Decomposing the Europe 2020 index[*]

September 23, 2017

Abstract

Providing a reliable indicator of the progress of the European countries towards the achievement of the Europe 2020 objectives is crucial for policy makers. Recently, a composite index was suggested for this task. In this paper, we propose a decomposition of this composite index by distinguishing between three different components: country-, group-, and objective-specific indexes. The decomposition, while simple and consistent with previous works, allows us to better quantify, measure, and monitor the progress of the European countries towards the achievement of the Europe 2020 objectives. Our findings suggest that significant efforts are still required to reach the Europe 2020 objectives. The decomposition highlights important patterns for the three levels for each country.

Keywords: Composite Index; Decomposition; Europe 2020.

1 Introduction

After the Lisbon strategy, the European Union adopted (in 2010) the Europe 2020 strategy. The main, though not sole, aim of this new strategy is to boost economic growth in Europe in the long term. Indeed, the strategy contains five topics: employment, research & development, pollution, education, and poverty. As such, the Europe 2020 package is designed to reach long-term economic growth, while fighting the structural weaknesses in the European Union. In other words, the Europe 2020 objectives promote a smart, sustainable and inclusive growth path. In fact, these three adjectives define the three pillars of the Europe 2020 strategy. For more details, refer to European Commission (2010).

For policy makers, it is crucial to have reliable indicators to quantify, measure and monitor the progress of the European countries towards the achievement of the objectives. Recently, several authors have suggested using a composite index for this task. See Saltelli et al (2011), Colak and Ege (2013), Pasimeni (2012, 2013), Pasimeni and Pasimeni (2016), and Rappai (2016). Using a composite index presents several advantages in this context. Firstly, composite indexes are easy to construct and to interpret. Indeed, they only require the data linked with the objectives, and naturally quantify the performances and the efforts still needed to reach the objectives. Next, composite indexes are unit free, meaning that they can be used to compare and to benchmark countries. Finally, composite indexes could be defined for each pillar (Smart, Sustainable and Inclusive), but also for the Europe 2020 strategy overall. This is particularly attractive, in this context, as detailed results and comparisons could therefore be provided.

While indicating the performances and efforts still needed to achieve the objectives is clearly important, different types of reasons could explain the better/worse performances of the countries. Indeed, better/worse performances could be due to group-specific reasons, for example, particular events that have affected all the countries (such as an economic crisis or policy implementations/regulations at the European level); or because of the presence of structural inefficiency, asymmetric shocks, at the European level. Next, better/worse performances could also be due to country-specific reasons, for example, some countries may not put enough effort into reaching the targets; particular events have affected specific countries; or structural inefficiency could be present for some countries. Finally, better/worse performances could be due

to objective-specific reasons, for example, the targets of some countries could be too high/too low; the objectives may not be clear enough; or the targets may not be set practicably.

In this paper, we show how to isolate these three reasons by using a simple decomposition of the composite index. As such, our method remains consistent with previous works, while distinguishing between the three factors. We decompose the composite index into three parts: (i) a country-specific index showing how each country performs with respect to the best performer for each year, (ii) a group-specific index that indicates how the group performs for every year, and (iii) an objective-specific index that says if, in principle, the targets are reachable for the period. Clearly, the decomposition into the three components also represents valuable information for policy makers, as they reveal how each country performs at the three levels. Finally, the decomposition could be used to test whether specific events, policies, or factors have affected the performances of the countries at the three levels separately. Methods discussed in Pasimeni and Pasimeni (2016) and Rappai (2016) could be used for that task.

The rest of this paper unfolds as follows. Section 2 presents the decomposition of the composite index. In Section 3, we apply the methodology to the case of the Europe 2020 strategy. Section 4 concludes.

2 Methodology

We assume that we observe J countries facing I objectives that have to be reached before year T. Also, we assume that each objective i has a clear and measurable target for every country j, denoted by $\chi_{j,i}^T$, and that we observe the level of each country at time t, denoted by $X_{j,i}^t$. Two cases have to be considered. The first case is when countries have to increase their current level to achieve the objective, and therefore objective i is achieved for country j if: $X_{j,i}^t \geq \chi_{j,i}^T$, for $t \leq T$. We refer to this case as "positive target". The second case is when countries have to decrease their current level to reach the objective, and thus the target of objective i is achieved for country j if: $X_{j,i}^t \leq \chi_{j,i}^T$, for $t \leq T$. We refer to this case as "negative target".

Construct the composite index. The first step to define our composite index is to normalise the indicators $X_{j,i}^t$. Indeed, nothing guarantees that the units of

the indicators $X_{j,i}^t$ are the same for every i, and bringing together indicators with different measurement units will imply potential issues for the constructed indexes.[1] A commonly agreed procedure is the *min-max* normalisation technique.[2]

This technique is used, in Dijkstra and Hanmer (2000) in the context of status of a women index; by the United Nations Development Program (2008) to develop the Human Development Index; in Plantenga et al (2009) in a context of the gender equality index; in Zhou et al (2012) in the context of a industry sustainability index; in Oree and Hassen (2016) in the context of a flexibility generator index; and in Colak and Ege (2013), Pasimeni (2012, 2013), and Pasimeni and Pasimeni (2016) in a similar context of construing a Europe 2020 index. Clearly, other normalisation could be used at this stage (such as the distance to a reference or the percentage of differences); this will not impact our exposition. Refer, for example, to OECD (2008) for a review of normalisation methods.

While the *min-max* transformation gives normalised indicators, it does not take the values of the targets $\chi_{j,i}^T$ into account. In fact, as shown by Colak and Ege (2013), it is enough to proceed to a simple modification of this well-known transformation to include the target levels. We obtain:

$$NXT_{j,i}^t = \frac{X_{j,i}^t - X_{m,i}}{\chi_{j,i}^T - X_{m,i}}, \text{ for a positive target,} \tag{3}$$

$$NXT_{j,i}^t = \frac{X_{M,i} - X_{j,i}^t}{X_{M,i} - \chi_{j,i}^T}, \text{ for a negative target,} \tag{4}$$

where $X_{m,i}$ and $X_{M,i}$ are, respectively, the minimum and the maximum, of the indicators $X_{i,j}^t$ for all years and all countries. That is: $X_{m,i} = \min_{j,t}\left\{X_{j,i}^t\right\}$ and $X_{M,i} = \max_{j,t}\left\{X_{i,j}^t\right\}$. Note that $NXT_{j,i}^t$ could exceed one. Indeed, there is no natural ranking between $X_{j,i}^t$ and $\chi_{j,i}^T$. For example, for a positive target, in general,

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[1]See, for example, Freudenberg (2003) for extensive discussion.

[2]The normalised indicators for each country j at time t for objective i, denoted by $NX_{j,i}^t$, are defined as follows:

$$NX_{j,i}^t = \frac{X_{j,i}^t - X_{m,i}}{X_{M,i} - X_{m,i}}, \text{ for a positive target.} \tag{1}$$

$$NX_{j,i}^t = \frac{X_{M,i} - X_{j,i}^t}{X_{M,i} - X_{m,i}}, \text{ for a negative target.} \tag{2}$$

$NX_{j,i}^t$ is bounded from below by zero and from above by one. If $NX_{j,i}^t = 1$, it means that country j at time t has the best performance on objective i. Lower values indicate worse performances.

we have that $\chi^T_{j,i} > X^t_{i,j}$ for early years, and $X^t_{i,j}$ increases when t increases. As such, at some point, we could have $X^t_{i,j} = \chi^T_{j,i}$ (the objective is reached) or $X^t_{i,j} > \chi^T_{j,i}$ (the objective is surpassed). Therefore, three cases are possible: $NXT^t_{j,i} < 1$ meaning that the objective is not reached at year t for country j, $NXT^t_{j,i} = 1$ the objective is reached, and $NXT^t_{j,i} > 1$ the objective is reached and surpassed.

Building on our normalised indicators taking the target level into account, we can now define our composite index, denoted by CI^t_j for country j at time t. For that task, we rely on the geometric weighted aggregation method. Formally, with $\omega^t_{j,i} \geq 0$ and $\sum^I_{i=1} \omega^t_{j,i} = 1$, we obtain:

$$CI^t_j = \prod^I_{i=1} \left(NXT^t_{j,i} \right)^{\omega^t_{j,i}}. \tag{5}$$

The interpretation of the composite index is easy and natural. CI^t_j depends positively on the indicators $NXT^t_{j,i}$. As such, higher values of the indicators $NXT^t_{j,i}$ imply better performance, making CI^t_j greater. If countries have reached or surpassed all the objectives (i.e. $NXT^t_{j,i} \geq 1$ for all i), CI^t_j is also greater or equal to one, but the opposite is not true. This issue is known as the compensability. It means that, greater indicators $NXT^t_{j,i}$ will compensate for lower indicators $NXT^t_{j,i}$ in CI^t_j. In our case, this problem is even more important since, by definition, the indicators $NXT^t_{j,i}$ are unbounded from above. It is well known that the geometric weighted aggregation method implies partial compensability among the indicators, even if problems may occur when the normalised indicators $NXT^t_{j,i}$ are equal to zero (see Section 3). For more discussions about the compensability, refer to Pasimeni (2012, 2013). Also, as shown later, our decomposition of the indicators $NXT^t_{j,i}$ into three components is kept at the composite indicator level for the geometric weighted aggregation procedure. All in all, for those reasons, the geometric weighted aggregation method is more accurate given our context.

Once the weighted aggregation method is chosen, the weights $\omega^t_{j,i}$ need to be selected. Two possible modes are available: exogenous or endogenous weights. Exogenous weights have to be defined by the practitioner and thus imply a subjective judgement. An obvious choice would be $\omega^t_{j,i} = \frac{1}{I}$, making (5) the geometric average (as in our application, see Section 3). For endogenous weights, different methods are possible, such as factor analysis, data envelopment analysis, and unobserved compo-

nent models. At this point, it is important to point out that the chosen method for the weights will not impact the exposition of the paper.

