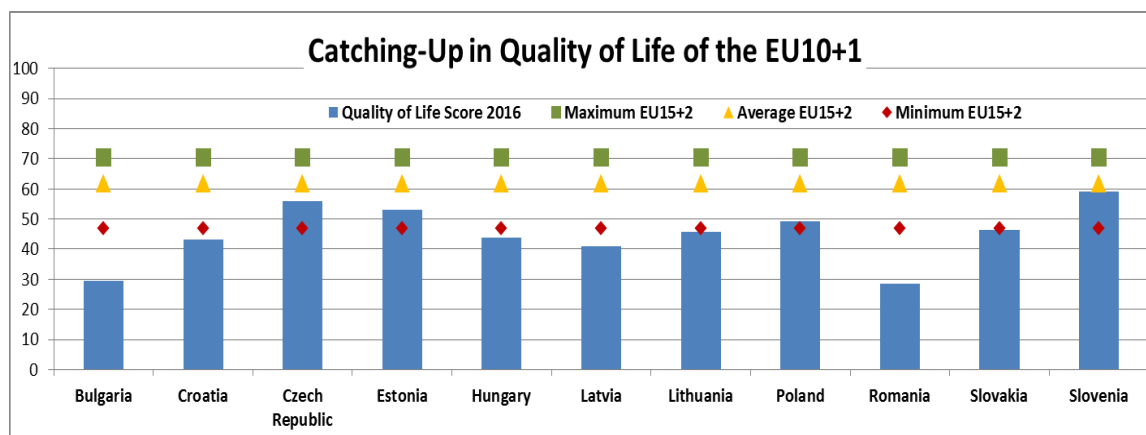


The trends in the 2011-2016 period show that most of the EU10+1 countries improve their standing in comparison to the EU15+2 group. The big exception is Hungary, which dropped 3 positions in the ranking from 2011 to 2016.

| Group | Country | Quality of Life Score 2016 | Rank 2016 | Score change vs 2015 | Score change vs 2014 | Score change vs 2013 | Score change vs 2012 | Score change vs 2011 | Rank Change vs 2015 | Rank Change vs 2014 | Rank change vs 2013 | Rank change vs 2012 | Rank change vs 2011 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EU15+2 | Maximum | 71 | 1 | | | | | | | | | | |
| EU15+2 | Average | 62 | | | | | | | | | | | |
| EU10+1 | Slovenia | 59 | 13 | 3 | 1 | 2 | 1 | 2 | 1 | 0 | 1 | 1 | 2 |
| EU10+1 | Czech Republic | 56 | 14 | 0 | 0 | -2 | 1 | 3 | -1 | 0 | -1 | 2 | 4 |
| EU10+1 | Estonia | 53 | 17 | 1 | 3 | 5 | 5 | 4 | 1 | 2 | 4 | 3 | 3 |
| EU10+1 | Poland | 49 | 21 | 1 | 0 | 1 | 2 | 4 | -1 | -1 | 1 | 3 | 2 |
| EU15+2 | Minimum | 47 | 22 | | | | | | | | | | |
| EU10+1 | Slovakia | 46 | 23 | 2 | 0 | -3 | -1 | 1 | 1 | 0 | -4 | -1 | 1 |
| EU10+1 | Lithuania | 46 | 24 | 0 | 0 | 0 | 7 | 5 | -1 | 0 | 0 | 2 | 2 |
| EU10+1 | Hungary | 44 | 25 | 0 | 0 | 0 | -4 | -4 | 0 | 0 | 0 | -4 | -3 |
| EU10+1 | Croatia | 43 | 26 | 0 | 1 | 2 | 3 | -1 | 0 | 0 | 0 | -1 | -1 |
| EU10+1 | Latvia | 41 | 27 | -1 | 1 | 3 | 5 | 5 | 0 | 0 | 0 | 0 | 0 |
| EU10+1 | Bulgaria | 29 | 29 | 0 | 0 | 0 | -1 | -1 | 1 | 1 | 1 | 2 | 1 |
| EU10+1 | Romania | 28 | 30 | -2 | -1 | 0 | -3 | 1 | -1 | -1 | 1 | 0 | 1 |

## Indicators in Quality of Life

| Consumption per capita | | |
|---|---|---|
| **Country** | **Score 2016** | **Rank 2016** |
| Maximum EU15+2 | 89 | 1 |
| Average EU15+2 | 66 | |
| Lithuania | 49 | 17 |
| Minimum EU15+2 | 48 | 18 |
| Slovakia | 45 | 20 |
| Czech Republic | 45 | 21 |
| Poland | 43 | 22 |
| Slovenia | 43 | 23 |
| Estonia | 40 | 24 |
| Latvia | 37 | 25 |
| Hungary | 35 | 26 |
| Romania | 32 | 27 |
| Croatia | 32 | 28 |
| Bulgaria | 27 | 31 |

The Consumption indicator is used for comparing the relative welfare of consumers between countries. The results show that the newer member states are still far from reaching the older member states in this area. The best performer Lithuania is 40 points away from the best performer of the older member states and 17 points away from the average benchmark. The majority of the CEE countries are even below the minimum, which in other indicators is not an issue as it is quite low. Romania and Croatia with equal score and Bulgaria are the last in the ranking of EU10+1 states.

Social Issues is a composite indicator that includes three sub-indicators on inequality, risk of poverty and long-term unemployment. Actually, the Czech Republic is among the best performers in Social Issues among all 35 countries in the index with 3rd place and 68 points. Slovenia is 9th, which is also a very good position and Hungary is also above the average benchmark.

| Social Issues | | |
|---|---|---|
| **Country** | **Score 2016** | **Rank 2016** |
| Maximum EU15+2 | 74 | 1 |
| Czech Republic | 68 | 3 |
| Slovenia | 65 | 9 |
| Hungary | 60 | 13 |
| Average EU15+2 | 57 | |
| Poland | 56 | 17 |
| Slovakia | 55 | 18 |
| Estonia | 53 | 19 |
| Latvia | 45 | 21 |
| Croatia | 44 | 23 |
| Lithuania | 42 | 24 |
| Bulgaria | 37 | 27 |
| Romania | 32 | 30 |
| Minimum EU15+2 | 27 | 32 |

The individual sub-indicators in Social Issues show that many CEE countries are not performing at all poorly. Slovakia, Slovenia and the Czech Republic – 2nd, 3rd, 4th position - are the most equal countries among the 35 in the index and outperform even the best performer of the older member states. Hungary is also above the average result. The Czech Republic, Slovenia and Estonia have better score than the average benchmark in Risk of Poverty. Seven out of the eleven CEE states have better scores than the EU15+2 average in Long-term Employment.

| Inequality (social sub-indicator) | | | Risk of Poverty (social sub-indicator) | | | Long-term Unemployment (social sub-indicator) | | |
|---|---|---|---|---|---|---|---|---|
| Country | Score 2016 | Rank 2016 | Country | Score 2016 | Rank 2016 | Country | Score 2016 | Rank 2016 |
| Slovakia | 81 | 2 | Maximum EU15+2 | 84 | 1 | Maximum EU15+2 | 66 | 2 |
| Slovenia | 78 | 3 | Czech Republic | 66 | 9 | Czech Republic | 63 | 11 |
| Czech Republic | 75 | 4 | Slovenia | 63 | 12 | Estonia | 63 | 12 |
| Maximum EU15+2 | 75 | 5 | Estonia | 61 | 14 | Poland | 61 | 14 |
| Hungary | 62 | 12 | Average EU15+2 | 60 | | Romania | 61 | 15 |
| Average EU15+2 | 55 | | Hungary | 58 | 15 | Hungary | 61 | 16 |
| Croatia | 54 | 16 | Poland | 54 | 19 | Lithuania | 58 | 17 |
| Poland | 52 | 19 | Latvia | 48 | 20 | Latvia | 56 | 20 |
| Minimum EU15+2 | 35 | 26 | Lithuania | 46 | 21 | Slovenia | 55 | 21 |
| Estonia | 35 | 27 | Croatia | 41 | 22 | Average EU15+2 | 55 | |
| Latvia | 33 | 29 | Slovakia | 38 | 25 | Bulgaria | 52 | 23 |
| Bulgaria | 26 | 30 | Bulgaria | 33 | 27 | Slovakia | 46 | 27 |
| Romania | 24 | 31 | Minimum EU15+2 | 23 | 31 | Croatia | 36 | 28 |
| Lithuania | 22 | 32 | Romania | 10 | 34 | Minimum EU15+2 | 10 | 33 |

| Education | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 72 | 1 |
| Estonia | 71 | 2 |
| Slovenia | 66 | 4 |
| Poland | 62 | 10 |
| Average EU15+2 | 59 | |
| Lithuania | 57 | 15 |
| Latvia | 56 | 16 |
| Czech Republic | 55 | 17 |
| Croatia | 52 | 20 |
| Hungary | 48 | 22 |
| Slovakia | 46 | 26 |
| Minimum EU15+2 | 39 | 27 |
| Bulgaria | 38 | 28 |
| Romania | 30 | 31 |

The Education indicator is also a composite of several sub-indicators – share of people with university education, share of early school leavers and the PISA results. Estonia, Slovenia and Poland are the top performers, respectively on 2nd, 4th and 10th position and above the average benchmark.

The sub-indicator on PISA scores reflects the overall quality of the education system. Here, Estonia excels among all 35 countries in the index, occupying the 1st place in the index, followed by Slovenia (3rd) and Poland (8th) and all three above the average. The Czech Republic has the same score as the average benchmark.

| PISA (education sub-indicator) | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Estonia | 77 | 1 |
| Maximum EU15+2 | 76 | 2 |
| Slovenia | 69 | 3 |
| Poland | 66 | 8 |
| Average EU15+2 | 59 | |
| Czech Republic | 59 | 16 |
| Latvia | 57 | 17 |
| Lithuania | 50 | 21 |
| Croatia | 50 | 22 |
| Hungary | 50 | 23 |
| Slovakia | 44 | 25 |
| Bulgaria | 31 | 27 |
| Romania | 30 | 29 |
| Minimum EU15+2 | 30 | 30 |

| Health | | |
|---|---|---|
| **Country** | **Score 2016** | **Rank 2016** |
| Maximum EU15+2 | 72 | 2 |
| Average EU15+2 | 64 | |
| Slovenia | 61 | 13 |
| Minimum EU15+2 | 55 | 19 |
| Czech Republic | 54 | 20 |
| Estonia | 49 | 21 |
| Croatia | 49 | 22 |
| Poland | 38 | 24 |
| Slovakia | 37 | 25 |
| Hungary | 33 | 28 |
| Lithuania | 31 | 29 |
| Latvia | 26 | 32 |
| Romania | 19 | 34 |
| Bulgaria | 18 | 35 |

The Health indicator uses several sub-indicators: life expectancy, healthy life expectancy, quality of the healthcare system and the infant mortality. The best performing country among the CEE states is Slovenia, which is also the closest to the average benchmark.

It is telling that even the worst performer in the EU15+2 group has higher scores than the majority of the newer member states, which have mediocre or poor results.

For example, two of the Health sub-indicators provide more details. The Life expectancy sub-indicators shows that Slovenia has markedly good performance and is closer to average benchmark. The other countries have poorer performance even than the minimum benchmark, unlike most other indicators. Several of the CEE countries are at the bottom of the ranking with lowest life expectancy.

| Life Expectancy (health sub-indicator) | | |
|---|---|---|
| **Country** | **Score 2016** | **Rank 2016** |
| Maximum EU15+2 | 76 | 1 |
| Average EU15+2 | 67 | |
| Slovenia | 62 | 18 |
| Minimum EU15+2 | 58 | 19 |
| Czech Republic | 46 | 20 |
| Croatia | 40 | 23 |
| Poland | 39 | 24 |
| Estonia | 36 | 25 |
| Slovakia | 34 | 26 |
| Hungary | 27 | 29 |
| Romania | 20 | 32 |
| Lithuania | 18 | 33 |
| Bulgaria | 17 | 34 |
| Latvia | 17 | 35 |

| EuroHealth Consumer Index (health sub-indicator) | | |
|---|---|---|
| **Country** | **Score 2016** | **Rank 2016** |
| Maximum EU15+2 | 91 | 1 |
| Czech Republic | 64 | 11 |
| Average EU15+2 | 62 | |
| Slovenia | 55 | 13 |
| Croatia | 55 | 14 |
| Estonia | 55 | 15 |
| Slovakia | 46 | 22 |
| Lithuania | 42 | 23 |
| Hungary | 33 | 25 |
| Minimum EU15+2 | 33 | 26 |
| Latvia | 31 | 27 |
| Bulgaria | 25 | 28 |
| Romania | 24 | 29 |
| Poland | 24 | 33 |

The quality of healthcare services is measured by the EuroHealth Consumer Index, as part of the Health indicator. The Czech Republic is performing very well and with 11th place and 64 points it is above the average benchmark. Slovenia, Croatia and Estonia and Slovakia follow suit with equal results.

| Human Development Index | | |
| --- | --- | --- |
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 77 | 1 |
| Average EU15+2 | 64 | |
| Slovenia | 62 | 13 |
| Czech Republic | 58 | 16 |
| Estonia | 55 | 18 |
| Slovakia | 48 | 20 |
| Poland | 48 | 21 |
| Lithuania | 47 | 22 |
| Minimum EU15+2 | 43 | 24 |
| Hungary | 43 | 25 |
| Latvia | 39 | 26 |
| Croatia | 39 | 27 |
| Romania | 30 | 29 |
| Bulgaria | 26 | 30 |

The Human Development Index of the United Nations is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living. Slovenia is the closest to the average benchmark and 13th position, followed by the Czech Republic and Estonia.

