TRANSITIONS PERFORMANCE INDEX 2021

Towards fair and prosperous sustainability

European Commission

Research and Innovation

TRANSITIONS PERFORMANCE INDEX 2021 – Towards fair and prosperous sustainability

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TRANSITIONS PERFORMANCE INDEX 2021

Towards fair and prosperous sustainability

FOREWORD

Europe is in transition. Existing and emerging challenges such as the COVID-19 pandemic, climate change, and shifts in the labour market require us to build a more resilient, sustainable, and inclusive society. We are investing to ensure our youth can look forward to a healthy, safe and innovative future.

What gets measured gets done, and transitions take place worldwide. Change can be fast or slow, balanced or unbalanced, constructive or, in some cases, regressive. Measuring the transition performance of countries can inspire us and help us set the right policies for moving faster and better towards our goals of sustainability, resilience and fairness.

An indicator measuring changes across four transitions – environment, economy, social and governance – needs to analyse a complex and multi-faceted reality yet offer a straightforward scoring method and a way to compare results.

This is what our Transitions Performance Index (TPI) aims to do. It provides a tool for developing well-balanced policies in a complex and multi-faceted reality by keeping track of the recovery and the transition towards a more sustainable, competitive and inclusive growth model for the post-pandemic era. By doing so, the TPI also contributes to the "beyond GDP" debate.

In this new edition, the index has evolved to better mirror the twin transitions, taking into account the lessons learned in the context of the pandemic. First, it has an indicator to measure the percentage of people with digital skills.

Another one shows the percentage of people with access to the internet. Following extensive stakeholder feedback, an indicator to track a country's material footprint is also included.

The findings clearly show that no country in the world leads on all four transitions. At the same time, all the EU-27 countries are among the top transition leaders and have a performance progress rate above the global average. The finding also shows that continuous investment in education pays off, with the top economic performers scoring the highest in expenditure per student.

I believe that Europe has an excellent basis for achieving the ambitious goals we have set for this decade. We need to continue investing in the education of our youth and scale up and intensify our science and innovation solutions.

At the same time, now more than ever, it is crucial to intensify the dialogue with people about their reality and wellbeing. I believe the TPI has a signalling effect that helps us change perceptions and steers our path towards a fair and green recovery. Let us use this signal to foster the transition to a more resilient, sustainable and inclusive society.

Mariya Gabriel
European Commissioner for Innovation, Research, Culture, Education and Youth

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TPI COUNTRY COVERAGE

COUNTRY NAMES AND CODES				COUNTRY CODES AND NAMES			
Albania	AL	Lithuania	LT	AE	United Arab Emirates	JP	Japan
Algeria	DZ	Luxembourg	LU	AL	Albania	KE	Kenya
Argentina	AR	Malaysia	MY	AM	Armenia	KR	South Korea
Armenia	AM	Malta	MT	AR	Argentina	LT	Lithuania
Australia	AU	Mexico	MX	AT	Austria	LU	Luxembourg
Austria	AT	Moldova	MD	AU	Australia	LV	Latvia
Belgium	BE	Montenegro	ME	BA	Bosnia and Herzegovina	MA	Morocco
Bosnia and Herzegovina	BA	Morocco	MA	BE	Belgium	MD	Moldova
Brazil	BR	Netherlands	NL	BG	Bulgaria	ME	Montenegro
Bulgaria	BG	New Zealand	NZ	BR	Brazil	MK	North Macedonia
Canada	CA	Nigeria	NG	CA	Canada	MT	Malta
Chile	CL	North Macedonia	MK	CH	Switzerland	MX	Mexico
China	CN	Norway	NO	CL	Chile	MY	Malaysia
Colombia	CO	Philippines	PH	CN	China	NG	Nigeria
Croatia	HR	Poland	PL	CO	Colombia	NL	Netherlands
Cyprus	CY	Portugal	PT	CY	Cyprus	NO	Norway
Czechia	CZ	Romania	RO	CZ	Czechia	NZ	New Zealand
Denmark	DK	Russia	RU	DE	Germany	PH	Philippines
Egypt	EG	Saudi Arabia	SA	DK	Denmark	PL	Poland
Estonia	EE	Serbia	RS	DZ	Algeria	PT	Portugal
European Union	**EU-27**	Singapore	SG	EE	Estonia	RO	Romania
Finland	FI	Slovakia	SK	EG	Egypt	RS	Serbia
France	FR	Slovenia	SI	EL	Greece	RU	Russia
Georgia	GE	South Africa	ZA	ES	Spain	SA	Saudi Arabia
Germany	DE	South Korea	KR	**EU-27**	**European Union**	SE	Sweden
Greece	EL	Spain	ES	FI	Finland	SG	Singapore
Hungary	HU	Sweden	SE	FR	France	SI	Slovenia
Iceland	IS	Switzerland	CH	GE	Georgia	SK	Slovakia
India	IN	Thailand	TH	HR	Croatia	TH	Thailand
Indonesia	ID	Tunisia	TN	HU	Hungary	TN	Tunisia
Iran	IR	Turkey	TR	ID	Indonesia	TR	Turkey
Ireland	IE	Ukraine	UA	IE	Ireland	UA	Ukraine
Israel	IL	United Arab Emirates	AE	IL	Israel	UK	United Kingdom
Italy	IT	United Kingdom	UK	IN	India	US	United States
Japan	JP	United States	US	IR	Iran	VN	Vietnam
Kenya	KE	Vietnam	VN	IS	Iceland	**WD**	**World**
Latvia	LV	**World**	**WD**	IT	Italy	ZA	South Africa

KEY FINDINGS AND RANKINGS

TRANSITIONS PERFORMANCE INDEX 2021

KEY FINDINGS

The Transitions Performance Index (TPI) is a scoreboard that monitors, scores and ranks countries based on their progress to fair and prosperous sustainability. It provides a global ranking for 72 countries in four transitions – economic, social, environmental and governance – from 2011 to 2020.

Scoreboards have proved to have a powerful influence for informing and for monitoring the impact of national policies. However, as the challenges are global, the TPI also presents the data at the global level, so that best performances and challenges all over the world can be identified and be a source of inspiration and action for all.

The index follows a comprehensive conceptual framework discussed with different stakeholders and experts (Appendix I), and is based on 28 internationally available indicators (Appendix III: Sources and definitions), aggregated on the basis of a state-of-the-art methodology based on predefined goalposts and backcasting (Appendix IV: Technical notes), with sound and robust results as assessed during an independent statistical audit by the EU's Joint Research Centre Competence Centre on Composite Indicators (Appendix V).

Detailed country[1] profiles present scores, rankings, strengths, weaknesses and trends for all 28 indicators, 16 sub-pillars and four pillars, as well as relative performances by region and income group (Appendix II).

These measurements contribute to a broader understanding of prosperity for Europe and the world, one that focuses on resilience, inclusiveness, sustainability and prosperity and that supports the EU's 2022 Annual Sustainable Growth Strategy.

These results are discussed and further analysed in different chapters of the analytical report, including a final chapter on 'Linkages', which opens avenues for further research on the determinants of performance and progress towards a fair and sustainable prosperity and on the TPI's capacity to inform beyond the conventional measurement of GDP.