Decomposition of the composite index. While $NXT_{j,i}^t$ and CI_j^t indicate the performances and the efforts still necessary to reach objective i and I objectives respectively, they do not give the option to distinguish between the various reasons explaining the better/worse performances of the countries. In this part, we explain how we can decompose $NXT_{j,i}^t$ into three parts: (i) a country-specific index showing how each country performs with respect to the best performer for each year, (ii) a group-specific index that indicates how the group performs for every year, and (iii) an objective-specific index that says if, in principle, the targets are reachable for the period. As such, building on our simple decomposition of $NXT_{j,i}^t$, we make a clear distinction between those three components. The decomposition could be used to test whether specific events, policies, or factors have affected the performances of the countries at the three levels. Attractively, the decomposition into three parts is kept at the composite index level for CI_j^t.

Formally, to develop our decomposition of $NXT_{j,i}^t$ for a positive target, we first have to introduce the notion of a maximal value for a specific year: $X_{M,i}^t = \max_j \left\{ X_{i,j}^t \right\}$. Building on this new concept, it is easy to decompose equation (3) into three parts by multiplying top and bottom by $X_{M,i}^t - X_{m,i}$ and $X_{M,i} - X_{m,i}$:

$$
\begin{aligned}
NXT_{j,i}^t &= \frac{X_{j,i}^t - X_{m,i}}{\chi_{j,i}^T - X_{m,i}}, \\
&= \frac{X_{j,i}^t - X_{m,i}}{\chi_{j,i}^T - X_{m,i}} \times \frac{X_{M,i}^t - X_{m,i}}{X_{M,i}^t - X_{m,i}} \times \frac{X_{M,i} - X_{m,i}}{X_{M,i} - X_{m,i}}, \\
&= \frac{X_{j,i}^t - X_{m,i}}{X_{M,i}^t - X_{m,i}} \times \frac{X_{M,i}^t - X_{m,i}}{X_{M,i} - X_{m,i}} \times \frac{X_{M,i} - X_{m,i}}{\chi_{j,i}^T - X_{m,i}}, \\
&= COUNTRY_{j,i}^t \times GROUP_i^t \times OBJECTIVE_{j,i}. \quad (6)
\end{aligned}
$$

$COUNTRY_{j,i}^t$ reveals how country j performs in year t for objective i with respect to the best practice of that year (captured by $X_{M,i}^t$). As $X_{j,i}^t \leq X_{M,i}^t$, this index is bounded from above by one, with unity means that country j is the best practice. Lower values mean that the country could perform better that year. The sub-optimal performance may have been due to a particular event or policy implementation that affected only that country or it may indicate a structural inefficiency. This index is

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very similar to the standard *min-max* normalisation index (see (1)); the only difference is that, in this case, the maximal value depends on time.

$GROUP_i^t$ shows the performance of the group in year t for objective i by comparing the best practice of year t (captured by $X_{M,i}^t$) to the maximal value of the indicators for all years (captured by $X_{M,i}$). Clearly, this index is bounded from above by one as $X_{M,i}^t \leq X_{M,i}$. Lower values show that some event, factor, or policy implementation has affected the group that year or that there are structural issues for the group.

$OBJECTIVE_{j,i}$ reveals if objective i is, in principle, reachable for country j by comparing the maximal value of the indicators for all years (captured by $X_{M,i}$) to the objective target of country j (captured by $\chi_{j,i}^T$). This index is unbounded as no natural ranking exists between $X_{M,i}$ and $\chi_{j,i}^T$. A value smaller than one means that the objective cannot be reached for the period, while a value greater than one implies the opposite. As such, this index allows the identification of issues present at the objective-level, and to investigate whether the targets are well set and reachable.

For a negative target, a similar decomposition of $NXT_{j,i}^t$ could be obtained by multiplying top and bottom of equation (4) by $X_{M,i} - X_{m,i}^t$ and $X_{M,i} - X_{m,i}$

$$
\begin{aligned}
NXT_{j,i}^t &= \frac{X_{M,i} - X_{j,i}^t}{X_{M,i} - \chi_{j,i}^T}, \\
&= \frac{X_{M,i} - X_{j,i}^t}{X_{M,i} - \chi_{j,i}^T} \times \frac{X_{M,i} - X_{m,i}^t}{X_{M,i} - X_{m,i}^t} \times \frac{X_{M,i} - X_{m,i}}{X_{M,i} - X_{m,i}}, \\
&= \frac{X_{M,i} - X_{j,i}^t}{X_{M,i} - X_{m,i}^t} \times \frac{X_{M,i} - X_{m,i}^t}{X_{M,i} - X_{m,i}} \times \frac{X_{M,i} - X_{m,i}}{X_{M,i} - \chi_{j,i}^T}, \\
&= COUNTRY_{j,i}^t \times GROUP_i^t \times OBJECTIVE_{j,i}, \quad\quad (7)
\end{aligned}
$$

where $X_{m,i}^t = \min_j \left\{ X_{i,j}^t \right\}$ is the minimal value of year t in the group. Clearly, the interpretation of the three components is analogous to the decomposition in (6); the only difference is that it is based on minima and not on maxima. This directly follows from the similar interpretation of both definitions of $NXT_{j,i}^t$ in (3) and (4).

Attractively, when assuming a geometric weighted aggregation, we obtained a

similar decomposition for the composite index:

$$
\begin{aligned}
CI_j^t &= \prod_{i=1}^{I} \left(NXT_{j,i}^t \right)^{\omega_{j,i}^t}, \\
&= \prod_{i=1}^{I} \left(COUNTRY_{j,i}^t \times TIME_i^t \times OBJECTIVE_{j,i} \right)^{\omega_{j,i}^t}, \\
&= \prod_{i=1}^{I} \left(COUNTRY_{j,i}^t \right)^{\omega_{j,i}^t} \times \prod_{i=1}^{I} \left(TIME_i^t \right)^{\omega_{j,i}^t} \times \prod_{i=1}^{I} \left(OBJECTIVE_{j,i} \right)^{\omega_{j,i}^t}, \\
&= COUNTRY_j^t \times TIME_j^t \times OBJECTIVE_j^t.
\end{aligned} \tag{8}
$$

Note that contrary to the decomposition of the indicators $NXT_{j,i}^t$ in (6) and (7), the three components do not depend on the objectives. This is natural since we aggregate over objectives when computing the composite index CI_j^t. Note also that, the group-specific component depends on j and that the objective-specific component depends on t, while it was not the case for the indicators $NXT_{j,i}^t$ in (6) and (7). This is explained by the weights $\omega_{j,i}^t$ generally being dependent on j and t, which makes the three components also dependent on them. Note that for exogenous weights, as in our application (see Section 3), the group-specific component dependent only on t, and the objective-specific component only on j.

Illustrative example. To illustrate the usefulness of the suggested decomposition of the composite index, we make use of a fictitious example. In particular, we construct seven fictitious cases/countries to show how the decomposition works in practice. The cases are shown in Table 1.

Table 1: Illustrative example

Case	CI	$COUNTRY$	$GROUP$	$OBJECTIVE$
A	0.50	0.50	1	1
B	0.50	1	0.50	1
C	0.50	1	1	0.50
D	1.15	1	0.83	1.38
E	1.15	0.83	1	1.38
F	0.45	0.50	0.90	1
G	0.45	0.90	0.50	1

For cases A, B, and C, the composite indexes are equal to 0.50, but the reasons

for this poor performance are different. In case A, the group- and objective-specific indexes are equal to one, while the country-specific index is 0.50. It implies that the poor performance is only due to country-specific reasons; no particular event/policy has affected the group that year and the objective is, in principle, reachable. For case B, the reason for poor performance is group specific. Indeed, both the country- and objective-specific index are equal to unity, meaning that the country has good performance that year (compared to the other countries), and that in principle the objectives could be achieved. As such, it could be that a particular event (such as economic or financial crisis, budgetary policy) or policy implementation has affected the performance of the group that year, or it could also reveal possible structural inefficiency at the group level. In that case, group-level policy is needed to increase the performance of the country. Finally, in case C, only the objective-specific index is lower than one. It means that, perhaps, the target is too high for the period.

For cases D and E, for which the targets are reached, we have a compensation between indexes. This also shows the usefulness of our decomposition by distinguishing between different components. For case D, while the target is reached, the objective-specific effect shows that, in principle, there is still room for improvement, and that the reason is group specific. Probably, some event has affected that particular year. In case E, this time, the reason is country specific. As such, specific policy implementations could be taken for that country to increase its performance. If they are successful, it can only increase the composite index.

For cases F and G, the performances are relatively poor and there is clearly room for improvement. Nevertheless, the reasons are completely different. In case F the reason for poor performance is mostly country specific. There is also room for improvement at the group level, but the magnitude is smaller. In case G, it is the opposite, some event or policy has affected that particular year while the performance of the country is rather good. As such, based on the composite index we conclude that the performance is poor, but the decomposition reveals the opposite. Indeed, the performance is relatively high, but underestimated because of the poor performance of the group.

All in all, this simple illustrative example shows the usefulness of our simple decomposition. Clearly, the main advantage is to isolate and identify the potential explanations for better/worse values of the composite index. It also shows that with the composite index, it is easy to confuse different reasons for the better/worse per-

formance. As such, the decomposition clearly adds value to the composite index.

3   The case of the Europe 2020 index

We apply our methodology to the case of the Europe 2020 objectives. These objectives are divided into three pillars: Smart growth pillar, Sustainable growth pillar, and Inclusive growth pillar. Each pillar contains certain objectives that all have quantitative and measurable targets. Note that most of the targets are country specific. Table 2 gives a brief overview of the three pillars.