## Catching-up in the Democracy category

The differences within the group are visible in the Democracy Category too. Estonia and the Czech Republic are the best performers, close to the average benchmarks.
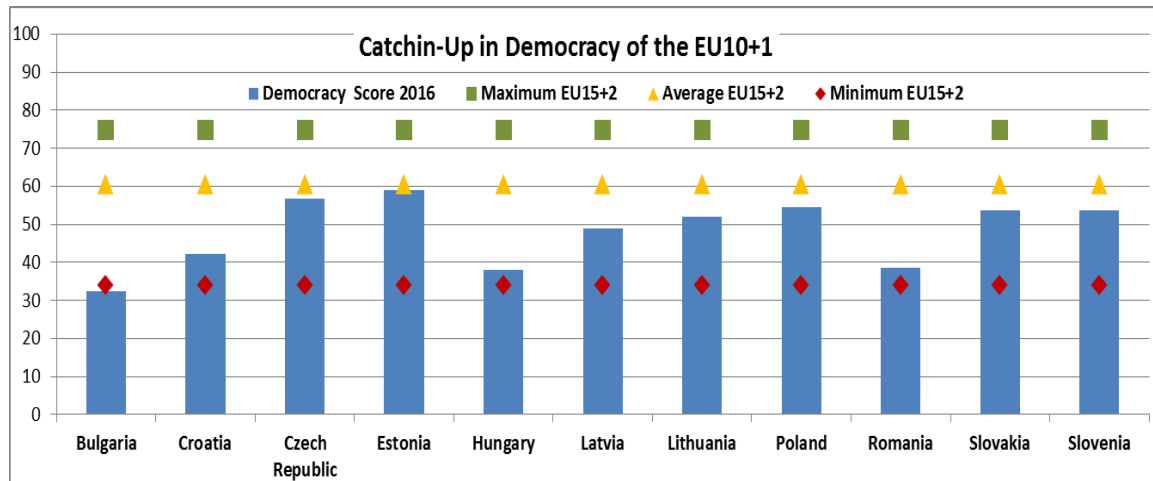


The 2016 ranking and the trends from the 2011 to the 2016 index show that Estonia, the Czech Republic are the closest to the desired level. Polamd and Slovakia has made the biggest advances in regard to the starting year in the index, climding 6 and 5 positions respectively. Croatia, Latvia and Romania have advanced too by 2, 2 and 3 positions respectively in Index 2016 ranking compared to the Index 2011.

Hungary witnesses the biggest decline in the Democracy category – 5 places down in the ranking compared to 2011 and a substantial 13 point drop in the scores for the same period. Slovenia and Bulgaria also experience 2 places drops in the ranking.

| Group | Country | Democracy Scores 2016 | Rank 2016 | Score change vs 2015 | Score change vs 2014 | Score change vs 2013 | Score change vs 2012 | Score change vs 2011 | Rank Change vs 2015 | Rank Change vs 2014 | Rank change vs 2013 | Rank change vs 2012 | Rank change vs 2011 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EU15+2 | Maximum | 75 | 1 | | | | | | | | | | |
| EU15+2 | Average | 60 | | | | | | | | | | | |
| EU10+1 | Estonia | 59 | 13 | 0 | -1 | 0 | 0 | 2 | 0 | -1 | -1 | -2 | -1 |
| EU10+1 | Czech Republic | 57 | 14 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | -1 | 0 |
| EU10+1 | Poland | 55 | 15 | -1 | 2 | 2 | 1 | 3 | 1 | 3 | 3 | 3 | 6 |
| EU10+1 | Slovakia | 54 | 18 | 1 | 1 | 3 | 1 | 5 | 1 | 1 | 2 | 1 | 5 |
| EU10+1 | Slovenia | 54 | 19 | 2 | 0 | -1 | 0 | -1 | 1 | -3 | -2 | -3 | -2 |
| EU10+1 | Lithuania | 52 | 21 | 0 | 1 | 3 | 2 | 1 | -3 | 0 | 0 | 0 | -1 |
| EU10+1 | Latvia | 49 | 23 | 2 | 6 | 9 | 8 | 5 | 0 | 1 | 3 | 3 | 2 |
| EU10+1 | Croatia | 42 | 25 | 1 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 2 |
| EU10+1 | Romania | 38 | 26 | 2 | 4 | 5 | 2 | 7 | 2 | 3 | 3 | 2 | 3 |
| EU10+1 | Hungary | 38 | 27 | 1 | -4 | -5 | -7 | -13 | 0 | -2 | -3 | -3 | -5 |
| EU15+2 | Minimum | 34 | 28 | | | | | | | | | | |
| EU10+1 | Bulgaria | 32 | 30 | -1 | -4 | -2 | -4 | -2 | -1 | -2 | -2 | -1 | -2 |

*(Table title: EU10+1 Catching-Up in Democracy: Change of Scores and Ranks)*

## Indicators in Democracy

| Satisfaction with Democracy | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 89 | 1 |
| Average EU15+2 | 60 | |
| Czech Republic | 59 | 13 |
| Latvia | 54 | 14 |
| Estonia | 51 | 16 |
| Poland | 50 | 17 |
| Slovakia | 38 | 23 |
| Hungary | 34 | 25 |
| Croatia | 32 | 27 |
| Bulgaria | 31 | 28 |
| Romania | 31 | 29 |
| Lithuania | 30 | 31 |
| Slovenia | 30 | 32 |
| Minimum EU15+2 | 17 | 35 |

Satisfaction with Democracy is based on results of public opinion surveys. The citizens of the Czech Republic, Latvia and Estonia are most content with the way democracy functions in their countries, occupying 13th, 14th and 16th position. Citizens in Bulgaria, Romania, Lithuania and Slovenia are the least satisfied with democracy in their countries and are at the bottom of the ranking.

Trust in People is a proxy indicator for civil society development. It measures to what extent people trust others that are not their immediate friends and relatives. This is a fundamental measure for a democratic society. The EU10+1 countries are perforing particularly and somewhat surprisingly well. Latvia, Slovenia, Romania have very high levels of trust in others and along with Lithiania are above the average bechmark. Poland, Estonia and Slovakia are perfoming well too. Bulgairia has the lowest level of trust among the EU10+1 countries and even among all 35 countries in the index.

| Trust in People | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 100 | 1 |
| Latvia | 66 | 6 |
| Slovenia | 66 | 7 |
| Romania | 64 | 9 |
| Lithuania | 59 | 13 |
| Average EU15+2 | 58 | |
| Poland | 57 | 14 |
| Estonia | 53 | 16 |
| Slovakia | 53 | 17 |
| Czech Republic | 43 | 24 |
| Hungary | 43 | 25 |
| Croatia | 40 | 26 |
| Minimum EU15+2 | 28 | 28 |
| Bulgaria | 23 | 30 |

| Media Freedom | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 76 | 1 |
| Estonia | 66 | 8 |
| Slovakia | 62 | 12 |
| Czech Republic | 61 | 14 |
| Average EU15+2 | 60 | |
| Lithuania | 56 | 16 |
| Latvia | 55 | 17 |
| Slovenia | 53 | 18 |
| Poland | 48 | 23 |
| Romania | 41 | 24 |
| Hungary | 36 | 26 |
| Croatia | 34 | 27 |
| Bulgaria | 29 | 30 |
| Minimum EU15+2 | 28 | 32 |

Media Freedom is an essential component of democracy and especially for the CEE countries. Estonia is doing particularly well as it ranks 8th among all 35 countries in the index. Slovakia and the Czech Republic follow suit and are above the average benchmark with 12th and 14th position, followed by Lithuania, Latvia and Slovenia. Bulgaria is at the bottom of the list with 30th position. The indicator used here is a composite one of the reports by Freedom House and Reporters without Borders.

The Democracy Indices is a composite score of Freedom House and Economist Intelligence Unit reports. The Czech Republic comes closest to the average benchmark, followed by Estonia, Slovenia and Lithuania. The criticism against Poland's democracy backsliding has not been yet registered by the surveys. Hungary, Bulgaria and Romania have the lowest level of democracy according to this indicator.

| Democracy Indices | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 74 | 1 |
| Average EU15+2 | 62 | |
| Czech Republic | 59 | 14 |
| Estonia | 57 | 18 |
| Slovenia | 56 | 19 |
| Lithuania | 55 | 20 |
| Poland | 55 | 21 |
| Slovakia | 54 | 23 |
| Croatia | 44 | 24 |
| Latvia | 43 | 25 |
| Minimum EU15+2 | 43 | 26 |
| Hungary | 38 | 27 |
| Bulgaria | 37 | 28 |
| Romania | 36 | 30 |

| Lack of Political Terror | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 65 | 1 |
| Czech Republic | 65 | 12 |
| Estonia | 65 | 13 |
| Poland | 65 | 14 |
| Slovakia | 65 | 15 |
| Slovenia | 65 | 16 |
| Croatia | 65 | 17 |
| Average EU15+2 | 55 | |
| Hungary | 48 | 22 |
| Latvia | 48 | 23 |
| Lithuania | 48 | 24 |
| Bulgaria | 31 | 28 |
| Romania | 31 | 29 |
| Minimum EU15+2 | 13 | 34 |

The Lack of Political Terror (not terrorism) indicator measures the violence and coercion for political ends, usually using the state against political opponents, implying human rights violations. The Czech Republic, Estonia and Poland perform very well, and with Slovakia, Slovenia and Croatia are above the average benchmark. Bulgaria and Romania have equal scores and low positions in the ranking.

The E-participation indicator measures the "ICT-supported participation in processes involved in government and governance". Poland, Lithuania and Estonia perform very well and are above the average benchmark with a number of other countries performing well too. Hungary is at the bottom of the ranking.

| E-participation | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 88 | 1 |
| Poland | 71 | 8 |
| Lithuania | 64 | 9 |
| Estonia | 61 | 13 |
| Average EU15+2 | 58 | |
| Croatia | 57 | 15 |
| Slovenia | 49 | 18 |
| Bulgaria | 45 | 21 |
| Romania | 35 | 26 |
| Czech Republic | 26 | 30 |
| Slovakia | 23 | 31 |
| Minimum EU15+2 | 21 | 32 |
| Latvia | 21 | 33 |
| Hungary | 16 | 35 |

## Catching-up in the Governance category

Estonia, the Czech Republic and Slovenia top the Governance catch-up process and are near the average benchmark, defined by the EU15+2 scores.
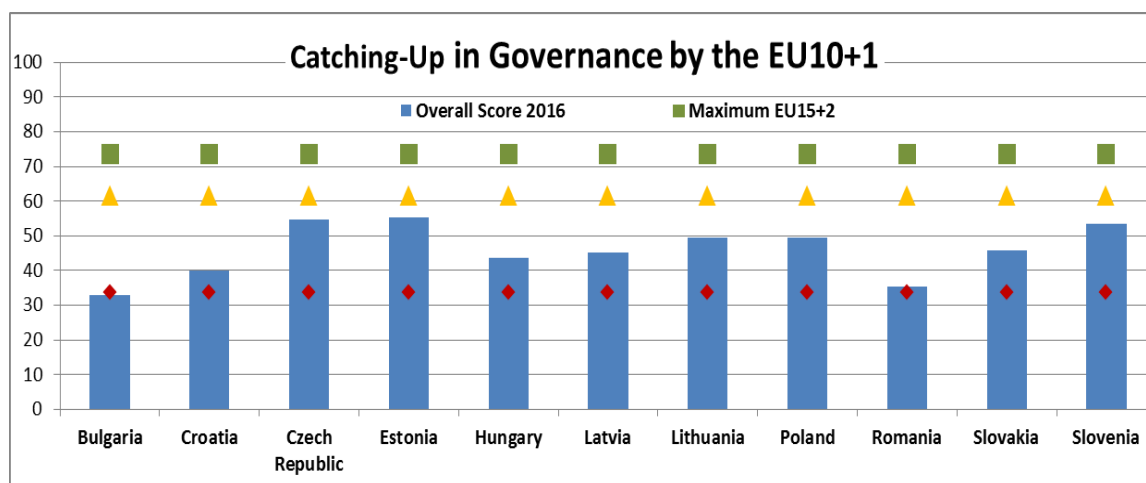


Estonia and Lithuania made the biggest advances in Governance, climbing 4 positions each compared to 2011. The Czech Republic and Hungary are the countries that lose positions, but at least the Czech Republic stays high in the ranking.