We present here a selection of key findings that are analysed in more detail in this report.

CHANGES FOR THIS EDITION

For this second edition, two indicators on digital dimension have been added to reflect the increasing role of digitalisation in the economy. In addition, an indicator on material footprint has been included to reflect environmental spillover effects and to better gauge the impact of consumption on the environment. This means that scores and rankings should not be compared with those of last year's report. This is one of the reasons why a backcasting of 10 years is included.

The impact of the COVID-19 pandemic is not fully captured by the index in this edition. First, 14 statistics (including data used to calculate some indicators, such as population) have been updated with 2020 data. This includes three composite indices used in the Governance transition which are partially based on data from previous years. Second, the pandemic is not yet over as COVID-19 continues to spread. Some statistics for 2021 will still be affected. Third, some impacts related to the pandemic may take time to show in the statistics (for instance in the Social transition). Lastly, not all indicators will be affected by the pandemic (or with a very short-time effect like the one for GHG emissions).

While the effect of the pandemic is not fully captured statistically in this year' edition, the pandemic has a considerable impact on transition processes and challenges social cohesion and resilience, both of which are key enablers for a fair and sustainable transition. The impact of the COVID-19 pandemic is then discussed in the report with references to other sources to complement the analysis of the TPI.

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1 A total of 72 countries are included in the TPI: all EU-27 countries, associated countries, Organisation for Economic Co-operation and Development (OECD) member countries, countries with at least 40 million inhabitants and a GDP per capita higher than USD 2 000 (IMF current dollar estimates).

OVERVIEW

Several key features emerge from the TPI results: Interactions between the different components and their evolution over time are essential to the assessment of overall performance, strengths, weaknesses, progress over the decade and the changes needed for the transitions.

First, being a ranking, the index is primarily cross-sectional in nature, related to the overall concept of *performance* in a given year:

- Scores represent absolute performance, whereas ranks reflect relative performance. In addition, performance groups (leader, strong, good, moderate and weak) are defined on the basis of fixed score intervals.

- All countries, except for Montenegro, South Africa and Malaysia, achieve a leader performance[2] ranking in at least one of the 16 sub-pillars.

- Every country, including those that are lagging, has strengths to improve their performance.

- Country disparities highlight that performance is not predetermined by income group or geographical position; transitions do require, however, relevant policy efforts.

Second, due to the computation of scores over a decade (backcasting), the analysis in this report is based on the concept of progress: Over a decade, all countries make significant progress on average (4.3%):

- Progress has been significant in the Economic (10.1%), Environmental (6.0%) and Social (4.7%) transitions, whereas on average the 72 countries show a decline in governance (-2.6%).

- The TPI shows that most countries have progressed over the past 10 years; particularly some leaders and strong performers, highlighting the continuous margin of progress.

- The performance of three countries declined from 2011 to 2020.

Third, each dimension of the TPI has its own specificities resulting from the conceptual framework:

- Scores are based on fixed goalposts, which set the ambition for each dimension while providing stability to the assessment model.

- The TPI framework is not prescriptive in terms of the policies to be implemented because the main focus is on outcome indicators, but the results highlight unbalanced profiles.

- The TPI tables and country profiles illustrate strengths and weaknesses, making it possible to contextualise the debates for policy priorities.

Fourth, key insights by region, by income, and thorough linkages are provided to further contextualise results:

- The TPI does not present geographical predetermination; there is no clear-cut North-South, East-West divide, including on the European continent.

- EU-27 countries show good performance overall, with progress in all EU-27 countries from 2011 to 2020, except Hungary, which had a stable performance (-0.2%).

- The TPI complements GDP as a measure of prosperity.

- Strengths identified in each country profile should be seen as opportunities to tackle the identified weaknesses, as the framework adopts a holistic approach.

- GDP income levels are not determinants for rankings as a leader or strong performance, in particular in the Environmental pillar. However, strong performance in terms of GDP per capita and level of debt could be essential for the capacity of a country to invest in the green transition.

- Middle-income countries succeed in being among strong performers in some sub-pillars, showing that there is room for efficiency in transition policies. Some of these strong performances, notably in the Environmental pillar, might be explained by a relatively lower level of economic development.

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2 Normalised score above 75.

● The TPI provides a sound and robust metric to test assumptions; as shown by the important linkages found with measures other than GDP and indicators for digitalisation, innovation, gender equality and poverty.

● The linkage of the GDP per capita and the TPI scores recalculated without GDP per capita proves that the TPI is a synthetic measure of multiple dimensions not captured by a simple GDP per capita indicator.

Fifth, each of the four transitions adds an important element to the overall assessment of performance, challenges and opportunities, in each country:

● Three countries are leaders in Economic transition – Switzerland, Ireland and South Korea – with robust progress rates from 2011 to 2020.

● The large heterogeneity in economic performance highlights opportunity for progress, especially in Labour productivity and R&D intensity.

● Social transition is the most successful pillar with 26 leader performers, although the impact of COVID-19 is not fully visible in the available data and should be closely monitored in the next years.

● Average global progress rates in the Social pillar are in line with the TPI progress globally, although there is room for improvement in the Equality sub-pillar for the EU-27 and globally.

● Inclusion of material footprint into the framework allows a better gauge of the impact of consumption on the Environment pillar.

● Environmental transition has a different dynamic than the three other transitions, showing that most countries have not bended their curves to the green transition and are still in a deterioration path in terms of greenhouse gas emissions, material use, biodiversity protection or energy productivity, despite their stated objectives.

● The green transition progress rates are over 6% globally and over 8% in the EU-27, with great disparities however. A large number of countries registered moderate or weak performances, including high-income countries.

● Among the 72 countries, 24% of the total population is living in countries where performance in terms of governance decreased from 2011 to 2020.

● Even though 18 countries have leader performances in Fundamental rights, Rules of law or Transparency, progress is often limited.

● Governance transition scores declined at the global level (-2.6%) and stagnated in the EU-27 (0.1%) with large disparities between countries. These results are partially driven by the strong decrease in Sound public finances, aggravated from 2019 to 2020 by the economic slowdown and the recovery measures implemented to address the COVID-19 pandemic.

At the end of this section:

● **TABLE A** presents TPI ranks, as well as ranks by income group; TPI scores, as well as the scores in the four transitions and the corresponding performance groups (cell colours); ESG gaps; and progress made from 2011 to 2020.

● **TABLE B** presents TPI scores for each year from 2011 to 2020, as well as performance groups (cell colours), progress rates and sparklines.

● **TABLE C** presents TPI ranks for each year from 2011 to 2020, as well as confidence intervals for the 2020 ranks.

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TPI SCOREBOARD FOR THE EUROPEAN UNION

EUROPEAN UNION TPI RANKINGS

The European Union is a strong performer. Denmark and Ireland are transition leaders and top the EU-27 ranking (**FIGURE A**). EU-27 Member States belong to the three groups of best performers (leader, strong or good). They are performing, as a whole, better than the United States and China.