Table 2: Europe 2020 - three pillars

Pillar	Topic	Explanation
Smart Growth	Tertiary education	Making sure that at least 40% of youngsters have a degree or diploma.
	R&D	Raising the investment in R&D to 3% of the GDP.
Sustainable Growth	Greenhouse gas emissions	Cut greenhouse gas emissions by 20%.
	Renewable energy	Source 20% of its energy needs from renewable sources.
	Energy efficiency	Increase energy efficiency by 20%.
Inclusive Growth	Employment	Raising the employment rate of the population aged 20-64 to 75%.
	Early school leavers	Reducing the share of early school leavers to under 10%.
	Poverty	Reducing the number of people living below the poverty line by 25%.

Using a composite index to quantify the performance of the European countries in reaching the Europe 2020 objectives has already been considered by Saltelli et al (2011), Colak and Ege (2013), Pasimeni (2012, 2013), Pasimeni and Pasimeni (2016), and Rappai (2016). Three main reasons explain their choice. Firstly, composite indexes are easy to construct (they only require the data) and to interpret (they quantify the performances and the efforts still needed to reach the objectives). Next, composite indexes are unit free, and can thus be used to compare and to benchmark countries. Finally, composite indexes can be defined for each pillar (Smart, Sustainable and Inclusive growth pillars) and for the Europe 2020 strategy overall.

As in previous works, we make use of composite indexes to measure the progress of the European countries for each pillar and for the Europe 2020 objectives overall. The distinguishing feature of our methodology is that we decompose the composite index into three parts: (*i*) a country-specific index showing how each country performs with respect to the best performer for each year, (*ii*) a group-specific index that indicates how the group performs for every year, and (*iii*) an objective-specific index that shows whether, in principle, the targets are reachable for the period. The main advantage of our decomposition is to isolate and identify the potential reasons for better/worse values of the composite index.

To present our empirical application, we first present the data and the descriptive statistics. Subsequently, we present the results of the composite indexes and their respective decomposition.

3.1 Data and descriptive statistics

We select the data from Eurostat for 28 European countries and 12 years: 2004-2015. Eurostat, the official statistical institutional of the European Union, has constructed tailored data to study and quantify the Europe 2020 objectives.[3] As such, all the indicators and most of the targets are directly given by Eurostat. Nevertheless, for the energy intensity and the people at risk-of-poverty, the referent year is not specified. For those objectives, we multiply the 2008 energy intensity values by 0.8, and the people at risk-of-poverty rates in 2008 by 0.75 to obtain the target levels. This strategy is used also in Colak and Ege (2013).

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[3]In particular, Tertiary education is measured as the percentage of people, for the age group 30-34, that have successfully completed university or university-like education (availability: 2003-2015); R&D is measured as the ratio of the expenditure of R&D over GDP (availability: 2003-2015); Greenhouse gas emissions is given as an index taking 1990 as the base year (availability: 1990-2015); Renewable energy is measured as the share of renewable energy in gross final energy consumption (availability: 2004-2015); Energy efficiency is measured as the gross inland consumption of energy divided by GDP (availability: 2000-2015); Employment is measured as the rate of employment in the age group 20-64 (availability: 2001-2015); Early school leavers are measured as the percentage of the population aged 18-24 with, at most, lower secondary education and not in further education or training (availability: 2000-2015); and Poverty is measured by the people at risk of poverty or social exclusion (availability 2004-2015). Also, for some years and countries, there could have been a break in the estimation, low reliability issue, or difference in the definition. Hopefully, these issues are rather marginal, overall making the data good quality. When these cases occur, we recompute the composite indexes and their decomposition using two different strategies: linear regression and simple average. This has no important impact on the results, and on our main conclusions. As such, the results displayed in Section 3.2 are those using the data taken from Eurostat.

As explained in Section 2, the first step to construct our indexes is to normalise the indicators by making use of the *min-max* procedure adapted to take the target level into account (see (3) and (4) for more details). The Europe 2020 strategy contains both positive and negative targets (see Section 2 for the formal definitions of those concepts). The descriptive statistics for both the raw and normalised indicators are presented in Table 3. Also, it is specified, for each topic, if the target is positive or negative.

Table 3: Descriptive statistics

Variable	Normalization	Minimum	Median	Average	Maximum	Std
Tertiary education	raw	10.30	34.45	33.54	57.60	10.78
(positive)	normalized	0.00	0.76	0.74	1.39	0.28
R&D expenditure	raw	0.34	1.31	1.49	3.75	0.88
(positive)	normalized	0.00	0.36	0.43	1.28	0.33
Greenhouse emissions	raw	40.63	89.87	90.85	171.25	30.15
(negative)	normalized	0.00	0.89	0.88	1.43	0.33
Renewable energy	raw	0.10	12.95	15.47	53.90	11.21
(positive)	normalized	0.00	0.67	0.66	1.45	0.30
Energy efficiency	raw	62.00	147.60	190.65	630.60	99.65
(positive)	normalized	0.00	0.94	0.91	1.07	0.12
Employment rate	raw	52.90	68.90	68.96	80.50	5.81
(positive)	normalized	0.00	0.77	0.75	1.30	0.20
Early school leavers	raw	2.70	11.35	12.34	42.10	6.91
(negative)	normalized	0.00	0.95	0.90	1.15	0.18
Poverty rate	raw	71.00	1586.50	4333.73	17975.00	5232.17
(negative)	normalized	0.00	0.97	0.87	1.00	0.22

The descriptive statistics reveal some important patterns. Firstly, at least one country has reached each target as the maximum value is greater than one for every objective. Next, the medians and averages show that the performances are clearly different for each objective. The performances are relatively high for the poverty rate, early school leavers, energy efficiency, greenhouse emissions; relatively poor for employment rate and tertiary education topics; and very poor for renewable energy and R&D expenditure topics. Finally, the dispersion is quite high for R&D expenditure, greenhouse emissions, renewable energy, tertiary education topics, and lower for poverty rate, employment rate, early school leavers, and energy efficiency topics. Of course, basing our conclusion only on the descriptive statistics for all years and countries is quite restrictive, but they reveal interesting results. Providing detailed

results for each pillar is the aim of the next Section.

3.2 Results

We start by giving the results for the composite indexes for the three pillars and for the Europe 2020 objectives overall. Next, we decompose each composite index into three components: country-, group-, and objective-specific indexes. In this Section, we present the main results using graphs. Detailed results for every country and every year are available in the Appendix. For the three pillars, refer to Tables 5, 6, and 7 for the composite index, Tables 8, 9, and 10 for the country-specific index. For the Europe 2020 objectives, refer to Table 11 for the composite index and Table 12 for the country-specific index. Finally, the group- and objective-specific indexes are available in Tables 13 and 14, respectively.

Composite index results. For simplicity, we make use of exogenous weights by defining $\omega_{j,i}^t = \frac{1}{I}$. As such, our aggregation scheme corresponds to the geometric average.[4] Exogenous weights seem quite natural in this context as they give the same importance to all objectives in the aggregation. Moreover, as explained in Section 2, the chosen weights have no impact on our decomposition technique. That is, for any weighting procedures, we are able to decompose the composite index into the three parts. Importantly, for some countries the composite index could be, by construction, equal to zero. This happens when a country has the worst value for at least one indicator. One way to overcome this issue is to set the value of the normalised indicator to the smallest value of all the normalised indicators. In our case the smallest value is 0.01. The exogenous weights and the strategy to overcome zero value have also been used by Pasimeni (2012, 2013), and Pasimeni and Pasimeni (2016) in a similar context.

We start by showing the results for the three pillars. In particular, in Figure 1, we plot the descriptive statistics (minimum, median, average, maximum, and standard deviation) for the composite index for each year.

Figure 1: Composite index for the three pillars: descriptive statistics

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[4]At this point, it should be clear that the Europe 2020 index is also obtained as a geometric average of the sub-indexes. The same strategy is used in Pasimeni (2012, 2013), and Pasimeni and Pasimeni (2016).

An initial observation is that, while the performances for the three pillars have, on average, increased over time, the performance changes for the three pillars are clearly different. The initial average levels (i.e. in 2004) are 0.75 for the Inclusive growth pillar (median 0.83), 0.61 for the Sustainable growth pillar (median 0.66), and 0.39 for the Smart growth pillar (median 0.32). Those initial averages also show that the targets for the Smart growth pillar are relativity high compared with the two other pillars. The final year averages (i.e. in 2015) are 0.86 for the Inclusive growth pillar (median 0.91), 0.93 for the Sustainable growth pillar (median 0.94), and 0.65 for the Smart growth pillar (median 0.60). Therefore, important efforts still have to be done to meet the Smart growth targets. This is probably due to the poor performance on the R&D expenditure objective, see Table 2. The dispersion, captured by the standard deviation, is higher for the Smart growth pillar meaning that the lower averages could be due to relatively worse performances of some countries. Afterwards, the maximum is larger than one for every pillar. As explained in Section 2, it does not mean that all objectives have been reached as the issue of the compensability could occur, but it shows that some countries have good performances and have achieved some targets. Finally, the minimum is larger for the Inclusive growth before 2010 and for the Sustainable growth pillar after 2010. This it is due, as explained previously, to the less strong targets for the Inclusive growth pillar.

To complete our analysis, in Figure 2, we plot the composite index levels of each pillar for every country for the initial and final year. This allows us to investigate changes for the period at the country level.