| | | | | EU10+1 Catching-Up in Governance: Change of Scores and Ranks | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Group | Country | Governance Score 2016 | Rank 2016 | Score change vs 2015 | Score change vs 2014 | Score change vs 2013 | Score change vs 2012 | Score change vs 2011 | Rank Change vs 2015 | Rank Change vs 2014 | Rank change vs 2013 | Rank change vs 2012 | Rank change vs 2011 |
| EU15+2 | Maximum | 74 | 1 | | | | | | | | | | |
| EU15+2 | Average | 61 | | | | | | | | | | | |
| EU10+1 | Estonia | 55 | 15 | 1 | 2 | 3 | 5 | 5 | -1 | 0 | 4 | 4 | 4 |
| EU10+1 | Czech Republic | 55 | 16 | 1 | 2 | -1 | -2 | -1 | 0 | 0 | -2 | -1 | 1 |
| EU10+1 | Slovenia | 53 | 17 | 1 | 0 | -1 | -2 | -4 | 1 | 0 | -1 | -1 | -3 |
| EU10+1 | Lithuania | 50 | 20 | 3 | 5 | 7 | 8 | 8 | 2 | 3 | 4 | 4 | 4 |
| EU10+1 | Poland | 49 | 21 | -2 | -2 | -2 | 0 | 1 | -1 | -1 | -1 | -1 | -1 |
| EU10+1 | Slovakia | 46 | 22 | -2 | -2 | -4 | -1 | -1 | -1 | -1 | -1 | -1 | -1 |
| EU10+1 | Latvia | 45 | 23 | -1 | 1 | 1 | 5 | 5 | 0 | 1 | 0 | 2 | 2 |
| EU10+1 | Hungary | 44 | 24 | 1 | -2 | -5 | -3 | -3 | 0 | -2 | -2 | -2 | -2 |
| EU10+1 | Croatia | 40 | 26 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| EU10+1 | Romania | 35 | 27 | 0 | 2 | 2 | 2 | 2 | 0 | 1 | 2 | 2 | 2 |
| EU15+2 | Minimum | 34 | 28 | | | | | | | | | | |
| EU10+1 | Bulgaria | 33 | 29 | 1 | 0 | -2 | -2 | -2 | 0 | 0 | -1 | -1 | -1 |

## Indicators in Governance

| Political Stability | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 77 | 1 |
| Slovenia | 66 | 7 |
| Czech Republic | 60 | 13 |
| Slovakia | 60 | 14 |
| Average EU15+2 | 58 | |
| Hungary | 58 | 15 |
| Poland | 49 | 19 |
| Lithuania | 49 | 20 |
| Romania | 48 | 21 |
| Estonia | 47 | 22 |
| Croatia | 43 | 25 |
| Latvia | 42 | 27 |
| Bulgaria | 37 | 30 |
| Minimum EU15+2 | 27 | 32 |

The indicators used for measuring governance show how the individual countries are performing. Some of the indicators use two or more sub-indicators.

Slovenia is among the most politically stable countries in the index, occupying 7th place out of 35, followed by the Czech Republic and Slovakia, which are even above the EU15+2 average.

In Corruption, Estonia is just one point below EU average and is the least corrupt country in the group, followed by Slovenia, Poland and Lithuania. Corruption uses the Transparency International and World Bank indices. It seems that Romania's anti-corruption policies are yielding results as it occupies 26th place (1-35) with a score of 32 (100-0).

| Corruption | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 81 | 1 |
| Average EU15+2 | 63 | |
| Estonia | 62 | 13 |
| Slovenia | 51 | 16 |
| Poland | 49 | 18 |
| Lithuania | 48 | 19 |
| Czech Republic | 43 | 21 |
| Latvia | 43 | 22 |
| Croatia | 38 | 23 |
| Slovakia | 37 | 24 |
| Hungary | 37 | 25 |
| Romania | 32 | 26 |
| Minimum EU15+2 | 30 | 29 |
| Bulgaria | 24 | 33 |

| Government Effectiveness | | |
| --- | --- | --- |
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 75 | 1 |
| Average EU15+2 | 62 | |
| Lithuania | 60 | 14 |
| Latvia | 58 | 16 |
| Estonia | 57 | 17 |
| Czech Republic | 55 | 18 |
| Slovenia | 49 | 20 |
| Slovakia | 46 | 22 |
| Poland | 46 | 23 |
| Croatia | 42 | 24 |
| Hungary | 41 | 25 |
| Minimum EU15+2 | 32 | 27 |
| Bulgaria | 30 | 29 |
| Romania | 17 | 34 |

The three Baltic countries have the most effective governments among the newer member states, according to the Government Effectiveness indicator (World Bank).

They also have the best Regulatory Quality with Estonia and Lithuania above the average benchmark.

| Regulatory Quality | | |
| --- | --- | --- |
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 78 | 1 |
| Estonia | 70 | 9 |
| Lithuania | 62 | 11 |
| Average EU15+2 | 62 | |
| Latvia | 53 | 16 |
| Czech Republic | 52 | 17 |
| Poland | 51 | 19 |
| Slovakia | 44 | 21 |
| Hungary | 42 | 23 |
| Slovenia | 40 | 25 |
| Romania | 39 | 26 |
| Bulgaria | 37 | 27 |
| Minimum EU15+2 | 30 | 29 |
| Croatia | 28 | 30 |

| Rule of Law | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 77 | 1 |
| Average EU15+2 | 63 | |
| Estonia | 61 | 13 |
| Czech Republic | 57 | 16 |
| Lithuania | 55 | 18 |
| Slovenia | 54 | 19 |
| Poland | 49 | 21 |
| Latvia | 49 | 22 |
| Slovakia | 42 | 23 |
| Hungary | 38 | 24 |
| Minimum EU15+2 | 35 | 26 |
| Croatia | 33 | 27 |
| Romania | 31 | 28 |
| Bulgaria | 22 | 32 |

Estonia, the Czech Republic and Lithuania have the highest level of Rule of Law. Bulgaria and Romania have the lowest, but Romania has relatively higher score – 22 vs 31 points – and is closer to Croatia.
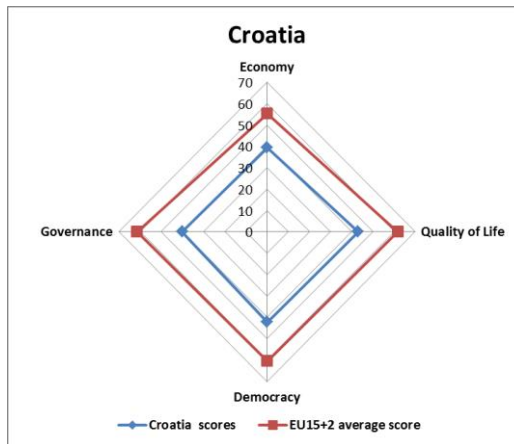
In the Internal Conflict and Crime indicator, the Baltic countries have one of the rare moments at the bottom of the ranking with Hungary close to them and the usual suspects of Romania and Bulgaria are performing better. The indicator is composed of the Homicide levels, as a proxy for crime, and a composite sub-indicator for internal tensions, based on the Peace Index.

| Internal Conflict and Crime | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 72 | 1 |
| Czech Republic | 66 | 7 |
| Average EU15+2 | 60 | |
| Slovenia | 59 | 12 |
| Croatia | 55 | 15 |
| Slovakia | 53 | 19 |
| Poland | 53 | 20 |
| Romania | 50 | 23 |
| Bulgaria | 49 | 24 |
| Minimum EU15+2 | 48 | 25 |
| Hungary | 46 | 26 |
| Estonia | 31 | 30 |
| Latvia | 27 | 31 |
| Lithuania | 21 | 34 |

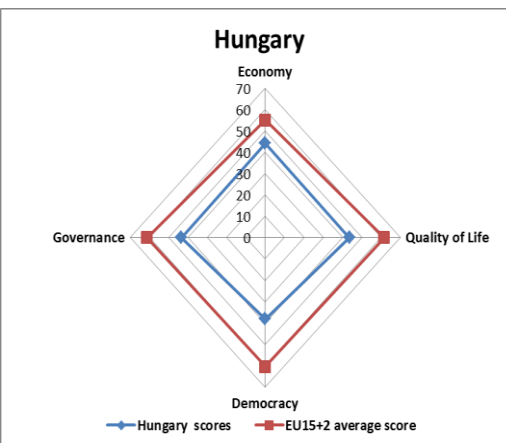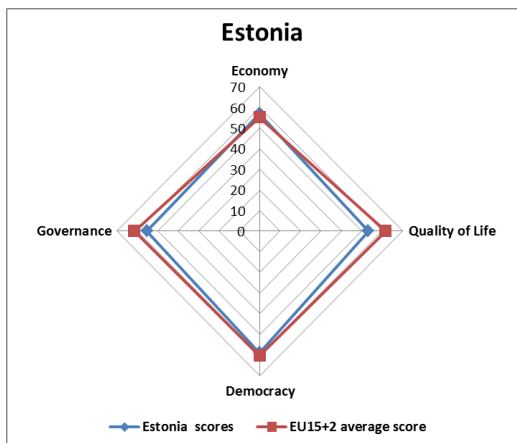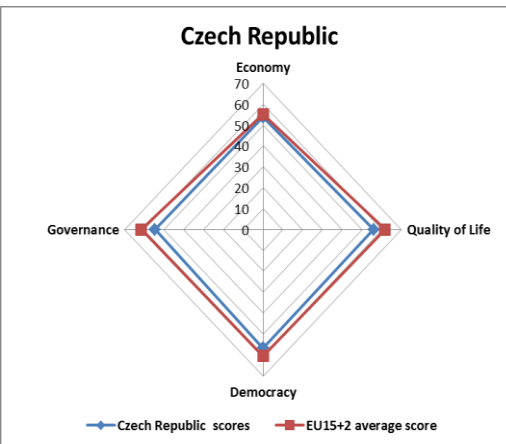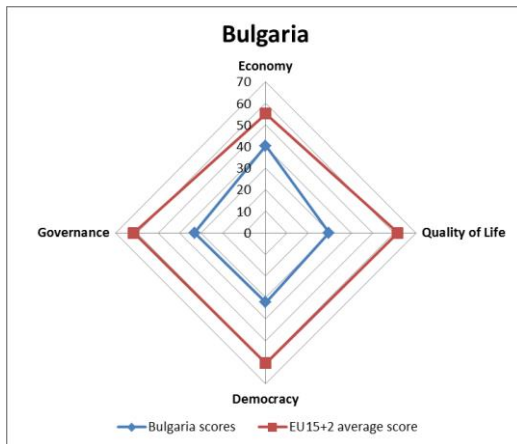| E-government | | |
|---|---|---|
| Country | Score 2016 | Rank 2016 |
| Maximum EU15+2 | 86 | 1 |
| Estonia | 69 | 7 |
| Average EU15+2 | 62 | |
| Slovenia | 59 | 12 |
| Lithuania | 58 | 14 |
| Poland | 48 | 19 |
| Croatia | 47 | 20 |
| Latvia | 41 | 24 |
| Hungary | 39 | 25 |
| Czech Republic | 34 | 27 |
| Bulgaria | 32 | 28 |
| Minimum EU15+2 | 26 | 30 |
| Slovakia | 24 | 31 |
| Romania | 18 | 33 |

There are no surprises in the E-government indicator results as IT-savvy Estonia occupies the 7th position among 35 countries and is well above the average benchmark, but Slovenia and Lithuania are performing decently themselves.
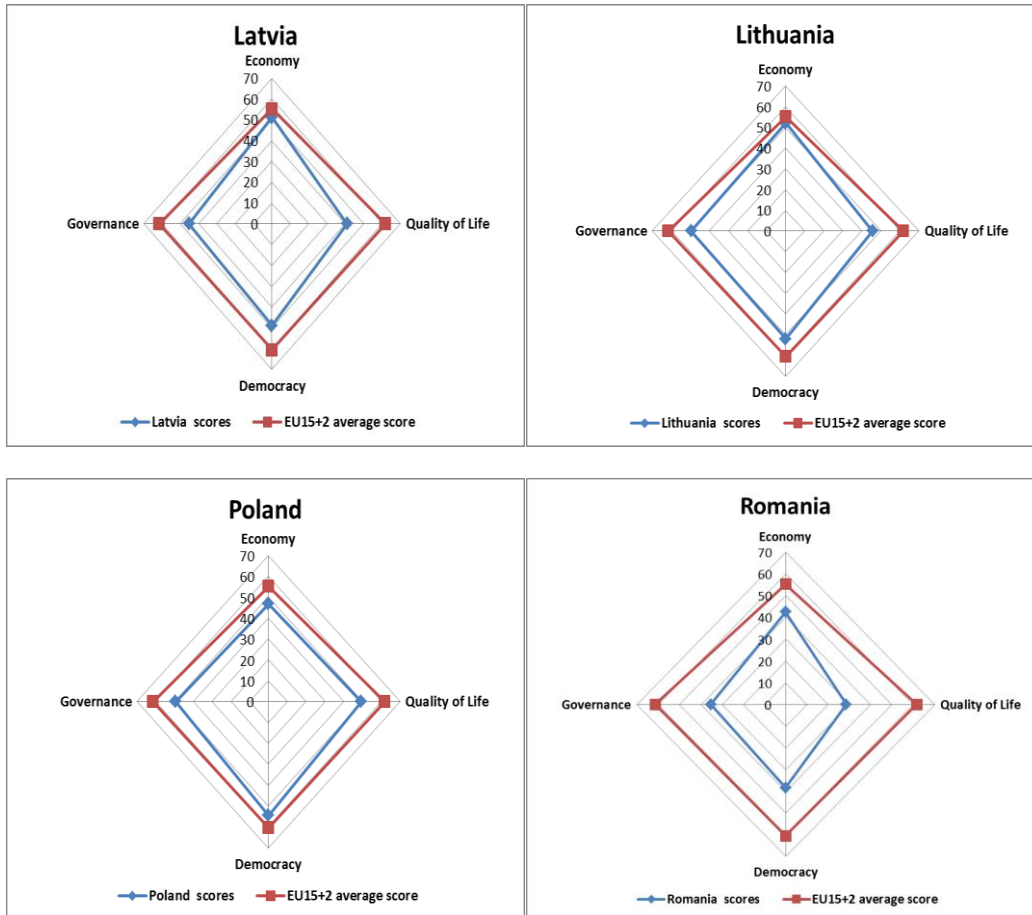
## Catching-up of the EU10+1 by country

**Croatia**

Economy · Quality of Life · Democracy · Governance

Croatia scores — EU15+2 average score

The spider graphs below compare the scores of each EU10+1 country in the four categories against the average score of the EU15+2 group. It is indicative that the best performing countries have more uniform performance in the four categories – i.e. similar scores – than the countries which are underperforming. This may mean that the success comes with good all-around performance that cannot neglect important aspect of development. This is in line also with the observation about correlation between the four categories – Economy, Quality of Life, Democracy and Governance – when the data about all 35 countries in the index is included.