FIGURE A: EU-27 Member States TPI groups (2020)

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Non-EU countries

Source: European Commission, Transitions Performance Index 2021.
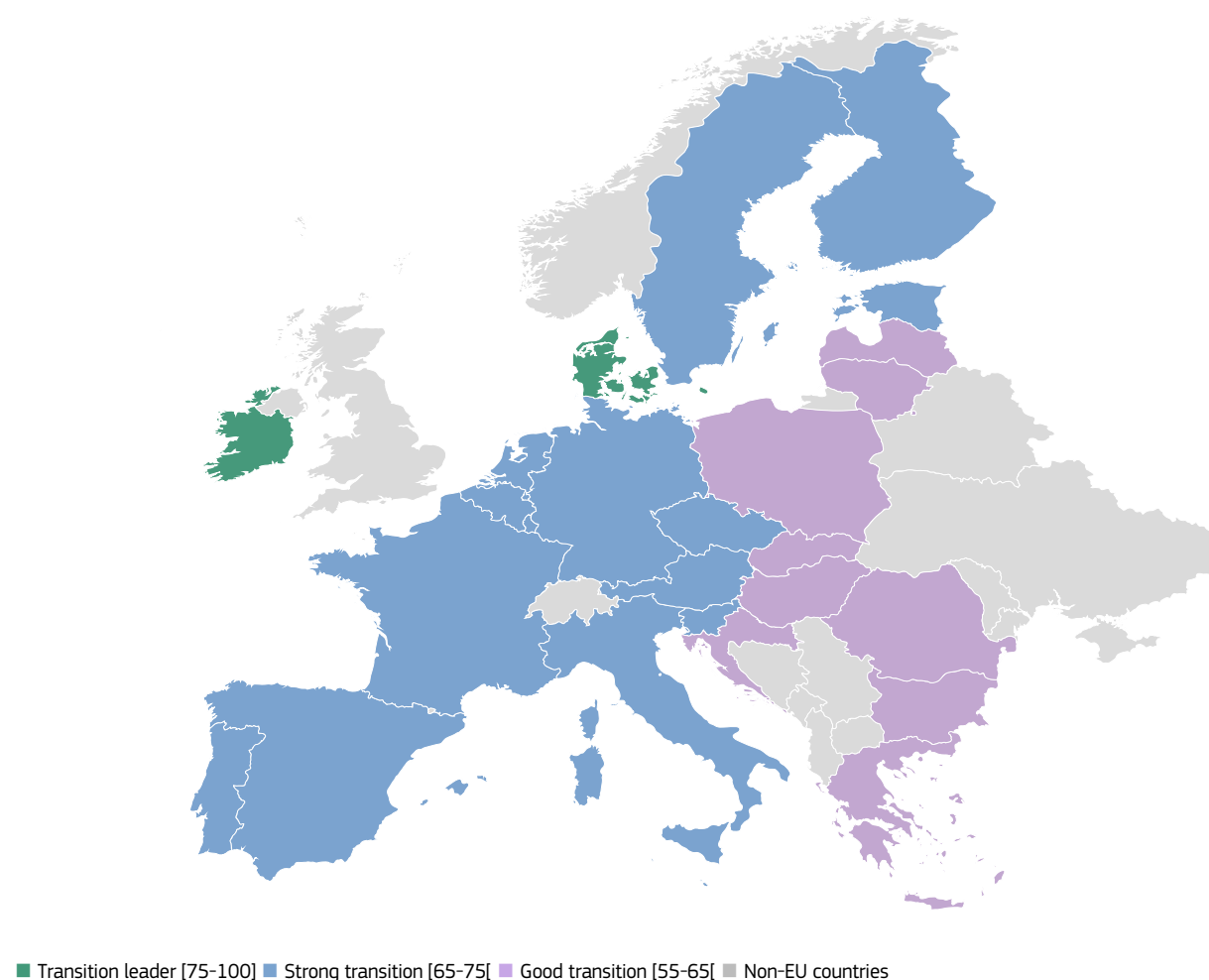
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FIGURE B: EU-27 Member States TPI ranking and scores (2011 and 2020)
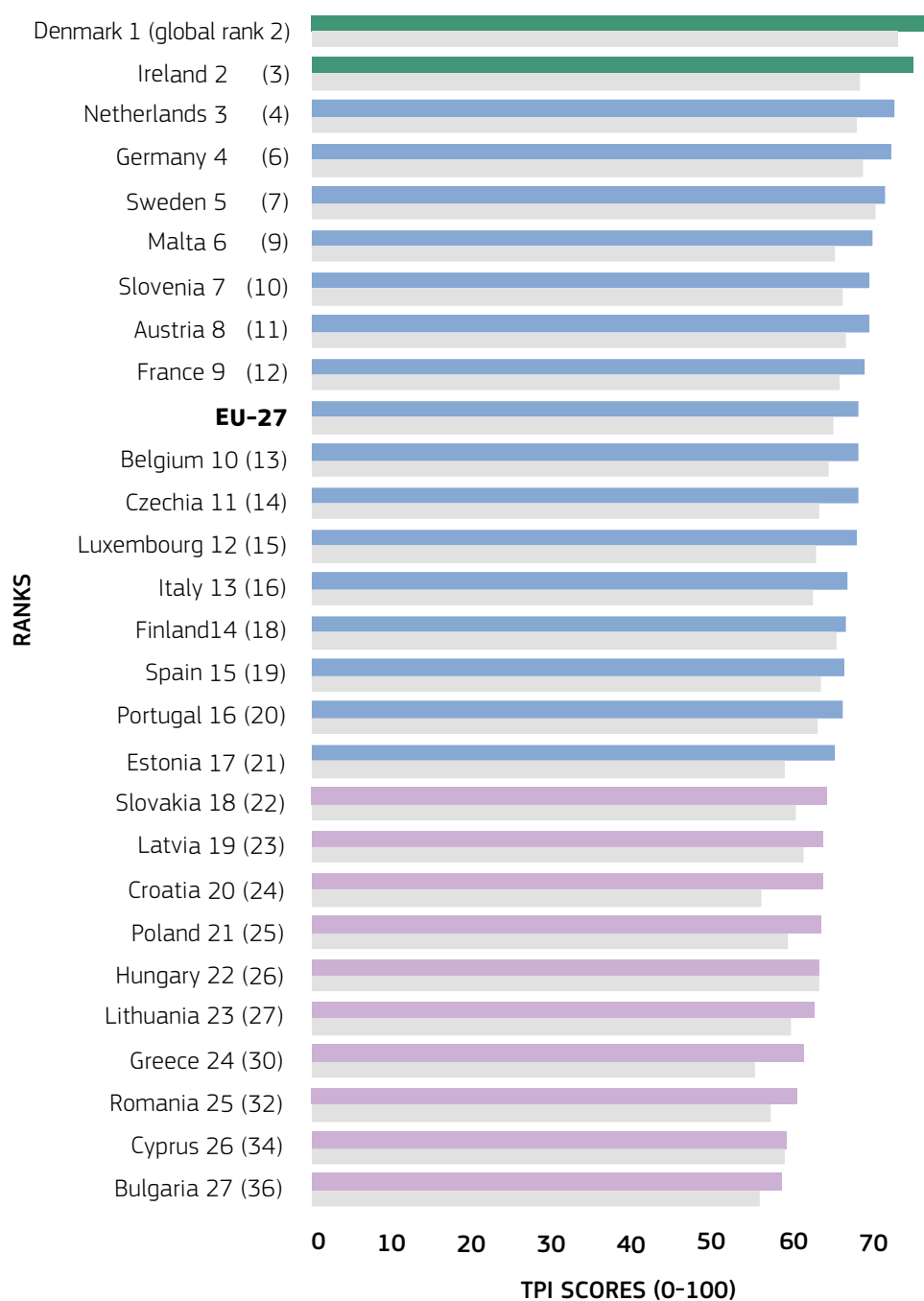
TPI SCORES (0-100)

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ 2011
Note: The number in parenthesis indicates the TPI global rank.
Source: European Commission, Transitions Performance Index 2021.