Figure 2: Composite index for the three pillar: changes

For the Smart Growth pillar, only Finland has a score larger than one for the initial year, while Denmark, Austria, Finland, and Sweden present an index larger than unity for the final year. Also, as expected from our previous discussion based on the averages and medians of this index, some countries have poor performances (such as Bulgaria, Croatia, Cyprus, Latvia, Malta, Romania, and Slovakia). For the Sustainable Growth pillar, two countries are very close to the unity value for the initial year: Croatia and Latvia. For the final year, 12 countries have a score larger than one, while others (such as Germany and Finland) are very close to that value. For the inclusive growth pillar, Denmark and Ireland are very close to meeting the

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targets for the initial year, and several countries are close to meeting the targets for the final year. This shows again that the targets for this pillar are, on average, less strong than for the other pillars. Only Ireland, Lithuania, and Sweden have an index greater than one for the final year, and several countries have faced a decrease of the index (Denmark, Greece, Italy, Slovenia, United Kingdom). This reveals that, while this target is less strong, it seems more difficult to be reached, or countries have put less effort into achieving the objectives. Finally, note the important increase of Malta, Poland, and Portugal.

In Figure 3, we present the same kind of figures for each pillar for the Europe 2020 objectives as a whole, i.e. taking all the objectives into account.

Figure 3: Composite index for the Europe 2020 objectives

Firstly, no country has a score greater than one for the Europe 2020 objectives for the initial year, while two countries have scores larger than one (Denmark and Sweden) for the final year. Some countries are close to this situation. The standard deviation decreases on the period meaning that the countries are becoming more and more homogeneous. On average, countries have improved the index of 0.26 (from 0.55 to 0.81). The median is very close to the averages; this again goes in favour of more homogeneity in the sample. The maximum increases from 0.88 to 1.04. At the country level, all countries have increased their score for the period. Note the important increase of Bulgaria, Malta, Poland, Portugal, Romania, and Slovakia. This is mainly explained by their low initial level.

Decomposition results.   Using the composite index specially designed to take the target levels into account, we have quantified, in the previous part, the performances and the efforts still needed to achieve the three pillars of the Europe 2020 strategy. While these results are important, no details are given on the possible reasons for the best/worse performances. Is it due to particular events that have affected all the countries (such as an economic crisis or policy implementations, regulations at the European level) or that have only affected specific countries? Are the targets of some countries too high or too low? Have countries put enough effort into reaching the targets? Are there structural inefficiencies for some countries or at the European level? Clearly, all these potential reasons are easily confused when relying only on

the composite index. In this part, we isolate the potential reasons by decomposing the composite index into three components: country-, group-, and objective-specific index.

We start by presenting the averages of the decomposition for the initial and final year in Table 4. Note that the results are very similar using the medians. In fact, as shown before for the composite index and later for the decomposition, the averages and the medians are very close for every pillar.

Table 4: Average results for the decomposition

Pillar	Year	CI	$COUNTRY$	$GROUP$	$OBJECTIVE$
Smart Growth	2004	0.39	0.36	0.79	1.45
	2015	0.65	0.50	0.93	1.45
Sustainable Growth	2004	0.61	0.44	0.88	1.70
	2015	0.93	0.56	1.00	1.70
Inclusive Growth	2004	0.75	0.64	0.95	1.28
	2015	0.86	0.70	1.00	1.28
Europe 2020	2004	0.55	0.45	0.88	1.46
	2015	0.81	0.57	0.98	1.46

An initial observation is that for all three pillars, both the country- and group-specific indexes have, on average, increased. As such, countries are becoming more homogeneous by improving their performance with respect to best practice, and being a member of the European Union is an advantage in this context as the group performance also improves with time. Nevertheless, important improvements are still possible for the country-specific indexes while the group-specific indexes are, except for the Smart growth pillar, equal to unity for the final year.

Next, the more important increases of both the Smart and Sustainable growth pillars are explained by important increases of both the country- and group-specific indexes. For the Sustainable growth pillar, there is still a possibility to reach the targets before 2020. Especially, there is still important room for improvement at the country-specific level (on average 0.56 in 2015). The same holds true for the Smart growth pillar (there is still room for improvement for both the country- and group-specific index). Nevertheless, we have significant doubts concerning the achievement of the objectives. Indeed, as discussed previously, the increase of the composite index for that pillar is rather small for the period, and the performance for both the country and group levels do not indicate that the countries are on course to reach

those objectives. Clearly, this could be countered by a combination of strong country- and group-level policies.

The relatively poorer performances of the Inclusive growth pillar are explained by smaller improvements of both the country- and group-specific index. Also, for this pillar, important improvements are still possible at the country level. The objective-specific indexes are larger than one showing that the three pillars have been reached by some countries for the period. For the Europe 2020 strategy overall, the improvement of both the group- and country-specific indexes is not important enough for the period. As such, it raises doubts over the possibility of reaching the targets for all countries before 2020. The group-specific index shows that there is almost no room for improvement at the group level, but important improvements could be made at the country-level. Finally, the objective-specific index reveals that all the objectives have been reached, and have even been surpassed (by some countries). Therefore, based on the objective-specific index, we cannot conclude that the targets are not well set or not reachable.

We now give more detailed results for the decomposition by considering both descriptive statistics for each year, and the levels of the indexes for the initial and final year. We start with the country-specific indexes. These indexes are computed for each country and year for every pillar. They reveal how each country performs with respect to the best practice of the group. We give in Figure 4 the descriptive statistics for each pillar, and in Figure 5 the index levels for each pillar for every country for the initial and final year.

Figure 4: Country-specific index for the three pillars: descriptive statistics

If the index is equal to one for a given country, it means that this country has the same performances as the best practice of the sample for a specific year. For the three pillars, the averages are far from one, meaning that countries could, in principle, increase their performance for the period. For the Smart and Sustainable growth pillars, the country-specific indexes have, on average, increased over time. For the Inclusive growth pillar, the relatively poor performances shown before are in fact due to poorer country performance as the index is more or less constant for the period. Moreover, the maximum is constant and the minimum decreases. For the Smart growth pillar, the maximum decreases, while the minimum increases slowly.

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For the Sustainable growth pillar, both the maximum and minimum increase. Our results are also confirmed by the standard deviation, as the standard deviation of Smart and Sustainable growth pillars decrease, while the standard deviation of the Inclusive growth pillar is more or less constant.

Figure 5: Country-specific index for the three pillars: changes

The results per country are available in Figure 5. For all countries, except Finland, the performances have increased for the Smart growth pillar. In fact, we can now explain the slow decrease of Finland: it is due to country-specific events/policies/factors. Note also that the country-specific index of Ireland is larger than the composite index in 2004, and that the country-specific index of Luxembourg is larger than the composite index in 2004 and slightly larger in 2015. This shows that the performances of those countries are probably underestimated by the composite index. The best performing countries are: Finland, Sweden, Denmark, and Austria. Poor performers include Romania, Bulgaria, Croatia, Italy, Cyprus, Latvia, and Malta; despite some having significantly increased indexes over the period. This shows that, for those countries, country-specific events/factors/policies are responsible for their poorer results. This also explains the relatively poor performances for this pillar. For the Sustainable growth pillar, all countries have improved their index. The best countries are Sweden, Latvia, and Denmark. Poor performers include Cyprus, Luxembourg, and Malta. This explains the poor performances shown for the composite index of Cyprus and Malta, but this is unexpected for Luxembourg. As such, the performance of that country is probably overestimated. This is also, to a smaller extent, the case of Belgium, Poland, Ireland, Spain, and the United Kingdom. Indeed, for those countries, the country-specific indexes are rather small when compared with the composite indexes. For that pillar, no country presents an underestimation of its performance. The relatively poor performances for the Inclusive growth pillar are also explained by the country-specific index. In fact, some countries (such as Denmark, Ireland, Greece, Spain, Italy, Slovenia, Finland, and the United Kingdom) face a reduction of their index. It means that some country-specific reasons explain the relativity poor performances of those countries for this pillar. Also, note the major progress of Malta, Poland and Portugal explaining their good practice; and the possible overestimation of the performances of Germany and the United Kingdom.

Finally, we present the results for the Europe 2020 strategy overall in Figure 6. On average, the country-specific index for the Europe 2020 objectives has increased overall, but important progress is still possible. Also, the maximum and the minimum have increased over time, which is positive news. The dispersion has also decreased making the sample more homogeneous. At the country level, the index has increased for all the countries except for Finland where it is stable. It means that the country-level index goes in favour of better performances, but the increases are not important enough to reach the targets. The best countries are Denmark, Sweden, Finland, Austria and Latvia. Poor performers include Italy, Cyprus, and Malta. The results do not suggest the presence of underestimation or overestimation of the performances at that level, meaning that the composite index accurately measures the performances of the countries. All in all, the country-specific index seems to be the key to explaining the previous results found for the composite index.

Figure 6: Country-specific index for the Europe 2020 objectives

The next step is to investigate the performances of the group-specific indexes. Those indexes depend on time alone, and are thus the same for every country. They represent how the performances of the group have changed. This is particularly relevant in our Europe 2020 context as the European countries form a group; knowing whether being a member of this group has a positive or negative impact on the achievement of the targets is valuable information. In Figure 7, we plot the group-specific indexes for the three pillars and the Europe 2020 objectives overall.

Figure 7: Group-specific index

When this index is one, it means that the group has the best performance for the period. An initial observation is that the index values are quite high, between 0.79 and 1 for the period, having increased over time. Next, the opening level is clearly different for the three pillars. They are in line with the efforts asked by the Europe 2020 strategy. That is, a lower value for the Smart growth pillar and a greater value for the Inclusive growth pillar. Afterwards, the increase is also clearly different for the three pillars. In fact, they have started from a different level but have reached 0.93, 1, and 1, respectively. This means that there is a convergence over time between the three pillars, and policy at the group-level could still be useful for the Smart growth

pillar to reach the one value. For the Europe 2020 index, the increase is almost linear for the period, and has reached a value of 0.98 for the final year, due to the relative worse performance of the Smart growth pillar.

The third and last reason for better/worse performances could be due to the objective itself. Indeed, it could be that the targets are not reachable for the period considered. The last part of our decomposition responds to that question. As such, this index is time independent and only depends on the country (and on the objective). In figure 8, we plot the descriptive statistics of those indexes.