**Bulgaria**

Economy · Quality of Life · Democracy · Governance

Bulgaria scores — EU15+2 average score

**Czech Republic**

Economy · Quality of Life · Democracy · Governance

Czech Republic scores — EU15+2 average score

**Estonia**

Economy · Quality of Life · Democracy · Governance

Estonia scores — EU15+2 average score

**Hungary**

Economy · Quality of Life · Democracy · Governance

Hungary scores — EU15+2 average score

64

**Latvia**

Economy

70
60
50
40
30
20
10
0

Governance

Quality of Life

Democracy

Latvia scores — EU15+2 average score

**Lithuania**

Economy

70
60
50
40
30
20
10
0

Governance

Quality of Life

Democracy

Lithuania scores — EU15+2 average score

**Poland**

Economy

70
60
50
40
30
20
10
0

Governance

Quality of Life

Democracy

Poland scores — EU15+2 average score

**Romania**

Economy

70
60
50
40
30
20
10
0

Governance

Quality of Life

Democracy

Romania scores — EU15+2 average score

# Supplement I: Country Scores by Indicators and Categories

| Economy Scores | GDP per capita<br>GDP per capita in PPS with EU27=100 | Government debt<br>General government debt (% of GDP) | Credit ratings<br>Sovereigns credit ratings | Employment<br>Employment as percentage of population, age group 15-64 | Energy Intensity<br>Energy intensity of the economy | Information Society<br>Information and Communication Technology | Research and Development — Patents granted by USPTO per capita | Research and Development — High-tech exports as % of manufactured exports | Market development — Doing Business rank | Market development — Economic Freedom score | Transport infrastructure — Motorways per area 1000 km2 | Transport infrastructure — Motorways per 100000 inhabitants | Transport infrastructure — Other roads per 1000 km2 | Transport infrastructure — Other roads per 100000 inhabitants | Economy Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Austria | 67 | 67 | 69 | 56 | 66 | 49 | 58 | 52 | 55 | 40 | 65 | 62 | 59 | 73 | 62 |
| Belgium | 63 | 48 | 60 | 53 | 61 | 67 | 51 | 95 | 54 | 29 | 42 | 51 | 62 | 66 | 56 |
| Cyprus | 47 | 49 | 38 | 36 | 63 | 60 | 75 | 60 | 56 | 27 | 39 | 52 | 35 | 27 | 43 |
| Denmark | 66 | 72 | 84 | 61 | 72 | 52 | 58 | 55 | 52 | 67 | 81 | 74 | 80 | 79 | 70 |
| Finland | 59 | 62 | 98 | 43 | 54 | 41 | 52 | 38 | 65 | 54 | 71 | 65 | 67 | 73 | 61 |
| France | 58 | 53 | 61 | 94 | 64 | 49 | 55 | 58 | 59 | 35 | 55 | 30 | 67 | 67 | 57 |
| Germany | 66 | 73 | 86 | 63 | 65 | 57 | 52 | 56 | 43 | 49 | 67 | 71 | 71 | 79 | 66 |
| Greece | 42 | 24 | 37 | 48 | 62 | 44 | 44 | 41 | 41 | 0 | 23 | 0 | 48 | 8 | 31 |
| Ireland | 75 | 51 | 61 | 87 | 71 | 45 | 57 | 51 | 67 | 36 | 66 | 81 | 64 | 55 | 63 |
| Italy | 53 | 36 | 47 | 39 | 68 | 50 | 44 | 44 | 35 | 14 | 34 | 27 | 47 | 43 | 43 |
| Luxembourg | 100 | 57 | 61 | 38 | 68 | 67 | 70 | 47 | 36 | 77 | 25 | 69 | 72 | 79 | 74 |
| Malta | 50 | 52 | 39 | 100 | 65 | 39 | 26 | 100 | 40 | 53 | 42 | 45 | 59 | 53 | 54 |
| Netherlands | 68 | 73 | 73 | 71 | 64 | 100 | 100 | 76 | 42 | 52 | 56 | 72 | 74 | 79 | 69 |
| Portugal | 45 | 52 | 36 | 32 | 63 | 55 | 74 | 36 | 29 | 16 | 59 | 40 | 44 | 35 | 42 |
| Spain | 52 | 39 | 39 | 39 | 65 | 53 | 78 | 38 | 33 | 33 | 52 | 51 | 57 | 46 | 48 |
| Sweden | 65 | 76 | 100 | 57 | 64 | 42 | 61 | 40 | 70 | 65 | 75 | 63 | 74 | 79 | 69 |
| UK | 60 | 70 | 61 | 74 | 68 | 47 | 35 | 55 | 40 | 39 | 77 | 78 | 77 | 69 | 62 |
| Bulgaria | 31 | 50 | 36 | 40 | 12 | 42 | 40 | 37 | 32 | 74 | 45 | 42 | 39 | 39 | 40 |
| Czech Republic | 48 | 65 | 39 | 58 | 43 | 44 | 38 | 43 | 37 | 66 | 57 | 67 | 50 | 61 | 54 |
| Estonia | 44 | 69 | 43 | 49 | 22 | 41 | 43 | 50 | 100 | 84 | 72 | 80 | 67 | 61 | 57 |
| Hungary | 41 | 52 | 39 | 56 | 49 | 48 | 55 | 43 | 40 | 47 | 43 | 43 | 39 | 41 | 44 |
| Latvia | 39 | 61 | 36 | 59 | 49 | 39 | 26 | 45 | 84 | 69 | 70 | 57 | 47 | 52 | 51 |
| Lithuania | 44 | 59 | 36 | 51 | 51 | 42 | 43 | 46 | 70 | 65 | 63 | 74 | 47 | 52 | 52 |
| Poland | 41 | 50 | 36 | 43 | 46 | 42 | 33 | 45 | 40 | 60 | 60 | 54 | 38 | 51 | 47 |
| Romania | 36 | 47 | 36 | 39 | 46 | 41 | 32 | 39 | 35 | 68 | 48 | 41 | 30 | 40 | 43 |
| Slovakia | 45 | 49 | 36 | 46 | 49 | 43 | 39 | 45 | 42 | 59 | 51 | 45 | 44 | 58 | 49 |
| Slovenia | 48 | 55 | 40 | 37 | 54 | 57 | 86 | 57 | 63 | 42 | 54 | 25 | 50 | 49 | 48 |
| Croatia | 36 | 35 | 36 | 43 | 53 | 50 | 75 | 40 | 39 | 40 | 41 | 20 | 46 | 31 | 39 |
| Macedonia | 27 | 18 | 35 | 28 | 29 | 44 | 46 | 41 | 40 | 68 | 74 | 48 | 24 | 30 | 36 |
| Turkey | 34 | 23 | 35 | 26 | 43 | 41 | 31 | 38 | 33 | 71 | 15 | 30 | 18 | 35 | 36 |
| Montenegro | 29 | 24 | 35 | 25 | 37 | 39 | 26 | 42 | 54 | 52 | 33 | 39 | 26 | 23 | 33 |
| Iceland | 66 | 95 | 77 | 72 | 0 | 39 | 31 | 36 | 100 | 51 | 64 | 67 | 82 | 49 | 60 |
| Albania | 24 | 24 | 35 | 24 | 49 | 39 | 26 | 36 | 30 | 49 | 26 | 42 | 3 | 23 | 29 |
| BIH | 24 | 0 | 35 | 27 | 2 | 41 | 32 | 39 | 37 | 64 | 3 | 18 | 9 | 16 | 23 |
| Serbia | 27 | 22 | 35 | 29 | 14 | 44 | 42 | 42 | 39 | 45 | 6 | 30 | 36 | 26 | 29 |

| Quality of Life Scores | Welfare of consumers | Social issues | | | Education | | | | | Health | | | | Human Development | Quality of Life Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Actual individual consumption with EU27=100 | Inequality - Gini coefficient | Relative median at-risk-of-poverty gap (%) | Long term unemployment rate (%) | Share (%) of early school leavers | Share of population (%) with university degree | PISA score in reading literacy | PISA score mathematical literacy | PISA score in scientific literacy | Healthy life expectancy at birth in years | Infant mortality by age of 5 | Life expectancy in years | EuroHealth Consumer Index | Human Development Index | Quality of Life Score |
| Austria | 76 | 66 | 62 | 65 | 62 | 57 | 61 | 56 | 63 | 69 | 61 | 65 | 66 | 63 | 66 |
| Belgium | 71 | 71 | 71 | 56 | 55 | 68 | 65 | 63 | 68 | 61 | 57 | 63 | 77 | 65 | 66 |
| Cyprus | 55 | 35 | 68 | 48 | 66 | 77 | 27 | 34 | 29 | 62 | 66 | 73 | 36 | 51 | 53 |
| Denmark | 72 | 66 | 58 | 65 | 60 | 63 | 65 | 64 | 71 | 61 | 61 | 58 | 70 | 77 | 68 |
| Finland | 72 | 75 | 84 | 63 | 57 | 75 | 81 | 78 | 71 | 60 | 69 | 63 | 78 | 63 | 69 |
| France | 70 | 58 | 76 | 57 | 57 | 63 | 61 | 63 | 60 | 74 | 56 | 73 | 67 | 64 | 65 |
| Germany | 79 | 52 | 54 | 64 | 55 | 46 | 69 | 69 | 68 | 62 | 60 | 62 | 76 | 75 | 67 |
| Greece | 48 | 38 | 33 | 10 | 60 | 50 | 39 | 47 | 39 | 68 | 54 | 64 | 33 | 56 | 47 |
| Ireland | 58 | 52 | 72 | 53 | 62 | 80 | 65 | 75 | 67 | 64 | 60 | 63 | 51 | 74 | 64 |
| Italy | 60 | 45 | 40 | 48 | 44 | 26 | 53 | 56 | 57 | 76 | 61 | 75 | 48 | 59 | 55 |
| Luxembourg | 89 | 60 | 75 | 65 | 57 | 74 | 54 | 54 | 57 | 67 | 72 | 69 | 76 | 66 | 71 |
| Malta | 48 | 63 | 72 | 63 | 32 | 32 | 44 | 36 | 53 | 66 | 42 | 68 | 47 | 47 | 51 |
| Netherlands | 70 | 70 | 72 | 61 | 59 | 63 | 69 | 66 | 71 | 71 | 59 | 66 | 91 | 77 | 70 |
| Portugal | 50 | 38 | 37 | 47 | 46 | 39 | 64 | 63 | 60 | 63 | 60 | 63 | 52 | 43 | 49 |
| Spain | 53 | 36 | 23 | 33 | 32 | 67 | 60 | 62 | 57 | 73 | 57 | 76 | 53 | 60 | 53 |
| Sweden | 70 | 75 | 64 | 66 | 62 | 71 | 60 | 64 | 61 | 69 | 64 | 69 | 68 | 71 | 68 |
| UK | 74 | 45 | 63 | 66 | 53 | 80 | 69 | 63 | 60 | 63 | 56 | 63 | 60 | 71 | 66 |
| Bulgaria | 27 | 26 | 33 | 52 | 47 | 47 | 34 | 28 | 31 | 17 | 15 | 17 | 25 | 26 | 29 |
| Czech Republic | 45 | 75 | 66 | 63 | 64 | 36 | 60 | 57 | 60 | 45 | 62 | 46 | 64 | 58 | 56 |
| Estonia | 40 | 35 | 61 | 63 | 52 | 70 | 83 | 74 | 76 | 41 | 65 | 36 | 55 | 55 | 53 |
| Hungary | 35 | 62 | 58 | 61 | 51 | 39 | 51 | 48 | 51 | 26 | 45 | 27 | 33 | 43 | 44 |
| Latvia | 37 | 33 | 48 | 56 | 55 | 57 | 58 | 58 | 54 | 24 | 32 | 17 | 31 | 39 | 41 |
| Lithuania | 49 | 22 | 46 | 58 | 66 | 70 | 50 | 49 | 52 | 14 | 50 | 18 | 42 | 47 | 46 |
| Poland | 43 | 52 | 54 | 61 | 66 | 48 | 64 | 67 | 67 | 38 | 50 | 39 | 24 | 48 | 49 |
| Romania | 32 | 24 | 10 | 61 | 34 | 25 | 28 | 29 | 33 | 21 | 10 | 20 | 24 | 30 | 28 |
| Slovakia | 45 | 81 | 38 | 46 | 62 | 34 | 42 | 39 | 50 | 33 | 36 | 34 | 46 | 48 | 46 |
| Slovenia | 43 | 78 | 63 | 55 | 67 | 53 | 71 | 67 | 70 | 61 | 67 | 62 | 55 | 62 | 59 |
| Croatia | 32 | 54 | 41 | 36 | 72 | 36 | 50 | 57 | 44 | 45 | 56 | 40 | 55 | 39 | 43 |
| Macedonia | 19 | 33 | 16 | 0 | 52 | 28 | 0 | 0 | 0 | 27 | 48 | 23 | 54 | 13 | 21 |
| Turkey | 32 | 5 | 41 | 64 | 0 | 24 | 22 | 26 | 19 | 15 | 0 | 41 | 24 | 18 | 25 |
| Montenegro | 27 | 47 | 33 | 26 | 65 | 30 | 14 | 26 | 18 | 31 | 53 | 30 | 17 | 33 | 33 |
| Iceland | 73 | 81 | 58 | 69 | 25 | 66 | 49 | 55 | 58 | 75 | 71 | 73 | 75 | 69 | 67 |
| Albania | 16 | 55 | 33 | 33 | 4 | 15 | 23 | 14 | 15 | 39 | 0 | 42 | 24 | 8 | 21 |
| BIH | 17 | 22 | 16 | 0 | 0 | 13 | 14 | 26 | 18 | 37 | 48 | 29 | 24 | 8 | 17 |
| Serbia | 22 | 21 | 12 | 30 | 61 | 28 | 34 | 28 | 31 | 29 | 40 | 23 | 29 | 22 | 27 |