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TPI SCOREBOARD FOR THE EUROPEAN UNION

EUROPEAN UNION TPI 2011–2020 PROGRESS

Almost all EU-27 countries have improved their performance since 2011. Croatia, made an exceptional effort to catch up (13.5%) as well as Greece and Estonia (progress above 10%). Estonia is now becoming a good performer. The sharp increase in Ireland's TPI score (almost 10%) demonstrates that a country can continue to make progress even from a leading position, although this result should be put in perspective with the high increase rate of the Economic pillar (20%) fuelled by the relocation of multinational corporations' headquarters (including intellectual property). Many strong performers continue to have a high rate of progress. Overall, 19 countries progressed above the EU-27 average (4.9%).

In contrast, strong performers such as Finland and Sweden seem to have come to a standstill and are at risk of losing ground in the transition process unless they renew their collective efforts. Hungary is the only EU-27 country which

Almost all EU-27 Member States progressed over the last decade, with an average improvement rate of 4.9% **(FIGURE C)** vs 4.3% at the global level. Moreover, the starting point has not been the key determinant of progress: some strong performing countries have continued to advance, while some less performing countries have succeeded in catching up.

has not progressed, mostly due to its weak performance in the Governance transition.

In the EU, widening countries[3] are ranked as less performing in the Economic transition, compared to non-widening EU countries. They also tend to have a higher imbalance with relatively better scores in the Environmental, Social and Governance pillars compared to the Economic pillar. Most of these countries are in a catching-up phase with higher progress rates in the Economic pillar.

FIGURE C: EU-27 Member States TPI progress rates (% change 2011–2020)
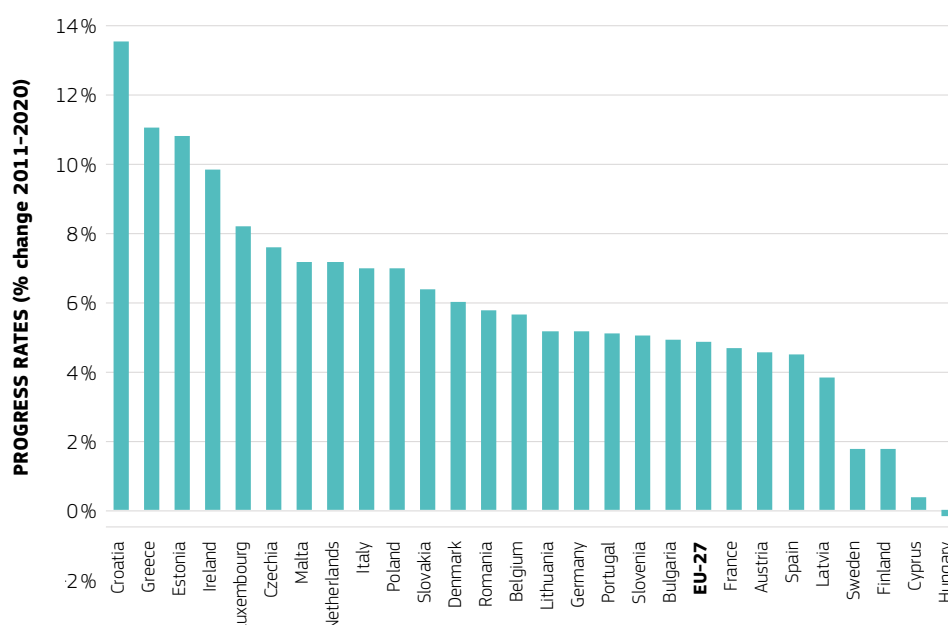
Source: European Commission, Transitions Performance Index 2021.

3 In the context of the EU Framework Programmes for Research and Innovation, so-called "widening countries" benefit from specific instruments to reduce the innovation gap with other EU Member States. EU-15 widening countries are Bulgaria, Croatia, Cyprus, Czechia, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovakia and Slovenia.

TPI SCOREBOARD FOR THE EUROPEAN UNION

THE EUROPEAN UNION, THE UNITED STATES AND CHINA

The group of 27 EU Member States show together a strong performance. All EU-27 countries belong to the three groups of best performers: leader, strong and good. On the contrary, the United States and China both belong to the group of moderate performers (**FIGURE D**).

Since 2011, China has progressed by 7.6 %, the United States by 3.3 % and the EU-27 by 4.9 %. This highlights the importance of monitoring how countries pursue their efforts, as is illustrated for the EU (**FIGURE B**). In this regard, the EU has recently confirmed its Green Deal priorities and reiterated that its COVID-19 recovery package , NextGenerationEU, aims at a collective effort to accelerate transitions.

The EU-27 performance increased in all four pillars, particularly in the Economic (6.2 %) and Environmental pillars (8.6 %). For the Environmental pillar, the increase is due notably to improvement in Energy productivity (20.1 % progress), and Emissions reduction (7.6 %).

Due to the distance to the frontier defined by the TPI goalposts, the United States and China need to further intensify their efforts to catch up within the next decades, especially in the Environmental pillar where they are lagging behind (**FIGURE E**).

The United States' strong point is the Economic pillar (strong performer with 10.1 % progress over the decade, with improvements in Wealth, Education, and Labour productivity and R&D intensity and a decline in Industrial base). Despite US progress in Emissions reduction, and Energy productivity, which was certainly facilitated by the low base levels in 2011, its overall performance in the Environmental transition remains weak.

FIGURE D: EU-27, United States and China scores and transition groups

- Strong transition [65-75[
- Moderate transition [45-55[

EU-27: 69.0
United States: 54.2
China: 49.5

TPI SCORES (0-100)

Source: European Commission, Transitions Performance Index 2021.
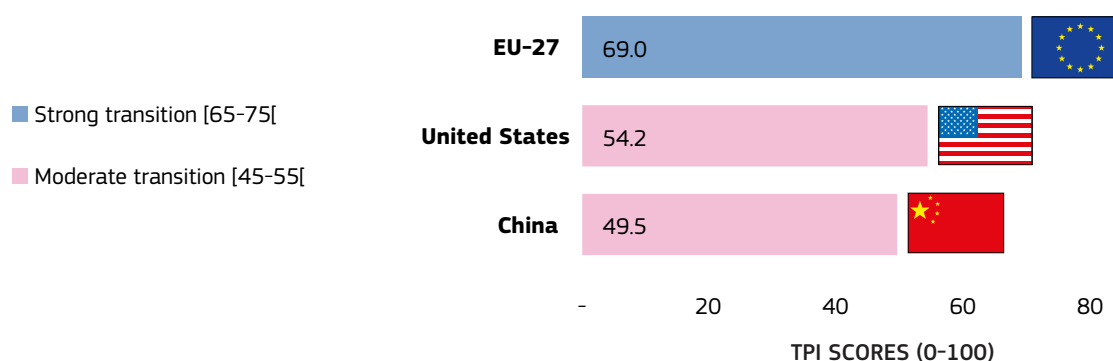
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The highest rate of progress in China is mainly driven by high performances in Economic transition (Wealth, Education, and Labour productivity and R&D intensity, with 14.4%) and in Social transition (Health life expectancy and Work and inclusion, with 13.3%) whereas China is still a weak performer in the Environmental (4%) and Governance (0.7%) transitions with limited progress over the decade.