Figure 8: Objective-specific index

This graph reveals first that the countries could, on average, have scores greater than one for the period 2004-2015. That is, they could reach (some or all) objectives, and even surpass some. Note that, some countries have reached and surpassed some objectives (as seen in Figure 2). Next, it reveals once more the relatively poor performance of the Inclusive growth pillar, as the median, the average, and the maximum are smaller for that pillar. The minimum value is poor for the Smart growth pillar showing again how hard it is to reaching those pillar objectives for the countries. Also, while important efforts have already been made and countries are, on average, close to reaching that pillar, it shows that more could be done for the Sustainable growth pillar. Finally, the standard deviation confirms our previous observation of a more homogeneous European group over time. The results for the Europe 2020 strategy confirms our findings. The targets are, in principle, achievable, and could even be surpassed. All in all, the objective-specific indexes do not give weight to the argument claiming that the Europe 2020 strategy, and, in particular, the targets, are not well set.

4 Conclusion

Recently, using a composite index has been suggested to quantify, measure and monitor the progress of the European countries towards the achievement of the Europe 2020 objectives; the new strategy of the European Union to boost economic growth while fighting structural weaknesses. Using a composite index presents several advantages in this context: they are easy to construct and to interpret, they can be

used to compare and to benchmark countries, and composite indexes could be defined for each pillar of the Europe 2020 objectives. In this paper, we suggested a decomposition of this composite index. This decomposition, while simple and consistent with previous works, provides important results, by distinguishing between three different components: country-, group-, and objective-specific indexes. Clearly, by relying only on the composite index, all these reasons are easily confused. We applied our methodology to 28 European countries for the period 2004-2015. We found that, while the performances have increased over the period, significant efforts are still required to reach the Europe 2020 objectives. Also, using the decomposition, we highlighted important patterns for each country at the three levels.

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Appendix

Table 5: Smart Growth Index

Country	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Belgium	0.67	0.65	0.68	0.69	0.73	0.73	0.77	0.78	0.83	0.83	0.85	0.84
Bulgaria	0.17	0.15	0.16	0.14	0.16	0.20	0.24	0.22	0.25	0.28	0.37	0.44
Czech Republic	0.18	0.20	0.21	0.22	0.28	0.35	0.42	0.53	0.62	0.67	0.71	0.74
Denmark	0.90	0.92	0.92	0.87	0.94	1.02	1.01	1.01	1.05	1.06	1.08	1.13
Germany	0.64	0.62	0.62	0.64	0.68	0.73	0.74	0.77	0.80	0.82	0.80	0.81
Estonia	0.34	0.40	0.47	0.46	0.53	0.59	0.69	0.86	0.81	0.75	0.68	0.72
Ireland	0.42	0.43	0.45	0.47	0.53	0.61	0.62	0.60	0.61	0.62	0.61	0.61
Greece	0.22	0.25	0.25	0.26	0.29	0.29	0.29	0.33	0.36	0.45	0.48	0.57
Spain	0.46	0.50	0.52	0.55	0.58	0.59	0.60	0.59	0.58	0.58	0.57	0.55
France	0.65	0.66	0.69	0.70	0.71	0.76	0.76	0.76	0.77	0.78	0.78	0.79
Croatia	0.26	0.24	0.20	0.21	0.26	0.29	0.29	0.29	0.28	0.33	0.39	0.40
Italy	0.30	0.34	0.36	0.40	0.42	0.43	0.45	0.46	0.51	0.53	0.58	0.60
Cyprus	0.10	0.10	0.12	0.15	0.14	0.19	0.20	0.20	0.19	0.22	0.25	0.24
Latvia	0.09	0.16	0.21	0.23	0.25	0.19	0.31	0.38	0.38	0.36	0.41	0.38
Lithuania	0.29	0.33	0.36	0.34	0.36	0.38	0.38	0.44	0.45	0.49	0.54	0.57
Luxembourg	0.43	0.48	0.48	0.46	0.51	0.58	0.53	0.54	0.50	0.53	0.52	0.52
Hungary	0.26	0.26	0.31	0.32	0.36	0.42	0.45	0.49	0.54	0.61	0.62	0.63
Malta	0.13	0.15	0.20	0.19	0.18	0.19	0.23	0.27	0.34	0.33	0.33	0.35
Netherlands	0.66	0.67	0.68	0.67	0.70	0.72	0.74	0.78	0.80	0.82	0.85	0.87
Austria	0.51	0.54	0.55	0.55	0.60	0.64	0.65	0.65	0.75	0.77	1.05	1.03
Poland	0.15	0.17	0.18	0.20	0.23	0.28	0.32	0.34	0.41	0.42	0.45	0.49
Portugal	0.17	0.20	0.25	0.30	0.40	0.42	0.45	0.48	0.48	0.50	0.50	0.51
Romania	0.01	0.04	0.07	0.12	0.17	0.13	0.14	0.19	0.19	0.12	0.12	0.23
Slovenia	0.44	0.44	0.52	0.53	0.58	0.63	0.73	0.85	0.91	0.92	0.89	0.89
Slovakia	0.07	0.09	0.09	0.08	0.09	0.11	0.20	0.23	0.28	0.32	0.34	0.44
Finland	1.08	1.09	1.13	1.15	1.16	1.20	1.19	1.18	1.14	1.10	1.08	1.03
Sweden	0.88	0.95	1.00	0.99	1.04	1.06	1.05	1.07	1.09	1.11	1.10	1.12
United Kingdom	0.55	0.57	0.59	0.63	0.64	0.68	0.69	0.71	0.71	0.73	0.74	0.74
Minimum	0.01	0.04	0.07	0.08	0.09	0.11	0.14	0.19	0.19	0.12	0.12	0.23
Median	0.32	0.37	0.41	0.43	0.46	0.50	0.49	0.53	0.56	0.59	0.60	0.60
Average	0.39	0.41	0.44	0.45	0.48	0.51	0.54	0.57	0.59	0.61	0.63	0.65
Maximum	1.08	1.09	1.13	1.15	1.16	1.20	1.19	1.18	1.14	1.11	1.10	1.13
Std	0.27	0.27	0.28	0.27	0.27	0.28	0.27	0.27	0.27	0.26	0.26	0.25

Table 6: Sustainable Growth Index

Country	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Belgium	0.46	0.50	0.53	0.57	0.59	0.68	0.70	0.76	0.80	0.81	0.85	0.84
Bulgaria	0.19	0.38	0.49	0.64	0.75	0.90	0.93	0.87	0.97	1.12	1.06	1.06
Czech Republic	0.72	0.75	0.77	0.81	0.85	0.90	0.91	0.94	0.99	1.02	1.08	1.09
Denmark	0.71	0.75	0.72	0.76	0.80	0.83	0.85	0.90	0.95	0.97	1.01	1.03
Germany	0.66	0.70	0.73	0.78	0.77	0.82	0.83	0.86	0.88	0.88	0.93	0.95
Estonia	0.85	0.89	0.92	0.90	0.93	0.99	0.93	0.97	1.01	0.95	0.98	1.05
Ireland	0.41	0.43	0.45	0.47	0.50	0.58	0.60	0.66	0.68	0.70	0.73	0.75
Greece	0.56	0.55	0.57	0.59	0.60	0.64	0.69	0.72	0.79	0.85	0.87	0.87
Spain	0.45	0.41	0.45	0.43	0.53	0.65	0.68	0.67	0.69	0.76	0.77	0.77
France	0.66	0.66	0.66	0.69	0.72	0.75	0.75	0.74	0.79	0.81	0.84	0.85
Croatia	0.96	0.96	0.95	0.92	0.94	0.99	1.01	1.02	1.07	1.10	1.12	1.13
Italy	0.61	0.65	0.68	0.72	0.77	0.84	0.84	0.85	0.92	0.97	0.99	1.00
Cyprus	0.32	0.31	0.28	0.22	0.15	0.27	0.35	0.39	0.49	0.61	0.59	0.60
Latvia	0.97	0.98	0.98	0.97	0.97	1.01	0.94	1.00	1.03	1.05	1.07	1.07
Lithuania	0.87	0.91	0.93	0.92	0.96	1.00	1.05	1.06	1.09	1.14	1.16	1.19
Luxembourg	0.36	0.42	0.44	0.56	0.56	0.58	0.57	0.58	0.60	0.64	0.71	0.74
Hungary	0.65	0.65	0.69	0.74	0.77	0.84	0.98	1.03	1.09	1.13	1.09	1.09
Malta	0.17	0.13	0.12	0.11	0.11	0.13	0.25	0.27	0.26	0.45	0.47	0.49
Netherlands	0.47	0.50	0.53	0.56	0.58	0.62	0.59	0.64	0.65	0.66	0.70	0.72
Austria	0.72	0.72	0.76	0.79	0.80	0.86	0.83	0.85	0.87	0.88	0.91	0.91
Poland	0.69	0.70	0.69	0.71	0.74	0.80	0.80	0.84	0.87	0.89	0.91	0.92
Portugal	0.57	0.54	0.61	0.65	0.68	0.72	0.76	0.78	0.79	0.82	0.83	0.84
Romania	0.81	0.85	0.86	0.91	0.97	1.04	1.05	1.01	1.05	1.11	1.13	1.14
Slovenia	0.73	0.72	0.72	0.72	0.69	0.81	0.81	0.81	0.83	0.87	0.90	0.91
Slovakia	0.68	0.70	0.73	0.81	0.81	0.90	0.88	0.93	0.96	0.95	1.02	1.06
Finland	0.74	0.82	0.76	0.77	0.84	0.85	0.81	0.86	0.91	0.93	0.96	0.97
Sweden	0.83	0.86	0.88	0.90	0.92	0.97	0.93	0.96	0.99	1.01	1.02	1.04
United Kingdom	0.38	0.41	0.43	0.46	0.54	0.60	0.62	0.66	0.68	0.73	0.81	0.85
Minimum	0.17	0.13	0.12	0.11	0.11	0.13	0.25	0.27	0.26	0.45	0.47	0.49
Median	0.66	0.68	0.69	0.72	0.76	0.83	0.82	0.85	0.88	0.88	0.92	0.94
Average	0.61	0.64	0.65	0.68	0.71	0.77	0.78	0.81	0.85	0.89	0.91	0.93
Maximum	0.97	0.98	0.98	0.97	0.97	1.04	1.05	1.06	1.09	1.14	1.16	1.19
Std	0.21	0.21	0.20	0.20	0.21	0.21	0.19	0.19	0.19	0.17	0.17	0.17