| Democracy Scores | Satisfaction with democracy | Trust in People | Democracy Indices | | Media Freedom | | Voice and Accountability | Human Rights | E-participation | |
| | Satisfaction with democracy % | Trust in people | Freedom House score Freedom in the World | Economist Intelligence Unit Democracy Index | Freedom of the Press score by Freedom House | Press Freedom Index by Reporters without Borders | Voice and Accountability - WGI | Disrespect for human rights by Global Peace Index | E-participation index | Democracy Score |
|---|---|---|---|---|---|---|---|---|---|---|
| Austria | 66 | 55 | 62 | 65 | 58 | 68 | 70 | 65 | 71 | 64 |
| Belgium | 64 | 51 | 62 | 55 | 74 | 66 | 69 | 65 | 38 | 62 |
| Cyprus | 34 | 28 | 62 | 46 | 56 | 57 | 53 | 31 | 21 | 47 |
| Denmark | 89 | 100 | 62 | 75 | 72 | 78 | 73 | 65 | 61 | 75 |
| Finland | 78 | 83 | 62 | 74 | 74 | 78 | 73 | 65 | 76 | 72 |
| France | 42 | 38 | 62 | 57 | 51 | 45 | 60 | 48 | 73 | 53 |
| Germany | 67 | 47 | 62 | 67 | 62 | 65 | 71 | 65 | 54 | 63 |
| Greece | 17 | 43 | 38 | 47 | 25 | 31 | 40 | 13 | 33 | 34 |
| Ireland | 70 | 64 | 62 | 68 | 66 | 70 | 68 | 65 | 47 | 66 |
| Italy | 40 | 51 | 62 | 54 | 47 | 34 | 50 | 31 | 76 | 49 |
| Luxembourg | 86 | 47 | 62 | 71 | 71 | 66 | 72 | 65 | 45 | 67 |
| Malta | 67 | 60 | 62 | 63 | 58 | 45 | 60 | 65 | 57 | 60 |
| Netherlands | 79 | 74 | 62 | 72 | 74 | 78 | 74 | 65 | 80 | 71 |
| Portugal | 45 | 43 | 62 | 53 | 64 | 59 | 58 | 48 | 40 | 54 |
| Spain | 32 | 62 | 62 | 57 | 51 | 54 | 52 | 48 | 78 | 54 |
| Sweden | 81 | 74 | 62 | 86 | 74 | 70 | 76 | 65 | 54 | 73 |
| UK | 63 | 59 | 62 | 62 | 55 | 50 | 67 | 65 | 88 | 61 |
| Bulgaria | 31 | 23 | 38 | 35 | 35 | 22 | 32 | 31 | 45 | 32 |
| Czech Republic | 59 | 43 | 62 | 55 | 60 | 61 | 52 | 65 | 26 | 57 |
| Estonia | 51 | 53 | 62 | 52 | 67 | 66 | 59 | 65 | 61 | 59 |
| Hungary | 34 | 43 | 38 | 38 | 35 | 36 | 38 | 48 | 16 | 38 |
| Latvia | 54 | 66 | 38 | 47 | 51 | 59 | 45 | 48 | 21 | 49 |
| Lithuania | 30 | 59 | 62 | 48 | 58 | 54 | 49 | 48 | 64 | 52 |
| Poland | 50 | 57 | 62 | 47 | 51 | 45 | 54 | 65 | 71 | 55 |
| Romania | 31 | 64 | 38 | 34 | 38 | 44 | 33 | 31 | 35 | 38 |
| Slovakia | 38 | 53 | 62 | 45 | 56 | 68 | 48 | 65 | 23 | 54 |
| Slovenia | 30 | 66 | 62 | 49 | 58 | 49 | 47 | 65 | 49 | 54 |
| Croatia | 32 | 40 | 50 | 38 | 33 | 36 | 36 | 65 | 57 | 42 |
| Macedonia | 54 | 13 | 2 | 26 | 6 | 18 | 11 | 31 | 33 | 19 |
| Turkey | 49 | 28 | 2 | 7 | 0 | 0 | 3 | 0 | 35 | 11 |
| Montenegro | 39 | 23 | 14 | 21 | 34 | 26 | 23 | 31 | 64 | 26 |
| Iceland | 70 | 76 | 62 | 83 | 68 | 64 | 71 | 65 | 40 | 70 |
| Albania | 31 | 23 | 14 | 17 | 21 | 32 | 24 | 31 | 38 | 23 |
| BIH | 26 | 17 | 2 | 2 | 22 | 35 | 13 | 31 | 18 | 15 |
| Serbia | 20 | 23 | 38 | 34 | 29 | 37 | 26 | 48 | 64 | 34 |

| | Corruption | | Political Stability | | Government | Regulations | Rule of Law | Conflict and tensions | | E-government | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Governance Score** | Corruption Perception Index (TI) | Control of Corruption (WGI) | Political instability EIU | Political Stability and Absence of Violence (WGI) | Governement Effectiveness (WGI) | Regulatory Quality (WGI) | Rule of Law (WGI) | Global Peace Index | Homicide rates (UN) | E-government Development Index | Governance Score |
| Austria | 67 | 70 | 76 | 66 | 67 | 72 | 68 | 75 | 66 | 67 | 69 |
| Belgium | 68 | 61 | 49 | 64 | 62 | 64 | 69 | 56 | 45 | 61 | 61 |
| Cyprus | 49 | 54 | 45 | 54 | 52 | 56 | 57 | 36 | 72 | 26 | 52 |
| Denmark | 85 | 70 | 61 | 75 | 72 | 76 | 77 | 75 | 58 | 73 | 73 |
| Finland | 84 | 57 | 73 | 74 | 77 | 77 | 78 | 69 | 48 | 79 | 72 |
| France | 60 | 54 | 40 | 65 | 56 | 63 | 66 | 52 | 55 | 72 | 58 |
| Germany | 73 | 70 | 54 | 71 | 70 | 68 | 71 | 62 | 59 | 67 | 67 |
| Greece | 32 | 35 | 19 | 32 | 30 | 35 | 28 | 23 | 72 | 43 | 34 |
| Ireland | 66 | 70 | 63 | 67 | 77 | 69 | 70 | 62 | 56 | 57 | 67 |
| Italy | 29 | 44 | 42 | 39 | 41 | 35 | 32 | 43 | 61 | 59 | 41 |
| Luxembour | 73 | 70 | 84 | 70 | 71 | 72 | 75 | 81 | 63 | 58 | 72 |
| Malta | 44 | 54 | 73 | 47 | 57 | 58 | 56 | 62 | 52 | 52 | 55 |
| Netherlands | 80 | 70 | 64 | 75 | 75 | 74 | 73 | 62 | 63 | 76 | 72 |
| Portugal | 52 | 67 | 60 | 60 | 50 | 58 | 57 | 72 | 59 | 47 | 58 |
| Spain | 46 | 44 | 41 | 59 | 43 | 52 | 45 | 62 | 63 | 66 | 51 |
| Sweden | 83 | 70 | 67 | 73 | 76 | 76 | 77 | 75 | 59 | 76 | 74 |
| UK | 73 | 67 | 46 | 70 | 78 | 70 | 73 | 49 | 59 | 86 | 68 |
| Bulgaria | 26 | 41 | 33 | 30 | 37 | 22 | 22 | 49 | 48 | 32 | 33 |
| Czech Repu | 44 | 54 | 66 | 55 | 52 | 57 | 43 | 69 | 63 | 34 | 55 |
| Estonia | 60 | 44 | 50 | 57 | 70 | 61 | 65 | 36 | 25 | 69 | 55 |
| Hungary | 38 | 61 | 55 | 41 | 42 | 38 | 36 | 43 | 50 | 39 | 44 |
| Latvia | 42 | 41 | 44 | 58 | 53 | 49 | 44 | 43 | 12 | 41 | 45 |
| Lithuania | 49 | 44 | 53 | 60 | 62 | 55 | 46 | 43 | 0 | 58 | 50 |
| Poland | 51 | 38 | 60 | 46 | 51 | 49 | 46 | 43 | 63 | 48 | 49 |
| Romania | 32 | 57 | 38 | 17 | 39 | 31 | 32 | 49 | 50 | 18 | 35 |
| Slovakia | 38 | 54 | 65 | 46 | 44 | 42 | 37 | 49 | 56 | 24 | 46 |
| Slovenia | 48 | 70 | 62 | 49 | 40 | 54 | 53 | 56 | 63 | 59 | 53 |
| Croatia | 38 | 38 | 47 | 42 | 28 | 33 | 38 | 49 | 61 | 47 | 40 |
| Macedonia | 27 | 12 | 20 | 25 | 31 | 19 | 28 | 17 | 48 | 23 | 25 |
| Turkey | 27 | 2 | 0 | 30 | 27 | 25 | 29 | 0 | 6 | 30 | 20 |
| Montenegro | 29 | 38 | 36 | 27 | 21 | 28 | 30 | 30 | 23 | 39 | 29 |
| Iceland | 71 | 70 | 81 | 67 | 60 | 66 | 74 | 75 | 69 | 57 | 68 |
| Albania | 20 | 18 | 42 | 20 | 20 | 9 | 13 | 36 | 11 | 13 | 20 |
| BIH | 22 | 0 | 12 | 0 | 3 | 14 | 18 | 30 | 53 | 9 | 14 |
| Serbia | 25 | 38 | 39 | 25 | 16 | 24 | 25 | 33 | 53 | 47 | 29 |

## Supplement II: Country Abbreviations

**EU27** - European Union with the 27 member states
**EU15+2** – the 15 member states before the 2004 enlargement plus Cyprus and Malta
**EU10+1** – the countries of the fifth enlargement in 2004, 2007 as well as Croatia in 2013
**CC** – Candidate countries
**PCC** – Potential candidate countries


**BE** **Belgium**
**CZ** **Czech Republic**
**BG** **Bulgaria**
**DK** **Denmark**
*D-E* *East Germany*
**DE** **Germany**
*D-W* *West Germany*
**EE** **Estonia**
**EL** **Greece**
**ES** **Spain**
**FR** **France**
**IE** **Ireland**
**IT** **Italy**
**CY** **Republic of Cyprus ***
**CY (tcc)** **Zone not controlled by the government of the Republic of Cyprus**
**LT** **Lithuania**
**LV** **Latvia**
**LU** **Luxembourg**
**HU** **Hungary**
**MT** **Malta**
**NL** **Netherlands**
**AT** **Austria**
**PL** **Poland**
**PT** **Portugal**
**RO** **Romania**
**SI** **Slovenia**
**SK** **Slovakia**
**FI** **Finland**
**SE** **Sweden**
**UK** **United Kingdom**

**HR**     **Croatia**

**TR**     **Turkey**

**MK**     **Republic of Macedonia**

## Supplement III: About the Catch Up Index. How is the "Catching-Up" Measured?

The Catch Up Index is a composite index, using a specifically designed model developed by EuPI of OSI-Sofia. The Catch Up Index includes 35 countries selected on a political criteria as it covers the 27 EU member states, the 5 candidate and 3 potential candidate countries. The only exception is Kosovo, as there is not enough comparable statistical data available about it and despite the efforts, the lack of data left Kosovo outside of the index.