FIGURE E: EU-27, United States and China progress in the four transitions
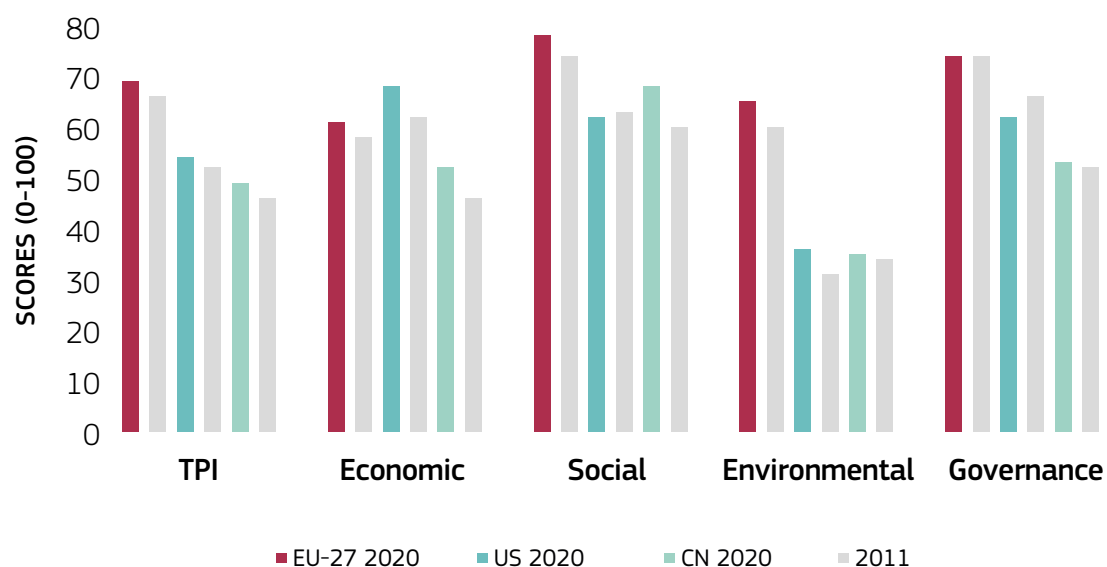
Source: European Commission, Transitions Performance Index 2021.

TPI SCOREBOARD FOR THE EUROPEAN UNION

EUROPEAN UNION AND MAIN TRADE PARTNERS

Among the top 10 trading partners of the EU-27[4], Switzerland is the only country in leader transition. The United Kingdom, Norway and Japan are in the same transition group as the EU-27 (strong transition), and South Korea is not far behind in good transition (**FIGURE F**). The gap with the United States and Canada is substantial; both countries are in moderate transition, performing slightly better than Turkey and the world average. China and India remain moderate performers whereas Brazil and Russia are in the weak transition group.

By providing a global perspective, the TPI report highlights, among our main trading partners, the best performers and countries that are lagging behind. The TPI therefore serves as a source of inspiration for our continuing efforts, as well as an invitation for a policy dialogue to contribute to global welfare taking up the transitions challenge (**FIGURE F**).

Among highly populated regions/countries, the scores of Japan and the EU-27 are the highest, highlighting their efforts to contribute to the planet's sustainability.

FIGURE F: EU-27 and main partners TPI scores and transition groups
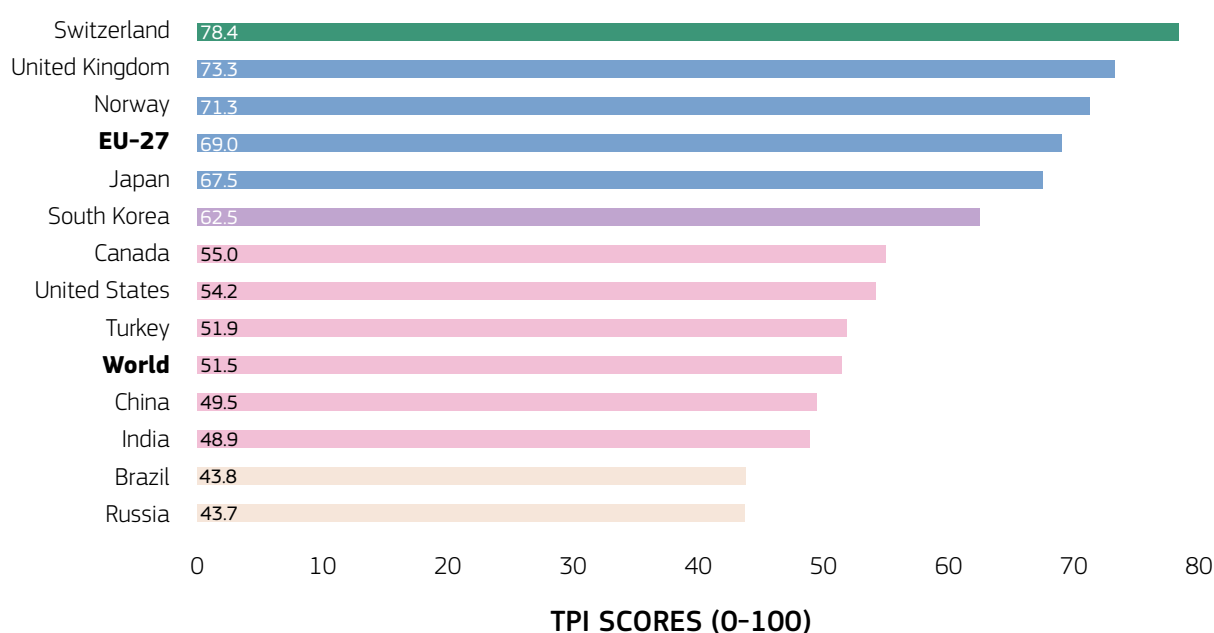
Country	TPI Score
Switzerland	78.4
United Kingdom	73.3
Norway	71.3
EU-27	69.0
Japan	67.5
South Korea	62.5
Canada	55.0
United States	54.2
Turkey	51.9
World	51.5
China	49.5
India	48.9
Brazil	43.8
Russia	43.7

TPI SCORES (0-100)

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Source: European Commission, Transitions Performance Index 2021.