Table 7: Inclusive Growth Index

Country	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Belgium	0.81	0.83	0.84	0.86	0.87	0.86	0.86	0.85	0.85	0.86	0.88	0.87
Bulgaria	0.56	0.62	0.71	0.80	0.86	0.83	0.77	0.73	0.73	0.74	0.79	0.82
Czech Republic	0.90	0.91	0.93	0.95	0.95	0.93	0.92	0.93	0.94	0.96	0.97	0.99
Denmark	0.98	0.98	1.00	0.95	0.97	0.95	0.93	0.94	0.94	0.96	0.96	0.97
Germany	0.67	0.68	0.56	0.55	0.62	0.64	0.67	0.68	0.71	0.68	0.64	0.70
Estonia	0.86	0.89	0.96	0.96	0.97	0.86	0.83	0.90	0.93	0.96	0.95	0.98
Ireland	0.99	1.02	1.03	1.04	1.02	0.91	0.86	0.84	0.85	0.91	0.96	1.00
Greece	0.80	0.83	0.84	0.85	0.86	0.85	0.81	0.69	0.47	0.24	0.28	0.48
Spain	0.55	0.60	0.63	0.63	0.59	0.53	0.53	0.52	0.48	0.46	0.49	0.55
France	0.75	0.77	0.77	0.76	0.78	0.77	0.75	0.75	0.76	0.80	0.80	0.82
Croatia	0.85	0.87	0.90	1.02	1.05	1.02	0.96	0.87	0.79	0.75	0.86	0.92
Italy	0.58	0.60	0.62	0.63	0.64	0.64	0.62	0.45	0.18	0.37	0.40	0.35
Cyprus	0.88	0.90	0.96	1.00	0.98	0.99	0.97	0.96	0.91	0.87	0.90	0.92
Latvia	0.84	0.87	0.93	0.97	0.97	0.83	0.80	0.85	0.90	0.94	0.97	0.99
Lithuania	0.91	0.96	0.97	1.00	1.00	0.89	0.83	0.90	0.94	0.97	1.01	1.04
Luxembourg	0.88	0.90	0.89	0.91	0.89	0.98	0.99	0.98	0.99	1.00	1.02	0.97
Hungary	0.71	0.71	0.72	0.73	0.71	0.67	0.66	0.67	0.70	0.73	0.82	0.87
Malta	0.14	0.42	0.45	0.50	0.55	0.57	0.62	0.67	0.73	0.78	0.81	0.85
Netherlands	0.86	0.87	0.89	0.92	0.94	0.94	0.93	0.93	0.93	0.92	0.92	0.93
Austria	0.88	0.90	0.91	0.92	0.94	0.95	0.96	0.96	0.97	0.98	0.98	0.98
Poland	0.28	0.30	0.50	0.66	0.77	0.80	0.79	0.80	0.81	0.83	0.88	0.93
Portugal	0.42	0.46	0.46	0.53	0.58	0.65	0.69	0.75	0.73	0.73	0.79	0.85
Romania	0.66	0.69	0.73	0.73	0.77	0.75	0.76	0.76	0.77	0.78	0.80	0.81
Slovenia	0.93	0.94	0.94	0.97	0.97	0.95	0.92	0.89	0.89	0.87	0.88	0.90
Slovakia	0.81	0.83	0.87	0.90	0.94	0.90	0.85	0.86	0.86	0.85	0.87	0.91
Finland	0.89	0.90	0.92	0.94	0.95	0.91	0.90	0.92	0.93	0.92	0.91	0.91
Sweden	0.94	0.93	0.96	0.99	0.99	0.97	0.97	0.99	0.98	0.99	0.99	1.00
United Kingdom	0.71	0.71	0.74	0.73	0.70	0.73	0.69	0.70	0.65	0.62	0.67	0.70
Minimum	0.14	0.30	0.45	0.50	0.55	0.53	0.53	0.45	0.18	0.24	0.28	0.35
Median	0.83	0.85	0.88	0.91	0.91	0.86	0.83	0.85	0.85	0.86	0.88	0.91
Average	0.75	0.78	0.81	0.84	0.85	0.83	0.82	0.81	0.80	0.80	0.83	0.86
Maximum	0.99	1.02	1.03	1.04	1.05	1.02	0.99	0.99	0.99	1.00	1.02	1.04
Std	0.20	0.18	0.17	0.16	0.15	0.13	0.12	0.14	0.18	0.19	0.18	0.16

Table 8: Country-specific Smart Growth Index

Country	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Belgium	0.66	0.64	0.63	0.65	0.66	0.63	0.66	0.67	0.73	0.74	0.76	0.70
Bulgaria	0.14	0.13	0.12	0.11	0.13	0.14	0.17	0.16	0.19	0.21	0.28	0.31
Czech Republic	0.14	0.15	0.15	0.16	0.20	0.23	0.27	0.35	0.42	0.45	0.49	0.48
Denmark	0.80	0.81	0.77	0.74	0.77	0.79	0.77	0.79	0.83	0.84	0.87	0.85
Germany	0.58	0.57	0.54	0.55	0.58	0.59	0.58	0.62	0.66	0.67	0.66	0.63
Estonia	0.30	0.35	0.39	0.39	0.43	0.46	0.52	0.67	0.64	0.60	0.55	0.54
Ireland	0.49	0.49	0.48	0.51	0.57	0.61	0.61	0.60	0.63	0.64	0.63	0.60
Greece	0.17	0.19	0.18	0.19	0.20	0.19	0.19	0.22	0.24	0.30	0.33	0.37
Spain	0.43	0.47	0.46	0.49	0.51	0.48	0.49	0.49	0.49	0.49	0.49	0.44
France	0.66	0.68	0.67	0.68	0.67	0.68	0.67	0.68	0.70	0.71	0.72	0.69
Croatia	0.21	0.19	0.15	0.16	0.19	0.20	0.21	0.21	0.20	0.24	0.28	0.28
Italy	0.19	0.22	0.22	0.24	0.25	0.24	0.25	0.26	0.29	0.31	0.34	0.33
Cyprus	0.11	0.09	0.11	0.14	0.12	0.16	0.17	0.17	0.17	0.19	0.22	0.20
Latvia	0.07	0.12	0.16	0.17	0.18	0.13	0.21	0.27	0.27	0.26	0.29	0.26
Lithuania	0.29	0.33	0.34	0.33	0.34	0.33	0.33	0.39	0.41	0.45	0.49	0.49
Luxembourg	0.52	0.58	0.55	0.53	0.57	0.61	0.56	0.57	0.54	0.57	0.57	0.54
Hungary	0.21	0.21	0.23	0.24	0.26	0.29	0.31	0.34	0.38	0.43	0.45	0.43
Malta	0.10	0.12	0.15	0.14	0.13	0.13	0.16	0.18	0.24	0.23	0.23	0.23
Netherlands	0.58	0.59	0.56	0.56	0.57	0.56	0.56	0.61	0.64	0.65	0.69	0.66
Austria	0.44	0.46	0.44	0.45	0.47	0.48	0.48	0.49	0.57	0.59	0.81	0.75
Poland	0.14	0.16	0.16	0.18	0.21	0.23	0.26	0.29	0.35	0.36	0.40	0.40
Portugal	0.15	0.17	0.21	0.25	0.33	0.32	0.35	0.38	0.38	0.39	0.40	0.38
Romania	0.01	0.03	0.05	0.08	0.11	0.08	0.08	0.11	0.11	0.07	0.07	0.13
Slovenia	0.39	0.39	0.43	0.45	0.47	0.49	0.56	0.66	0.72	0.73	0.72	0.67
Slovakia	0.06	0.08	0.07	0.07	0.07	0.08	0.16	0.18	0.22	0.25	0.27	0.33
Finland	0.99	0.99	0.97	1.00	0.98	0.96	0.94	0.95	0.93	0.90	0.90	0.81
Sweden	0.84	0.90	0.90	0.90	0.92	0.89	0.86	0.90	0.94	0.95	0.96	0.92
United Kingdom	0.53	0.54	0.54	0.57	0.57	0.57	0.57	0.60	0.61	0.62	0.64	0.61
Minimum	0.01	0.03	0.05	0.07	0.07	0.08	0.08	0.11	0.11	0.07	0.07	0.13
Median	0.30	0.34	0.37	0.36	0.38	0.40	0.42	0.44	0.45	0.47	0.49	0.49
Average	0.36	0.38	0.38	0.39	0.41	0.41	0.43	0.46	0.48	0.49	0.52	0.50
Maximum	0.99	0.99	0.97	1.00	0.98	0.96	0.94	0.95	0.94	0.95	0.96	0.92
Std	0.26	0.26	0.25	0.25	0.25	0.25	0.23	0.24	0.23	0.23	0.23	0.21