The metric is based on rescaling the raw data on a scale from 0 to 100 (lowest to highest) to establish each country's score, and ranking each country from 1 to 35 (highest to lowest). The standardized scores make possible different rankings, comparisons, benchmarking, monitoring of performance for countries and groups of countries across categories and indicators and contribute to policy analysis and recommendations.

The Catch Up Index contains four categories - Economy, Quality of Life, Democracy and Governance for the 35 countries included in the index. There are scores for each category: Economy Score, Quality of Life Score, Democracy Score and Governance Score and each category has an equal weight with the other categories. There is an Overall Score, composed of the scores for the four categories.

Each category is measured through selected indicators and sub-indicators. The various data for the indicators is converted into scores, weighted on the basis of the index methodology. The indicator scores make up the scores for the four different categories. The weights have been attributed to the indicators or sub-indicators by the expert team, based on the importance assigned to them.

The Catch-Up Index was initially designed to capture the progress of the EU10 countries in matching the rest of the EU in the categories of Economy, Quality of Life, Democracy and Governance.

But the Index allows for much broader observations and findings to be made by examining the performance of the 35 countries, comparing them across the four categories and 47 indicators and sub-indicators, and eliciting conclusions from the interdependence between the factors that define the performance. The Index allows for what is essentially multi-dimensional mapping of present-day Europe by superimposing the four fundamental categories. The index data do not only indicate a country's progress or degree of similarity relative to its peers, but also how far it is from the desired goals.

### Benchmarking the EU10

In addition to the ranking of countries according to their score, there are also several benchmarks to help measure the catch up index - the average, maximum and minimum scores by groups. There are four main and one additional such benchmarks. First, there is the EU15+2 Average Score, calculated as the compare means scores of the 15 "old" EU member states plus Cyprus and Malta, which are considered as part of this group too ("Western" countries vs post-communist countries). Second, there is the EU15+2 Max (maximum) score of the highest ranking country in this group. Third, there is the EU15+2 Min (minimum) score of the lowest ranking country in this group. Fourth, there is the EU10 Average Score, calculated as the compare means scores of the 10 "new" EU member states scores. Fifth, there is the EU27 Average Score, calculated as the compare means of the scores of all 27 EU member states.

Being aware of the limitations of Catch Up Index model and in order to provide readers with the opportunity to take advantage of the Catch-Up Index data, a special online platform has been created at www.TheCatchUpIndex.eu , where users can both view and work interactively with the data. The users of the platform can create their own "catching up" models and comparisons across countries and indicators, and visualize the outcomes in different ways.

## The Economy category explained: Methodology notes

The Economy category measures the economic performance and potential of the countries in the index. Each of the four categories in the Catch Up Index are ascribed equal importance in terms of calculating a country's overall score.

The Economy category is measured through a set of nine indicators, each of which captures a different aspect of economic performance. Some indicators gauge more than one aspect of economic performance. The metrics of the indicators are based on 14 sub-indicators, of varying weightings. The specific indicators and the weightings assigned to the sub-indicators reflect the unique model of the Catch Up Index.

The raw data used for the indicators (e.g. GDP per capita or other composite indicator scores or coefficients) are converted into a Catch-Up Index score on a scale of 0 to 100 (lowest to highest) to allow for a standardized score that can be compared across countries or categories and indicators. Each of the indicators has different weight assigned to it, according to its importance in the Catch Up Index model.

| Economy Indicators | Sub-indicators | Weight* |
|---|---|---|

73

| GDP per capita | GDP per capita in PPS, EU27=100 | 25% (0,25) |
|---|---|---|
| Government debt | General government debt (% of GDP) | 13% (0,125) |
| Credit ratings | Sovereign credit ratings | 13% (0,125) |
| Employment | Employment rate % | 8% (0,083) |
| Energy Intensity | Energy intensity of the economy | 8% (0,083) |
| Information Society | Information and Communication Technology | 8% (0,083) |
| Research and Development | Patents granted by USPTO per capita | 4% (0,042) |
| | High-tech exports as % of manufactured exports | 4% (0,042) |
| Market development | Doing Business rank | 4% (0,042) |
| | Economic Freedom score | 4% (0,042) |
| Transport infrastructure | Motorways per area 1000 km$^2$ | 2% (0,021) |
| | Motorways per 100,000 inhabitants | 2% (0,021) |
| | Other roads per 1000 km$^2$ | 2% (0,021) |
| | Other roads per 100,000 inhabitants | 2% (0,021) |
| ***The weight in percentages is an approximation, and the weight is also provided in fractions (the total sum is 100% or 1).* | | |

**GDP per Capita** (PPS with EU27=100 basis, Eurostat) remains the most important indicator of economic activity and is assigned 25% (0.25) weight in the total Economy category.

**Government Debt**, measured as a % of GDP, is second in importance with 12.5%. The global economic calamities of recent years, and especially the ongoing debt crisis in Europe, have clearly demonstrated the critical importance of government debt as a factor for the economic vitality of a country.

The **Sovereign Credit Ratings** – or creditworthiness and level of investment risk - of a country are also attributed high importance in the index, with a 12.5% (0,125) weight. The index uses a composite, rescaled score of the ratings of the three major agencies (Fitch, Moody's and Standard & Poors).

**Employment**, with a weight of 8% (0,083) is a measure of an economy's potential to generate jobs and integrate as much as possible of the labor force in the labor market; this is measured through the share of working-age people in employment.

**Energy Intensity**, also ascribed an 8% weighting, is a measure of an economy's energy efficiency, calculating energy consumption divided by GDP as kilogram of oil equivalent per €1000. Energy intensity is also an important measure of an economy's competitiveness, because high energy inefficiency incurs more costs in production and services.

**Research and Development**, again with a weight of 8% (0,083) is a measure of the level of development and the "quality" of contemporary economies, including their competiveness. The index uses two sub-indicators. The first is the number of patents registered from a country with the United States Patent and Trademark Office (USPTO) annually on a per capita basis. The second indicator is the share of high-tech exports in a country's manufactured exports.

The **Market Development** indicator (also 8% (0,083)) is the composite score of two sub-indicators – the World Bank's Ease of Doing Business ranking and the Heritage Foundation/Wall Street Journal Index of Economic Freedom. The latter defines the highest form of economic freedom as "an absolute right of property ownership, fully realized freedoms of movement for labor, capital, and goods, and an absolute absence of coercion or constraint of economic liberty beyond the extent necessary for citizens to protect and maintain liberty itself."

The **Transport Infrastructure Indicator** (8% (0,083)) is a measure of a country's economic development and its potential for economic activity. The index uses four sub-indicators, based on calculating coefficients of motorways and other roads on a per capita and country area basis.

# The ingredients of democracy: Methodology notes

Catching up in Democracy is essential for the post-communist member states of the EU, particularly given that the Copenhagen accession criteria for EU membership primarily focused on democracy. But although EU membership has often been perceived as a watershed in the political transition of the EU10 group, or even the end of that transition, it now appears that the newer members may not have achieved parity with more developed European nations in their progress in building democratic institutions and societies.

The Catch-Up Index was designed to analyse several aspects of democracy that are of particular significance for the newer member states, and those that are aspiring to be.

The Democracy category has equal weighting with the other three categories in the Catch-Up Index (Economy, Quality of Life and Governance). This category is measured through a set of seven indicators, which use nine sub-indicators. The raw data drawn from opinion polls and other composite indicator scores are converted into the Catch-Up Index score on a scale of 0 to 100 (lowest to highest) to give a standardized score that allows for comparison across countries, categories and indicators. Each of the indicators has a different weight assigned to it according to its importance in the index model.

| Democracy Indicators | Sub-indicators | Weight |
|---|---|---|
| Democracy Indices | Freedom House score Freedom in the World | 20% (0,195) |
| | Economist Intelligence Unit Democracy Index | 20% (0,195) |
| Media Freedom | Freedom House Freedom of the Press score | 10% (0,98) |
| | Reporters without Borders Press Freedom Index | 10% (0,98) |
| Satisfaction with democracy | Satisfaction with democracy % | 10% (0,98) |
| Trust in People | Trust in people | 10% (0,98) |
| Voice and Accountability | Voice and Accountability - WGI | 10% (0,98) |
| Human Rights | Disrespect for human rights by Global Peace Index | 10% (0,98) |
| E-participation | E-participation index | 2% (0,024) |
| *** *The weight in percentages is an approximation, and the weight is also provided in fractions* | | |

> *(the total sum is 100% or 1).*

The first indicator used to measure democracy is composed of two established **composite democracy indices** – those of **Freedom House** and the **Economist Intelligence Unit (EIU).** Each was attributed very high importance in the Democracy category with 20% (0,195) weight (or 40% for both) because they assess the overall democracy in a country. The Freedom of the World index was used from Freedom House, rather than the specialized post-communist states' Nations in Transit index, because it does not encompass the Western European states. The EIU Democracy Index was used because its scores are more nuanced than the Freedom of the World scores, which allows for better distinction between the quality of democracies in the European states.

**Media Freedom** was attributed special attention in the Catch-Up Index because the media is essential to the democratic process – especially in the post-communist states. The Catch-Up Index relies again on two established media freedom indices – of Freedom House and of Reporters without Borders. Each is assigned 10% (0,98) weight, giving the Media Freedom indicator a 20% overall weight.

**Satisfaction with Democracy** measures the attitude of citizens towards the democratic systems of governance in their countries. This is one of the only two indicators (along with Trust in People) that relies on public opinion surveys (in this case the main source is Eurobarometer), and the scores are based on the proportion of citizens who approve their countries' democratic systems.

**Trust in People** measures the level of people's trust of those who are outside of their immediate family or close friends. Literature abounds on the importance of trust for democracy - above all Francis Fukuyama's "Trust",– or economy and the successful organization of society. In this case, the Catch-Up Index employs the measure of Trust in People as a proxy for civil society development, given the limitations of available data on similar indicators for all the countries in the index.

**Voice and Accountability**, with a weight of 10% (0,98) , is a composite indicator of the World Bank's World Governance Indicators (WGI). This includes perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. The WGI scores also use World Bank assessments and reports that are not publicly available.

**Respect for Human Rights** is also deemed essential for a functioning democracy and carries a weight of 10%. The scores are based on Global Peace Index "Disrespect for human rights" indicator.

**E-participation** (2% (0,024)) measures the level of participation in decision-making, governance or similar activities that is enabled by Information and Communication Technologies. For

example, the facilitation of citizens' political participation through internet or cellular technologies within the broader "e-democracy" concept. Facebook advocacy or the "twitter revolutions" offer specific examples of similar phenomena.

## Quality of Life: Methodology notes

Quality of Life is the category most influenced by the "bottom-up" approach in constructing the index. The metrics of the category have been designed to establish how wealthy people are and to what degree social issues affect them, such as income inequality, risk of poverty and long-term unemployment. The indicators also aim to assess levels of access to higher education and the quality of education available, as well as whether people are living longer, healthier lives with access to good quality healthcare services.

These criteria are prerequisites for individuals to have good quality of life and for the "health" and successful development of society at large. It does not come as a surprise that the majority of the citizens of the newer member states (and the candidates) associate EU membership above all with improved quality of life, at least closer to that of their more established EU counterparts.

The raw data used for the indicators (e.g. life expectancy in years, and other composite indicator scores or coefficients) are converted into the standardized Catch-Up Index score, on a scale from 0 to 100 (lowest to highest), to allow for comparison across countries' categories and indicators. As was the case in the other categories, each of the indicators has a different weight assigned to it, reflecting its importance in the Catch-Up Index model.

| Quality of Life Indicators | Sub-indicators | Weight |
|---|---|---|
| Welfare of consumers | Actual individual consumption with EU27=100 | 20% (0,2) |
| Social issues | Inequality - Gini coefficient | 7% (0,067) |
| | Relative median at-risk-of-poverty gap (%) | 7% (0,067) |
| | Long-term unemployment rate  (%) | 7% (0,067) |
| Education | Share (%) of early school leavers | 5% (0,05) |
| | Share of population (%) with university degree | 5%(0,05) |
| | PISA* score in reading literacy | 3% (0,033) |

| | | |
|---|---|---|
| | PISA score mathematical literacy | 3% (0,033) |
| | PISA score in scientific literacy | 3% (0,033) |
| Health | Healthy life expectancy at birth in years | 5% (0,05) |
| | Life expectancy in years | 5% (0,05) |
| | Infant mortality by age of 5 | 5% (0,05) |
| | EuroHealth Consumer Index | 5% (0,05) |
| Human Development | Human Development Index (UN) | 20% (0,2) |

**\*** Programme for International Student Assessment (OECD).

*\*\*The weight in percentages is an approximation, and the weight is also provided in fractions (the total sum is 100% or 1).*

**Welfare of Consumers** is attributed 20% (0,2) weight in the category. It is based on data from Eurostat's Actual Individual Consumption dataset, which is calculated on EU27=100 basis (rescaling each country's data as a fraction of the EU mean).