4 In 2020, the top 10 were China, United States, United Kingdom, Switzerland, Russia, Turkey, Japan, Norway, South Korea and India.

TPI GLOBAL PERSPECTIVE

GLOBAL RANKING 2011-2020

Switzerland and Denmark have ranked consistently in the top of the TPI ranking, while Ireland progressed to third place and the Netherlands to fourth place. Sweden seems to be losing ground in the transition process with limited progress especially in Social transition (-0.3 %) (**FIGURE H**).

What has been the progress of the TPI's top 10 countries?

The TPI compares progress from 2011 to 2020, thus serving as a compass in benchmarking transition performance and informing the public on the impact of national policies (**FIGURE G**).

FIGURE G: World TPI groups (2020)
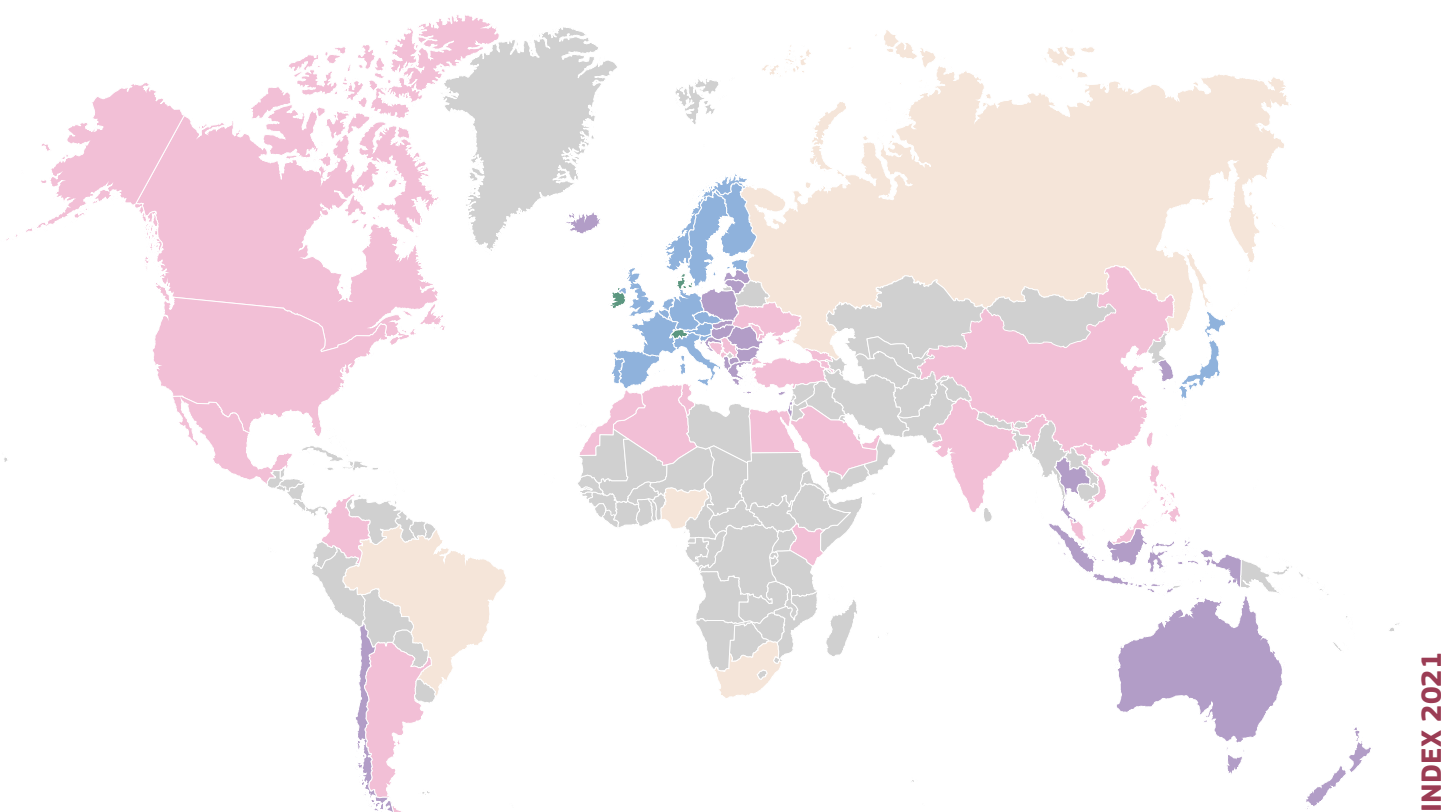
■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

FIGURE H: Global TPI top 10 performers, 2011–2020
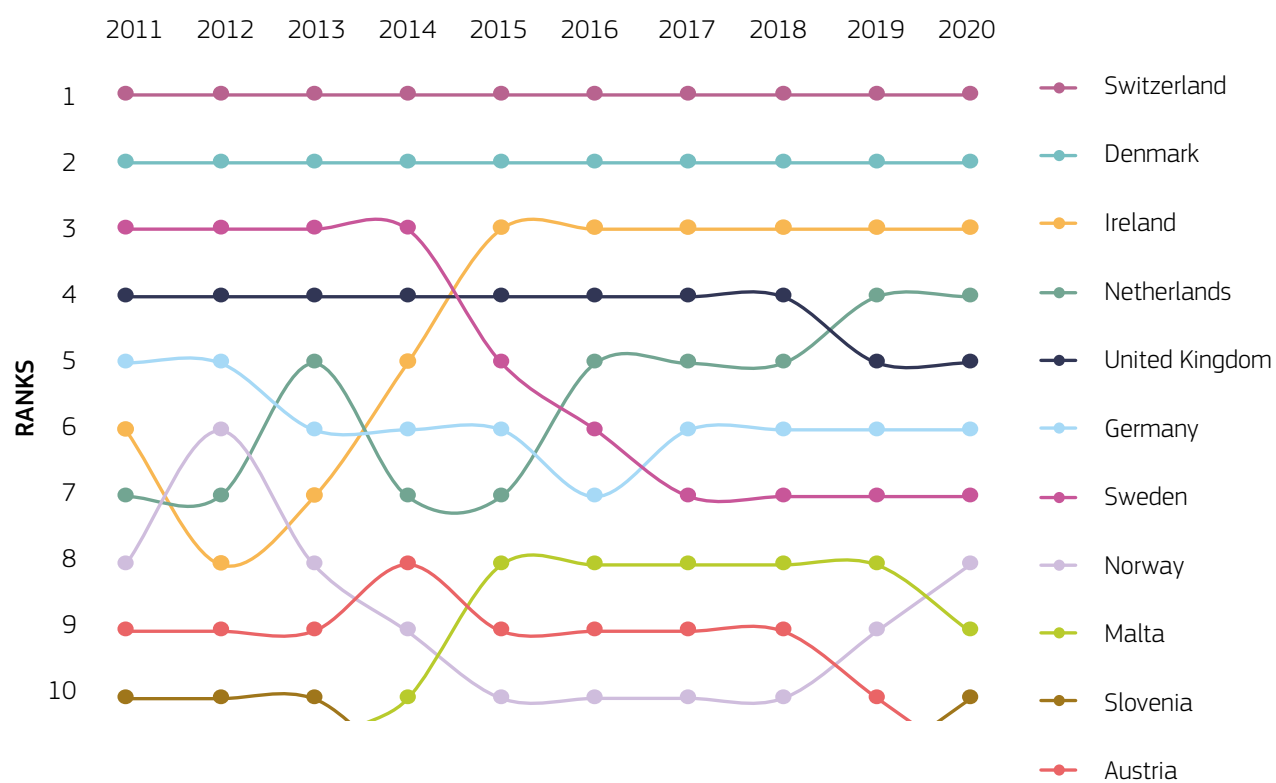
Note: Slovenia returned to the top 10 in 2020 in the place of Austria.
Source: European Commission, Transitions Performance Index 2021.