Table 9: Country-specific Sustainable Growth Index

Country	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Belgium	0.27	0.29	0.31	0.33	0.34	0.37	0.40	0.42	0.44	0.44	0.45	0.44
Bulgaria	0.13	0.18	0.24	0.31	0.35	0.41	0.43	0.40	0.43	0.49	0.46	0.46
Czech Republic	0.40	0.42	0.42	0.44	0.45	0.47	0.48	0.49	0.50	0.51	0.54	0.54
Denmark	0.59	0.61	0.58	0.61	0.63	0.63	0.66	0.69	0.72	0.72	0.74	0.75
Germany	0.45	0.47	0.48	0.52	0.50	0.52	0.53	0.55	0.55	0.54	0.56	0.57
Estonia	0.57	0.58	0.59	0.58	0.59	0.61	0.58	0.60	0.61	0.57	0.58	0.61
Ireland	0.28	0.29	0.29	0.31	0.32	0.36	0.37	0.41	0.41	0.42	0.43	0.44
Greece	0.38	0.37	0.38	0.39	0.39	0.40	0.44	0.46	0.49	0.52	0.53	0.52
Spain	0.32	0.29	0.31	0.29	0.36	0.42	0.45	0.44	0.45	0.48	0.49	0.48
France	0.49	0.48	0.48	0.49	0.50	0.51	0.52	0.51	0.53	0.53	0.55	0.55
Croatia	0.65	0.64	0.63	0.61	0.61	0.62	0.64	0.64	0.66	0.67	0.68	0.68
Italy	0.41	0.43	0.44	0.47	0.50	0.52	0.53	0.53	0.56	0.58	0.60	0.59
Cyprus	0.19	0.19	0.16	0.13	0.10	0.15	0.20	0.22	0.27	0.33	0.32	0.32
Latvia	0.82	0.82	0.81	0.79	0.79	0.79	0.75	0.79	0.79	0.80	0.81	0.80
Lithuania	0.59	0.60	0.61	0.60	0.62	0.62	0.66	0.66	0.67	0.69	0.70	0.71
Luxembourg	0.21	0.24	0.25	0.31	0.31	0.31	0.31	0.31	0.32	0.33	0.37	0.38
Hungary	0.37	0.37	0.38	0.41	0.42	0.44	0.52	0.54	0.56	0.57	0.55	0.54
Malta	0.13	0.12	0.11	0.10	0.10	0.11	0.13	0.14	0.13	0.22	0.23	0.24
Netherlands	0.29	0.31	0.32	0.34	0.35	0.36	0.34	0.37	0.37	0.37	0.39	0.39
Austria	0.61	0.61	0.62	0.65	0.65	0.67	0.66	0.67	0.68	0.67	0.69	0.68
Poland	0.40	0.40	0.39	0.40	0.42	0.43	0.44	0.45	0.46	0.46	0.47	0.47
Portugal	0.46	0.44	0.48	0.51	0.53	0.54	0.58	0.58	0.58	0.59	0.60	0.60
Romania	0.56	0.57	0.57	0.60	0.63	0.65	0.67	0.64	0.65	0.68	0.69	0.68
Slovenia	0.53	0.52	0.51	0.51	0.48	0.55	0.56	0.55	0.55	0.57	0.59	0.59
Slovakia	0.40	0.40	0.41	0.46	0.45	0.48	0.48	0.50	0.50	0.49	0.52	0.54
Finland	0.63	0.69	0.63	0.64	0.68	0.67	0.65	0.68	0.70	0.71	0.73	0.73
Sweden	0.79	0.81	0.82	0.83	0.84	0.85	0.82	0.84	0.86	0.86	0.86	0.87
United Kingdom	0.25	0.26	0.27	0.29	0.33	0.35	0.37	0.39	0.40	0.42	0.46	0.48
Minimum	0.13	0.12	0.11	0.10	0.10	0.11	0.13	0.14	0.13	0.22	0.23	0.24
Median	0.41	0.42	0.43	0.46	0.47	0.49	0.52	0.52	0.54	0.54	0.55	0.55
Average	0.44	0.44	0.45	0.46	0.47	0.49	0.51	0.52	0.53	0.54	0.56	0.56
Maximum	0.82	0.82	0.82	0.83	0.84	0.85	0.82	0.84	0.86	0.86	0.86	0.87
Std	0.18	0.18	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.14	0.14	0.14

Table 10: Country-specific Inclusive Growth Index

Country	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Belgium	0.70	0.72	0.71	0.72	0.73	0.74	0.75	0.72	0.72	0.72	0.72	0.72
Bulgaria	0.49	0.54	0.61	0.67	0.72	0.71	0.67	0.62	0.62	0.63	0.66	0.68
Czech Republic	0.84	0.85	0.85	0.85	0.86	0.86	0.86	0.85	0.85	0.86	0.87	0.87
Denmark	0.94	0.95	0.94	0.89	0.90	0.91	0.89	0.89	0.89	0.89	0.89	0.89
Germany	0.43	0.44	0.35	0.34	0.38	0.41	0.43	0.42	0.44	0.42	0.40	0.43
Estonia	0.80	0.83	0.87	0.86	0.87	0.79	0.77	0.82	0.85	0.86	0.84	0.86
Ireland	0.82	0.84	0.84	0.83	0.81	0.75	0.71	0.68	0.69	0.73	0.76	0.78
Greece	0.64	0.67	0.66	0.66	0.67	0.68	0.65	0.54	0.37	0.21	0.21	0.37
Spain	0.38	0.42	0.43	0.43	0.40	0.36	0.36	0.36	0.33	0.31	0.32	0.37
France	0.56	0.57	0.56	0.54	0.56	0.57	0.55	0.54	0.55	0.58	0.57	0.58
Croatia	0.62	0.64	0.65	0.72	0.74	0.74	0.69	0.62	0.56	0.53	0.60	0.64
Italy	0.30	0.32	0.32	0.32	0.33	0.33	0.33	0.23	0.13	0.19	0.20	0.18
Cyprus	0.80	0.82	0.85	0.88	0.86	0.89	0.88	0.85	0.81	0.77	0.78	0.80
Latvia	0.74	0.76	0.80	0.82	0.82	0.72	0.70	0.73	0.77	0.80	0.82	0.83
Lithuania	0.80	0.84	0.83	0.85	0.85	0.77	0.73	0.77	0.81	0.83	0.85	0.87
Luxembourg	0.78	0.79	0.77	0.78	0.76	0.85	0.87	0.85	0.86	0.86	0.87	0.82
Hungary	0.62	0.62	0.62	0.62	0.60	0.58	0.58	0.58	0.60	0.62	0.69	0.73
Malta	0.13	0.35	0.37	0.40	0.45	0.47	0.52	0.55	0.60	0.63	0.65	0.67
Netherlands	0.83	0.83	0.84	0.86	0.87	0.90	0.89	0.87	0.88	0.86	0.84	0.85
Austria	0.81	0.83	0.82	0.82	0.84	0.87	0.88	0.87	0.88	0.88	0.86	0.86
Poland	0.20	0.22	0.36	0.46	0.54	0.58	0.57	0.57	0.57	0.58	0.61	0.64
Portugal	0.37	0.41	0.39	0.45	0.49	0.57	0.60	0.64	0.63	0.62	0.66	0.71
Romania	0.46	0.49	0.51	0.50	0.52	0.52	0.54	0.52	0.53	0.53	0.54	0.55
Slovenia	0.89	0.89	0.88	0.89	0.89	0.89	0.88	0.83	0.83	0.81	0.80	0.82
Slovakia	0.72	0.74	0.76	0.77	0.80	0.79	0.76	0.75	0.75	0.74	0.74	0.77
Finland	0.86	0.87	0.87	0.87	0.88	0.87	0.87	0.86	0.87	0.85	0.84	0.83
Sweden	0.93	0.92	0.93	0.94	0.94	0.95	0.96	0.95	0.95	0.94	0.94	0.94
United Kingdom	0.52	0.52	0.53	0.52	0.49	0.53	0.50	0.50	0.46	0.44	0.46	0.48
Minimum	0.13	0.22	0.32	0.32	0.33	0.33	0.33	0.23	0.13	0.19	0.20	0.18
Median	0.71	0.73	0.73	0.75	0.75	0.74	0.70	0.70	0.70	0.73	0.73	0.75
Average	0.64	0.67	0.68	0.69	0.70	0.70	0.69	0.68	0.67	0.67	0.68	0.70
Maximum	0.94	0.95	0.94	0.94	0.94	0.95	0.96	0.95	0.95	0.94	0.94	0.94
Std	0.22	0.20	0.20	0.19	0.18	0.18	0.17	0.18	0.20	0.20	0.20	0.19