The **Social Issues** indicator, with a total weight of 21%, comprises three sub-indicators that measure different aspects of social problems in a society. The first assesses social inequality using the Gini coefficient – the greater the inequality, the lower a country's score in the index. The second sub-indicator is based on Eurostat's relative median at-risk-of-poverty gap indicator. The third sub-indicator measures long-term unemployment in society, which signals the existence of more deep-seated social problems that the basic unemployment rate.

The **Education** indicator has been designed to reflect primarily the quality of education, rather than the quantity, given that the GDP share of education or the number of teachers or students do not always correspond to good outcomes. This is especially valid with regard to the new member states, where often inefficient and unreformed systems produce poor results, notwithstanding the funds or manpower channelled into them.

As is the case with many of the index indicators, their data can also be useful in assessing other aspects of the same category or, in this case, other categories. For example, as well as being a key indicator for Quality of life, education is relevant in assessing economic potential, democracy and good governance. The sub-indicator on early school-leavers assesses the share of young people giving up education and training prematurely; this may also help to gauge broader social problems. The second sub-indicator is the share of the population that hold university degrees. The next three education-related sub-indicators are based on the results of the Organisation for Economic Co-operation and Development's ***Programme for***

*International Student Assessment (*PISA). The PISA scores go beyond the performance of high-school students and survey the broader state of a country's education sector, for example qualification levels of teachers and the quality of universities.

The **Health** indicator is likewise designed to focus more on the outcomes than on less indicative criteria such as share of GDP or the number of medical workers. One sub-indicator is life expectancy, measuring how many years a person is expected to live, while another is healthy life expectancy, specifically taking into account life without major illness. The indicator for infant mortality is also indicative of the broader state of health services or social services in a country (or even the state of society more broadly) because it assesses the likelihood of children surviving to the age to 5. The fourth sub-indicator is a composite of the EuroHealth Consumer Index by the Health Consumer Powerhouse, which measures the quality of healthcare systems in a country (including by outcome).

The United Nations' **Human Development Index** is a composite index measuring life expectancy, literacy, education and standards of living for countries worldwide. It has similar dimensions to the Catch-Up Index, but includes additional data and methodology, which complements the other indicators but does not overlap with them.

## Governance category explained: Methodology notes

The newer and aspiring members typically perceive established EU member states to be well-governed, politically stable, have low levels of corruption, effective governance, a successful rule of law, and an absence of substantial tensions, conflicts and crime. Indeed, from a wider perspective this impression is accurate. The EU is truly an oasis of stable and well-governed states by comparison with some of the more unstable or failing states in other parts of the world. The EU is very much geared toward instilling "good governance" through its common institutions and the acquis communautaire.

But comparisons between EU members and aspiring candidates reveal differences even among relatively homogenous groups. Some of these differences are made strongly apparent, as in the case of the EU's monitoring of the progress of members Bulgaria and Romania in fighting corruption, organized crime and judicial reform, and the conditionality imposed on candidates.

The Catch-Up Index measures the quality of governance in a country through seven indicators based on ten sub-indicators.

| Governance Indicators | Sub-indicators | Weight |
|---|---|---|
| Corruption | Corruption Perceptions Index - Transparency International | 8% (0,08) |
| | Control of Corruption - World Governance Indicators | 8% (0,08) |
| Political stability | Political instability by Economist Intelligence Unit | 8% (0,08) |
| | Political Stability and Absence of Violence - World Governance Indicators | 8%(0,08) |
| Government effectiveness | Government effectiveness - World Governance Indicators | 16% (0,16) |
| Regulatory quality | Regulatory quality - World Governance Indicators | 16% (0,16) |
| Rule of law | Rule of Law – World Governance Indicators | 16% (0,16) |
| Conflict, tensions and crime | Conflicts and tensions in the country - selected Global Peace Index indicators | 8% (0,08) |
| | Homicide rates per 100,000 population | 8% (0,08) |
| E-government | E-government development index | 4% (0,04) |
| *The weight in percentages is an approximation, and the weight is also provided in fractions (the total sum is 100% or 1)* | | |

The **Corruption** indicator is essential for gauging the quality of governance because corruption affects all aspects of the decision-making and implementation process. The Corruption indicator has a weighting of 16% in the Governance category, divided between two sub-indicators – Transparency International's Corruption Perceptions Index and the Control of Corruption dimension of the World Bank's World Governance Indicators. The first indicator measures public perceptions of the level of corruption in a country. The second indicator as defined by its authors "captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests."

The second indicator measures a country's level of **Political stability**, as in the threat of government destabilization through social unrest or unconstitutional or violent means through two sub-indicators. These are the Economist Intelligence Unit's Political Instability Index and the Political Stability and Absence of Violence dimension of the World Bank's World Governance

Indicators. The EIU scores "show the level of threat posed to governments by social protest." The World Bank indicator measures "the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including domestic violence and terrorism." The level of political stability indicates any flaws in governance. Although this indicator also relates to democracy – in terms of the channelling of discontent through the process of representation and problem solving – political stability is more of a measure of governance. The indicator's weight is 16% divided between the two sub-indicators.

**Government effectiveness** is an indicator of whether governance is being conducted well; the World Bank states that it "captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies." Government effectiveness also has a weighting of 16% in the Governance category.

**Regulatory quality** is another World Governance Indicators that "captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development." This indicator too has a 16% weighting.

**Rule of law** is essential for good governance, as the newest EU members and candidates have found out the hard way. The indicator is again based on the World Governance Indicators, which state that it "captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence."

**Conflict, tensions and crime** is a composite indicator, based on two sub-indicators relating to a country's crime levels and conflicts and tensions. The conflicts and tensions sub-indicator is based on selected data from the Global Peace Index (Institute for Economics and Peace/Economist Intelligence Unit). The homicide rate on a per capita basis serves as a proxy for measuring the crime levels in a country, because data pertaining to other reported crimes is less easily comparable (different definitions or practices for registering crimes) or country data is unavailable. The indicator's weight of 16% is divided between the two sub-indicators.

The **E-government** indicator is based on the UN's E-government surveys and scores. It is included in the index because it is a measure of government efficiency and delivery of services to citizens, and because it facilitates transparency and accountability as the world grows more connected. Moreover, e-government indicates the level of development of contemporary societies. As the UN survey has identified, the scores comprise two basic aspects of e-government, 'government to citizen' (G to C) and 'government to government' (G to G), with a smaller element of 'government to business' interactions. Given that e-government is indicative of many aspects of good governance, but not indispensable, it is ascribed a weight of 4%.

## Note on data sources, timeframe and replacing missing data

The Catch-Up Index data collection relied on single sources for each of the indicators, but in case such data was missing, compatible data from other sources based on the same methodology was included. If country data for a specific year was missing, data from the closest period was included in the Index. In case there was no compatible data, the data imputation method was used as explained in the methodological notes. The missing data was replaced using either the statistical procedure, described in the annex or in a limited number of cases - expert-based imputations, i.e. missing data for a given country was replaced with data for a country with very similar characteristics.

Where a single sub-indicator included several sources or the data was not numerical (e.g. Credit Agencies Index; Doing Business ranking), the data was rescaled in advance by the project team before being recalculated into z-scores.

The data used is the most recently available from the period 2010, 2011, 2012, but not later than June 2011, so there is a necessarily a time lag in the index.

| Economy Indicators | Sub-indicators | Weight | Sources |
|---|---|---|---|
| GDP per capita | GDP per capita in PPS with EU27=100 | 0,250 | Eurostat, European Central Bank, national statistics |
| Government debt | General government debt (% of GDP) | 0,125 | Eurostat, national statistics |
| Credit ratings | Sovereigns credit ratings | 0,125 | Fitch, Moody's, Standard and Poor's (own calculations of rescaled credit ratings) |
| Employment | Employment as percentage of population, age group 15-64 | 0,083 | Eurostat, national statistics |
| Energy Intensity | Energy intensity of the economy | 0,083 | Eurostat, national statistics |
| Information Society | Information and Communication Technology | 0,083 | ICT Development Index, International Telecommunication Union |
| Research and Development | Patents granted by USPTO per capita | 0,042 | United States Patent and Trademark Office |
| | High-tech exports as % of manifactured exports | 0,042 | World Bank |
| Market development | Doing Business rank | 0,042 | Ease of Doing Business, World Bank (Rescaled ranking) |
| | Economic Freedom score | 0,042 | Index Economic Freedom, Heritage Foundation and Wall Street Journal |
| Transport infrastructure | Motorways per area 1000 km2 | 0,021 | Eurostat, national statistics |
| | Motorways per 100000 inhabitants | 0,021 | Eurostat, national statistics |
| | Other roads per 1000 km2 | 0,021 | Eurostat, national statistics |

| | Other roads per 100000 inhabitants | **0,021** | Eurostat, national statistics |
|---|---|---|---|

| Democracy Indicators | Sub-indicators | Weight | Source |
|---|---|---|---|
| **Democracy Indices** | Freedom House score Freedom in the World | **0,195** | Freedom in the World, Freedom House |
| | Economist Intelligence Unit Democracy Index | **0,195** | Democracy Index, Economist Intelligence Unit |
| **Media Freedom** | Freedom of the Press score by Freedom House | **0,098** | Freedom of the Press, Freedom House |
| | Press Freedom Index by Reporters without Borders | **0,098** | Press Freedom Index by Reporters without Borders |
| **Satisfaction with democracy** | Satisfaction with democracy % | **0,098** | Eurobarometer, European Values Study, World Values Survey |
| **Trust in People** | Trust in people | **0,098** | European Quality of Life Survey by Eurofound, European Values Study, World Values Survey |
| **Voice and Accountability** | Voice and Accountability - WGI | **0,098** | Voice and Accountability of the World Governance Indicators, World Bank |
| **Human Rights** | Disrespect for human rights by Global Peace Index | **0,098** | Disrespect for human rights indicator, Global Peace Index by the Institute for Economics and Peace |
| **E-participation** | E-participation index | **0,024** | E-government survey, United Nations Department of Economic and Social Affairs |

| Quality of Life Indicators | Sub-indicators | Weight | Sources |
|---|---|---|---|
| **Welfare of consumers** | Actual individual consumption with EU27=100 | **0,200** | Eurostat, national statistics |
| **Social issues** | Inequality - Gini coefficient | **0,067** | Eurostat, national statistics |
| | Relative median at-risk-of-poverty gap (%) | **0,067** | Eurostat, national statistics |
| | Long term unemployment rate (%) | **0,067** | Eurostat, national statistics, UNDP |
| **Education** | Share (%) of early school leavers | **0,050** | Eurostat, national statistics, UNDP |
| | Share of population (%) with university degree | **0,050** | Eurostat, national statistics, UNDP |
| | PISA score in reading literacy | **0,033** | OECD Programme for International Student Assessment (PISA) |
| | PISA score mathematical literacy | **0,033** | OECD Programme for International Student Assessment (PISA) |
| | PISA score in scientific literacy | **0,033** | OECD Programme for International Student Assessment (PISA) |
| **Health** | Healthy life expectancy at birth in years | **0,050** | World Health Statistics, World Health Organization |
| | Life expectancy in years | **0,050** | World Health Statistics, World Health Organization |
| | Infant mortality by age of 5 | **0,050** | World Health Statistics , World Health Organization |
| | EuroHealth Consumer Index | **0,050** | EuroHealth Consumer Index, Health Consumer Powerhouse |

| Human Development | Human Development Index | 0,200 | Human Development Index, United Nations |
|---|---|---|---|

| Governance Indicators | Sub-indicators | Weight | Sources |
|---|---|---|---|
| Corruption | Corruption Perception Index | 0,080 | Corruption Perception Index, Transparency International |
| | Control of Corruption - World Governance Indicators | 0,080 | Control of Corruption - World Governance Indicators, World Bank |
| Political Stability | Political instability by Economist Intelligence Unit | 0,080 | The Political Instability Index, Economist Intelligence Unit |
| | Political Stability and Absence of Violence - World Governance Indicators | 0,080 | Political Stability and Absence of Violence - World Governance Indicator, World Bank |
| Governement Effectiveness | Governement Effectiveness - World Governance Indicators | 0,160 | Governement Effectiveness - World Governance Indicators, World Bank |
| Regulatory Quality | Regulatory Quality - World Governance Indicators | 0,160 | Regulatory Quality - World Governance Indicators, World Bank |
| Rule of Law | Rule of Law - World Governance Indicators | 0,160 | Rule of Law - World Governance Indicators, World Bank |
| Conflict, tensions and crime | Conflicts and tensions in the country - selected Global Peace Index indicators | 0,080 | Conflicts and tensions in the country, based on selected Global Peace Index (GPI) indicators, GPI is created by the Institute for Economics and Peace |
| | Homicide rates per 100,000 population | 0,080 | United Nations Office on Drugs and Crime |
| E-government | E-government development index | 0,040 | E-government Development Surveys, United Nations |

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# Supplement IV: Methodology of the Statistical Analysis for the Catch-Up Index

### 1. Basic Indicators. Sources of information

The Catch-Up Index uses 47 basic indicators for 35 European countries. The data is gathered from different sources. Appendix 1 contains descriptions for each of the basic indicators as well as the time period of the data and their respective sources. The indicators are divided thematically into four categories:

- Economy – 14 indicators;
- Democracy – 9 indicators;
- Quality of Life – 14 indicators;
- Governance – 10 indicators.