TPI GLOBAL PERSPECTIVE

BEST COUNTRIES TPI PERFORMANCE PER REGION OF THE WORLD

The Americas
The countries of North, Central and South America (there are seven countries in the ranking) lag behind the TPI scores of other regions. A leader in the Americas, Chile is the only country in this geographical zone making a good transition; Canada, the United States, Colombia, Argentina and Mexico are in moderate transition. All countries show progress over the decade, with the exception of Brazil (–3.4%), which is also the only country in weak transition.

South-East Asia and Pacific
In contrast, in the South-East Asia and Pacific region (12 countries in the TPI), the top five countries form a pack of solid performers (with Japan achieving strong transition and South Korea, New Zealand, Singapore and Australia in good transition), followed by Indonesia and Thailand, two emerging economies that are catching up in some pillars and are now in the good transition group.

Middle East and Africa
In the Middle East and Africa (11 countries in total), Israel tops the league and is the only country in the group of good

What are the best performing countries in the world?

Global challenges for the planet require a global response. TPI measures both the transition performance of a country and its contribution to the global effort as compared with its regional partners (**FIGURE I**).

performers. Israel is also among the countries that have registered the highest relative progress since 2011 (9.9%).

Non-EU-27 Europe and Central Asia
In non-EU-27 Europe and Central Asia, which includes 15 countries, the European part dominates the ranking. This result is not surprising considering the large heterogeneity in this group and the important role of the EU for non-EU Europe, as most of these countries are associated countries.

European Union
The top performers in the EU-27 all belong to the leader, strong or good performer groups on the global TPI ranking. Differences in performance result notably from a balanced position between the Economic, Social, Environmental and Governance transitions.

FIGURE I: Global TPI top 7 performers by regions of the world

EUROPEAN UNION
1. Denmark
2. Ireland
3. Netherlands
4. Germany
5. Sweden
6. Malta
7. Slovenia

NON-EU EUROPE AND CENTRAL ASIA
1. Switzerland
2. United Kingdom
3. Norway
4. Iceland
5. Albania
6. North Macedonia
7. Armenia

THE AMERICAS
1. Chile
2. Canada
3. United States
4. Colombia
5. Argentina
6. Mexico
7. Brazil

MIDDLE EAST AND AFRICA
1. Israel
2. Tunisia
3. Morocco
4. United Arab Emirates
5. Algeria
6. Egypt
7. Saudi Arabia

SOUTH-EAST ASIA AND PACIFIC
1. Japan
2. South Korea
3. New Zealand
4. Singapore
5. Australia
6. Indonesia
7. Thailand

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

TPI GLOBAL PERSPECTIVE

BEST COUNTRIES' TPI PERFORMANCE PER INCOME GROUP AND PROGRESS RATE

The top seven high-income countries reflect the overall rankings of the TPI and include only European countries.

Among upper-middle-income countries, Romania, Bulgaria, Albania, North Macedonia and Armenia top the rankings as they are actively participating in EU policies, including as a candidate country (Albania). They are joined by Asian countries Thailand and Malaysia in the top five.

Among lower-middle-income countries, Northern African countries Tunisia, Morocco, Egypt and Algeria top the rankings. They are joined by Asian economies Indonesia, the Philippines and Vietnam, which show the diversity of economies that participate in the transition process.

Which countries perform best according to their income?

The TPI aims to go beyond GDP and income levels. TPI performance per income group shows that performance in transitions is not reserved for the high-income countries. Middle-income countries have good performers such as Indonesia. A progressive decoupling between the transition process and GDP growth seems possible (**FIGURE J**).

Which countries have the highest rate of progress?

Since 2011 the most rapid improvements have taken place in different regions of the world, from Indonesia (four in terms of progress) to Croatia, which tops the league, stimulated by its EU accession (**FIGURE J**).

FIGURE J: Global TPI top 7 performers by income group and progress rate
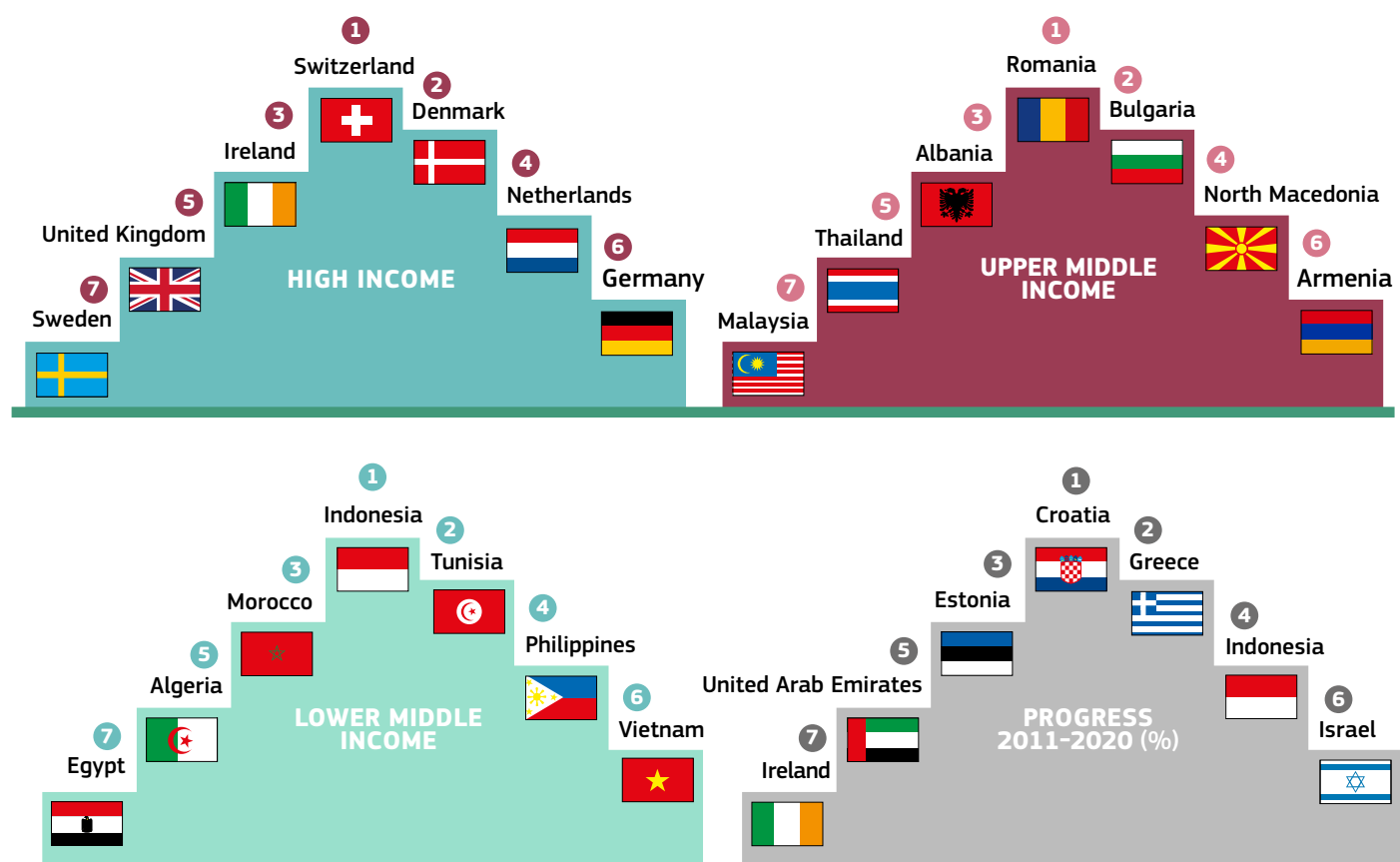
Source: European Commission, Transitions Performance Index 2021.