Table 11: Europe 2020 Index

Country	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Belgium	0.62	0.64	0.67	0.70	0.72	0.76	0.78	0.80	0.83	0.84	0.86	0.85
Bulgaria	0.28	0.36	0.42	0.48	0.54	0.60	0.62	0.58	0.62	0.68	0.73	0.77
Czech Republic	0.56	0.58	0.60	0.62	0.67	0.72	0.75	0.81	0.86	0.90	0.93	0.95
Denmark	0.85	0.88	0.86	0.86	0.89	0.92	0.92	0.94	0.97	0.98	1.01	1.03
Germany	0.66	0.67	0.64	0.65	0.69	0.73	0.75	0.77	0.79	0.78	0.78	0.81
Estonia	0.68	0.73	0.79	0.78	0.82	0.83	0.82	0.92	0.93	0.90	0.88	0.93
Ireland	0.58	0.60	0.61	0.64	0.66	0.69	0.69	0.71	0.72	0.75	0.77	0.79
Greece	0.51	0.53	0.54	0.55	0.57	0.58	0.59	0.58	0.54	0.45	0.49	0.63
Spain	0.49	0.50	0.53	0.53	0.56	0.58	0.60	0.59	0.58	0.59	0.60	0.63
France	0.69	0.70	0.71	0.72	0.74	0.76	0.75	0.75	0.77	0.80	0.81	0.82
Croatia	0.66	0.65	0.63	0.66	0.71	0.74	0.73	0.70	0.69	0.71	0.78	0.81
Italy	0.50	0.54	0.56	0.59	0.62	0.64	0.64	0.57	0.43	0.58	0.62	0.59
Cyprus	0.35	0.35	0.36	0.35	0.30	0.40	0.45	0.47	0.49	0.54	0.56	0.56
Latvia	0.50	0.59	0.65	0.67	0.69	0.62	0.67	0.74	0.76	0.77	0.81	0.80
Lithuania	0.67	0.72	0.74	0.74	0.76	0.75	0.75	0.80	0.83	0.87	0.91	0.94
Luxembourg	0.53	0.58	0.59	0.64	0.65	0.71	0.69	0.69	0.69	0.72	0.75	0.75
Hungary	0.53	0.54	0.57	0.59	0.61	0.65	0.70	0.73	0.77	0.82	0.85	0.87
Malta	0.15	0.21	0.23	0.22	0.23	0.24	0.35	0.38	0.41	0.51	0.53	0.55
Netherlands	0.64	0.66	0.68	0.71	0.73	0.75	0.74	0.77	0.79	0.79	0.81	0.83
Austria	0.71	0.73	0.75	0.77	0.79	0.83	0.83	0.83	0.87	0.89	0.97	0.96
Poland	0.34	0.36	0.44	0.50	0.56	0.62	0.63	0.66	0.70	0.71	0.76	0.79
Portugal	0.38	0.40	0.44	0.50	0.56	0.61	0.64	0.68	0.68	0.69	0.72	0.74
Romania	0.26	0.37	0.44	0.51	0.58	0.55	0.57	0.59	0.61	0.56	0.56	0.67
Slovenia	0.70	0.70	0.73	0.75	0.75	0.81	0.83	0.85	0.87	0.88	0.89	0.90
Slovakia	0.42	0.44	0.45	0.47	0.50	0.53	0.60	0.64	0.68	0.69	0.73	0.80
Finland	0.87	0.91	0.90	0.92	0.95	0.95	0.93	0.96	0.97	0.96	0.97	0.96
Sweden	0.88	0.91	0.94	0.95	0.98	0.99	0.97	1.00	1.01	1.02	1.03	1.04
United Kingdom	0.53	0.55	0.57	0.59	0.62	0.67	0.66	0.69	0.67	0.69	0.73	0.76
Minimum	0.15	0.21	0.23	0.22	0.23	0.24	0.35	0.38	0.41	0.45	0.49	0.55
Median	0.54	0.59	0.60	0.64	0.67	0.70	0.69	0.72	0.74	0.76	0.78	0.80
Average	0.55	0.59	0.61	0.63	0.66	0.69	0.70	0.72	0.73	0.75	0.78	0.81
Maximum	0.88	0.91	0.94	0.95	0.98	0.99	0.97	1.00	1.01	1.02	1.03	1.04
Std	0.18	0.17	0.16	0.16	0.16	0.15	0.13	0.14	0.16	0.15	0.14	0.13

Table 12: Country-specific Europe 2020 Index

Country	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Belgium	0.49	0.50	0.50	0.53	0.53	0.55	0.57	0.58	0.60	0.60	0.62	0.60
Bulgaria	0.22	0.25	0.29	0.32	0.36	0.39	0.40	0.37	0.40	0.44	0.46	0.48
Czech Republic	0.41	0.42	0.42	0.44	0.47	0.49	0.52	0.55	0.59	0.60	0.63	0.63
Denmark	0.76	0.78	0.75	0.74	0.76	0.77	0.77	0.79	0.81	0.81	0.83	0.83
Germany	0.47	0.48	0.44	0.45	0.47	0.49	0.50	0.51	0.53	0.52	0.51	0.53
Estonia	0.55	0.58	0.62	0.61	0.63	0.63	0.63	0.69	0.70	0.67	0.66	0.68
Ireland	0.48	0.49	0.49	0.51	0.52	0.54	0.54	0.55	0.56	0.57	0.59	0.59
Greece	0.38	0.39	0.39	0.39	0.41	0.40	0.41	0.40	0.37	0.33	0.33	0.42
Spain	0.37	0.37	0.39	0.38	0.41	0.41	0.42	0.42	0.41	0.41	0.42	0.43
France	0.56	0.56	0.55	0.56	0.56	0.57	0.57	0.56	0.58	0.59	0.60	0.59
Croatia	0.48	0.47	0.44	0.47	0.49	0.50	0.50	0.48	0.46	0.48	0.52	0.53
Italy	0.30	0.32	0.33	0.35	0.36	0.36	0.37	0.32	0.27	0.33	0.35	0.32
Cyprus	0.28	0.27	0.28	0.27	0.24	0.30	0.33	0.35	0.36	0.40	0.41	0.40
Latvia	0.42	0.50	0.53	0.55	0.55	0.49	0.53	0.58	0.60	0.60	0.63	0.61
Lithuania	0.55	0.59	0.59	0.59	0.60	0.58	0.58	0.61	0.64	0.66	0.69	0.70
Luxembourg	0.43	0.47	0.46	0.50	0.51	0.54	0.53	0.53	0.53	0.54	0.57	0.55
Hungary	0.39	0.39	0.40	0.42	0.42	0.44	0.48	0.49	0.52	0.55	0.57	0.57
Malta	0.12	0.18	0.19	0.18	0.19	0.20	0.23	0.25	0.27	0.33	0.34	0.35
Netherlands	0.51	0.53	0.53	0.55	0.56	0.57	0.56	0.58	0.59	0.58	0.60	0.60
Austria	0.62	0.63	0.63	0.65	0.66	0.68	0.68	0.68	0.71	0.72	0.78	0.76
Poland	0.24	0.26	0.30	0.35	0.38	0.41	0.43	0.44	0.47	0.47	0.50	0.51
Portugal	0.32	0.34	0.36	0.41	0.46	0.48	0.52	0.54	0.54	0.54	0.56	0.57
Romania	0.20	0.25	0.29	0.33	0.38	0.35	0.36	0.38	0.39	0.35	0.35	0.41
Slovenia	0.60	0.59	0.60	0.61	0.61	0.64	0.66	0.67	0.69	0.69	0.69	0.69
Slovakia	0.31	0.33	0.33	0.34	0.36	0.37	0.43	0.45	0.48	0.48	0.51	0.55
Finland	0.79	0.82	0.79	0.80	0.82	0.81	0.79	0.81	0.82	0.81	0.81	0.79
Sweden	0.85	0.87	0.88	0.89	0.90	0.90	0.88	0.90	0.91	0.91	0.91	0.91
United Kingdom	0.39	0.40	0.41	0.43	0.44	0.46	0.46	0.48	0.47	0.47	0.50	0.51
Minimum	0.12	0.18	0.19	0.18	0.19	0.20	0.23	0.25	0.27	0.33	0.33	0.32
Median	0.43	0.47	0.44	0.46	0.48	0.49	0.52	0.53	0.53	0.55	0.57	0.57
Average	0.45	0.47	0.47	0.49	0.50	0.51	0.52	0.53	0.54	0.55	0.57	0.57
Maximum	0.85	0.87	0.88	0.89	0.90	0.90	0.88	0.90	0.91	0.91	0.91	0.91
Std	0.17	0.17	0.16	0.16	0.16	0.15	0.14	0.15	0.15	0.15	0.15	0.14

Table 13: Time-specific Index

Index	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	20
Smart Growth	0.79	0.79	0.84	0.83	0.86	0.90	0.91	0.90	0.88	0.88	0.87	0.
Sustainable Growth	0.88	0.89	0.90	0.91	0.92	0.95	0.94	0.95	0.97	0.98	0.99	1.
Inclusive Growth	0.95	0.95	0.97	0.98	0.98	0.96	0.95	0.97	0.97	0.98	0.99	1.
Europe 2020	0.88	0.89	0.91	0.92	0.93	0.94	0.94	0.95	0.95	0.96	0.96	0.

Table 14: Objective-specific Index

Country	Smart Growth	Sustainable Growth	Inclusive Growth	Europe 2020
Belgium	1.29	1.89	1.22	1.46
Bulgaria	1.54	2.31	1.21	1.64
Czech Republic	1.67	2.03	1.13	1.55
Denmark	1.43	1.37	1.09	1.27
Germany	1.38	1.67	1.64	1.58
Estonia	1.43	1.71	1.13	1.40
Ireland	1.10	1.70	1.27	1.37
Greece	1.67	1.67	1.31	1.52
Spain	1.34	1.61	1.51	1.50
France	1.24	1.54	1.41	1.41
Croatia	1.57	1.67	1.44	1.56
Italy	1.97	1.69	1.99	1.87
Cyprus	1.30	1.88	1.15	1.43
Latvia	1.60	1.34	1.20	1.34
Lithuania	1.26	1.68	1.20	1.38
Luxembourg	1.04	1.95	1.19	1.39
Hungary	1.60	2.00	1.20	1.56
Malta	1.63	2.05	1.26	1.61
Netherlands	1.43	1.81	1.09	1.41
Austria	1.48	1.34	1.14	1.29
Poland	1.32	1.94	1.45	1.58
Portugal	1.43	1.40	1.20	1.33
Romania	1.92	1.67	1.49	1.66
Slovenia	1.43	1.55	1.10	1.34
Slovakia	1.43	1.96	1.18	1.50
Finland	1.38	1.34	1.10	1.25
Sweden	1.32	1.20	1.06	1.17
United Kingdom	1.32	1.76	1.44	1.52
Minimum	1.04	1.20	1.06	1.17
Median	1.43	1.68	1.20	1.44
Average	1.45	1.70	1.28	1.46
Maximum	1.97	2.31	1.99	1.87
Std	0.21	0.26	0.20	0.15