### 2. Procedure for replacing missing data (*Data Imputation*)

The basic information represents a table (a matrix), size 35 x 47, i.e. 47 indicators for 35 countries, which contain 1,645 absolute values. About 0.5% of them are missing values either because there is no such information gathered or there is no up-to-date data. In these cases, the procedure for data imputation to replace missing data – values – was applied. The procedure was done separately for each of the four basic categories.

#### *Algorithm for data imputation*

a. Any of the four categories that contain a basic indicator with a missing value is fixed. It represents a matrix with a size of 35 multiplied by the number of basic indicators, where the countries are in the rows and the indicators are in the columns.

b. All indicators (rows) that contain at least one missing value are deleted, thus creating a new matrix with the same number of rows and a smaller number of columns (k).

c. Each of the 35 countries included in the index is a point in the k-dimensional space. The Euclidian distances between the side with a missing value and all the other sides are then calculated.

    **d.** After the minimal Euclidian distance is calculated, the result is checked against the existing data for the remaining 34 countries and this value is taken to replace the missing value.

    **e.** The steps are then repeated until all missing values of the basic indicators in a given category are replaced.

**3. Calculation of standardized value (z-scores)**

The Catch Up Index uses basic indicators with different raw data (percentages, diverse index scores, years, etc.). This necessitates the standardization of the values according to a statistical procedure, which recalculates them in one and the same scale and at the same time preserves the order and proportions between them. The standardizing is done following the normalization method of z-scores, which uses mean weighed score and standard deviation.

*Algorithm for calculating the standardized values of the basic indicators (z-scores)*

**4.** The mean arithmetic values **mean_j** for the countries **x_ij** are calculated for each of the basic indicators, according to the formula:

$$\text{mean\_j} = \Sigma\,(\text{x\_ij})/\,35$$

where **j** varies from 1 to 47 (the total number of basic indicators), and **i** changes from 1 to 35 (the total number of countries).

**5.** The dispersions for the values on sides **x_i** is calculated for each of the indicators:

$$\text{sigma\_j} = \Sigma\,[(\text{x\_ij}-\text{mean\_j})\text{\textasciicircum}2]\,/\,(N-1),$$

where **j** varies from 1 to 47, and **i** varies from 1 to 35.

*This quantity shows how diverse are, on average, the different cases from their mean value.*

**6.** The standardized values – so-called *z-scores* – are calculated:

**z_ij = (x_ij−mean_j) / √sigma_j**.

*Through this procedure the distribution of the values for the countries for each of the indicators is translated and the mean 0 and dispersion 1 are calculated, while the order and proportions between the values for the different countries are preserved.*

In order to transform the standardized values into scores on a scale from 0 to 100, one more transformation is necessary:

**z_ij = z_ij * 20 + 50**.

*The values smaller than 0 and bigger than 100 ("extreme values"), i.e. those different from the mean value of more than 2.5 standard deviation receive scores 0 and 100, respectively.*

The standardized values, achieved as a result of the calculations above, are suitable for further procedures. There is a simple correspondence between these scores and the absolute values (the raw data) of the basic indicators and the only exceptions are the "extreme values" or so-called outliers.

**7. Weighting the standardized values. Formation of the four categories**
Each of the four categories – Economy, Quality of Life, Democracy and Governance contain different numbers of basic indicators with different levels of importance. The level of importance is defined by the authors of the index. That is why the online platform of the Index (**www.TheCatchUpIndex.eu**) offers two options for its users.

   **a.** The standard index is calculated on the basis of the already defined weights of the basic indicators;
   **b.** The creation of custom index – My Index in the online platform – for which each individual user can define the weights for the indicators.

The weights for each indicator, ascribed by the research team, can be found in this section. For each of the four categories, the weights represent a column vector consisting of the respective number of basic indicators. When calculating the weighted standardized values, the formula for matrix multiplication is used. The matrix contains the non-weighted standardized values with

rows representing the countries, the columns the basic indicators and the vector the weights. For each separate country, the procedure is to calculate the weighted sum.

## 8. Formation of the composite Catch Up Index and its Overall Score

The composite Catch Up Index is calculated as an un-weighted mean of the values of each of the four basic categories for each of the 35 European countries included in the index. In other words, each of the four basic categories is equal in importance in respect to the composite Catch Up Index.

*Overall_score_i = (Economy_score_i + Quality_of_life_score_i + Democracy_score_i + Governance_score_i) / 4,*

where *i* varies from 1 to 35 (the total number of countries in the model).

*The resulting index is at the basis of the overall ranking of the countries and is subjected to further statistical processing (cluster analysis, correlation analysis, tests for statistical significance, trend analysis).*

## 9. Cluster analysis
The research included hierarchical agglomerative cluster analysis of the Complete Linkage (Furthest Neighbor) with the help of the SPSS statistical package for analysis and processing of data. The metric system used is the standard Euclidian distance.

### *Algorithm of the cluster analysis*

a. First, each country is the defined as the only one in a single group – i.e. cluster.
b. Second, the standard Euclidian distances (2-norm distance) are calculated between the values (the scores) of each pair of countries with the aim to group the countries with the most similarities in one group in relation to their values – the overall score of the Catch Up Index or the scores in any of the four categories.
c. The agglomeration of the clusters continues with each other step until all the countries are included in one common group. This process is defined by the distance between two clusters. In the case of the Complete Linkage (Furthest Neighbor) clustering the distance is defined through the maximum standard Euclidian distance between elements from the two clusters.
a. *D(r,s) = Max {d(i,j)* : where element *i* belongs to cluster *r*, and *j* to cluster *s*}
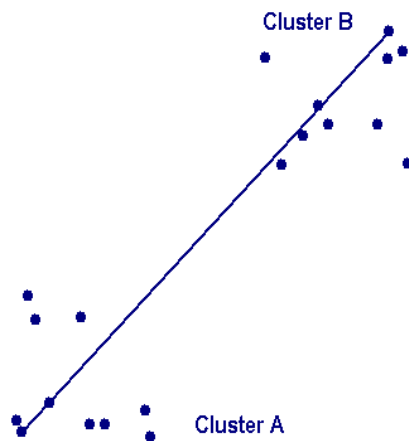
Cluster B

Cluster A

d. The decision for the number of clusters is taken by the researcher, in accordance with the desired maximum distance between the elements in each cluster. The bigger the distance, the smaller the number of clusters.

e. The cluster analysis is best represented in a gendrogram, which shows the distances between the different clusters as well the elements they are composed of.

## 10. Tests for statistical significance of differences. The five point rule.

The data on the basis of which the Catch Up Index is calculated are bound to have certain errors. The reason is that some of the basic indicators are based on sociological surveys, others though objective (e.g. GDP per capita) also contain certain errors as a result of the method of their calculation. The procedure for missing data replacement also contributes to the size of the overall error. This necessitates the implementation of tests for statistical significance of differences (compare means) between the different standardized values (z-scores) of the Overall Score and the scores of countries in different categories. The results of these tests show that a difference of five or less standardized scores is not statistically significant with a significance level of $\alpha$ = 0.05. This means that with a *confidence level* $\gamma$ = 1−$\alpha$ = 0.95 = 95% it can be claimed that the standardized values of the countries in the Catch Up Index and the four categories vary within ±5 *z*-points. This conclusion should be taken into account when analyzing the results of the cluster analysis.

## 11. Correlation analysis

The Pearson correlation coefficients are calculated for each of the pairs in the vectors: Overall Score, Economy Score, Quality of Life Score, Democracy Score and Governance Score. They demonstrate *that at a significant level* **α** = 0.01, each of the two pair vectors have strong linear correlation, with each correlation coefficients are bigger than 0.9.


## 12. Graphs, linear trends and their confidence intervals

The direct consequence of the correlation analysis is that between two of the five indices – i.e. *Overall Score, Economy Score, Quality of Life Score, Democracy Score* and *Governance Score –* there is a strong direct correlation, which is represented by a corresponding linear trend (straight line with a positive slope).The coefficients in the equations of these straight lines are calculated using the method of linear regression. Each of the straight lines should be observed and analyzed in the corresponding confidence interval, which is determined by the value of their determination coefficient (*R-square*)*, which in this case is equal to the square of the respective Pearson correlation.*

# The European Catch-Up Index Project

**Catch-Up Index methodology**

Georgi Stoytchev, Assya Kavrakova, Georgi Angelov, Marin Lessenski

**Consultants in methodology development**

Alexey Pamporov, Boyan Zahariev, Svetla Avramova, Georgi Ganev, Ognyan Minchev, Petko Georgiev, Georgi Prohasky, Daniel Smilov, Duhomir Minev, Dessislava Nikolova, Liliana Dudeva, **Kaloyan Staykov**

**Statistical processing**

Petya Brainova, Dragomira Belcheva,

**Catch-Up Index online platform at www.TheCatchUpIndex.eu**

Sirma Group Corp.

**Project manager**

Marin Lessenski

## About the author

**Marin Lessenski** is Program Director of the European Policies Program of the Open Society Institute – Sofia. He has been Director of Programs of the Institute for Regional and International Studies (IRIS) since 1998. He holds an MA in Southeast European Studies from the Central European University – Budapest and an MA in History from the University of Sofia. He has been a Freedom House Visiting Fellow with the Hudson Institute's Center for European and Eurasian Studies and the Center for National Security Studies. He has also been a participant in the Transatlantic Young Leaders Program of the Aspen Institute – Berlin.

Mr. Lessenski has commented and written on EU's foreign, security, neighborhood and enlargement policy; democratisation, foreign policy, security and institutional developments in Central, Eastern and Southeastern Europe and the Black Sea region; identity politics and interethnic relations. Contact: mlessenski@osi.bg

Web: www.eupi.eu and www.TheCatchUpIndex.eu

## About EuPI

The European Policy Initiative (EuPI) of OSI-Sofia aims to stimulate and assist new European Union Member States from Central and Eastern Europe to develop capacity for constructive co-authorship of common European policies at both government and civil society level. As a priority area of the European Policies Program of the Open Society Institute – Sofia, EuPI will contribute to improving the ability of new member states to effectively impact common European policies through good quality research, policy recommendations and networking. The initiative operates in the ten new member states from CEE through a network of experts and policy institutes.

**Web-site http://www.eupi.eu**

**Web-site: http://www.TheCatchUpIndex.eu**

**E-mail: eupi@osi.bg**

**Main research reports:**

"Don't Panic: Findings of the European Catch-Up Index 2015" contains the findings of the Catch-Up Index 2015 edition.

"The Gravity Effect: Findings of the European Catch-Up Index 2014", contains the findings of the Catch-Up Index 2014 edition.

"It's a Process: Findings of the European Catch-Up Index 2013" contains the findings of the Catch-Up Index 2013 edition.

"Aftershocks: What Did the Crisis Do to Europe?" contains the findings of the Catch-Up Index 2012 edition.

 "State of the Union: A Big Bang Theory of Europe" contains the findings of the first edition of the Catch-Up Index 2011.

"The Unfinished Business of the Fifth Enlargement Countries" analyzes the problems faced by the ten new member states after their accession to the EU in eleven policy areas including political development, the economy, the healthcare system and education.

A series of reports "The EU New Member States as Agenda Setters in the Enlarged European Union" look at the positions of the new Central and Eastern European EU Member States on a selected number of issues on the EU agenda in seven policy areas: economic issues, minority integration, energy and climate, common agriculture policy, foreign and security policy, justice and home affairs and institutional issues.

The publication "Economic and Political Challenges of Acceding to the Euro area in the post-Lehman Brothers' World" (Summary report and nine Country Reports) is developed within the project "Economic and Political Challenges of Acceding to the Euro area in the post-Lehman Brothers' World".

## www.TheCatchUpIndex.eu

A special online platform was created at www.TheCatchUpIndex.eu, where users can view and work interactively with the data of the index, make comparisons across countries and indicators and visualize the outcomes in different ways.

There are basically three modes of usage. There is the Catch-Up Index standard format, which is generated on the basis of EuPI'sown model. Alternatively, users can produce their own custom catch-up index by selecting categories and indicators and changing their weights. The third usage mode allows for country by country comparison across selected indicators or benchmarks.