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TRANSITIONS PERFORMANCE INDEX 2021

TPI GLOBAL PERSPECTIVE

BEST PERFORMING COUNTRIES IN ECONOMICS, SOCIAL, ENVIRONMENTAL AND GOVERNANCE TRANSITIONS

FIGURE K includes the performance of countries in each transition pillar separately. Some small countries, such as Iceland, Slovenia, Malta or Albania, manage to stand out and be in the top five in a specific pillar. Although Iceland ranks 31 in the TPI, it manages to lead the Social transition ranking. Albania is even more remarkable as it is the only middle-income country in the top five (strong performance).

Only Denmark appears in the top five in the TPI in each of the four pillars, showing a commendable balanced approach to transitions, resulting from the progress made in the last 10 years.

Which countries performed the best by pillar?

The differences in levels and trends in relative performance across pillars illustrate the multidimensional nature of the transitions challenge. While the public benefits from progress in each dimension, countries may take advantage of their strengths to make progress on their relative weaknesses (**FIGURE K**).

FIGURE K: Global TPI top 5 performers by transition pillar

TPI
Switzerland
Denmark
Ireland
Netherlands
United Kingdom

ECONOMIC TRANSITION
Switzerland
Ireland
South Korea
Denmark
Sweden

ENVIRONMENTAL TRANSITION
United Kingdom
Malta
Italy
Albania
Denmark

SOCIAL TRANSITION
Iceland
Slovenia
Norway
Denmark
Netherlands

GOVERNANCE TRANSITION
Norway
New Zealand
Luxembourg
Denmark
Sweden

Source: European Commission, Transitions Performance Index 2021.
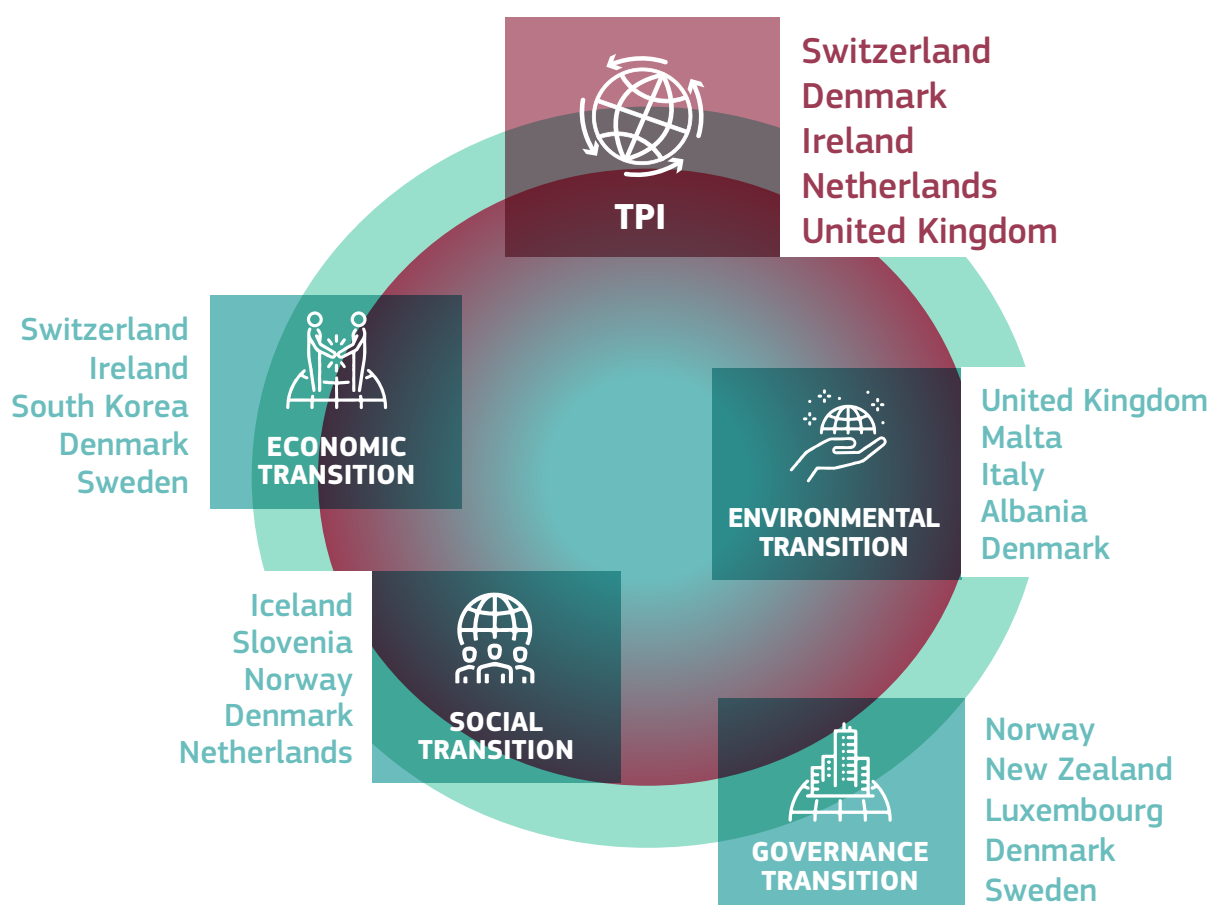
TRANSITIONS PERFORMANCE INDEX 2021

TPI GLOBAL PERSPECTIVE

COUNTRIES SUCCEEDING IN SEVERAL TRANSITIONS

Denmark and Ireland have balanced profiles across sub-pillars, holding the higher number of leader positions with 11 and 10 respectively. In total, 31 countries hold at least five leader positions, all but Austria, Australia and New Zealand in a minimum of three pillars. Among these, 12 countries hold a leader position in the four social sub-pillars, and 13 countries hold a leader position in at least three governance sub-pillars.

Which countries achieve leadership in most transitions?

Some countries show an unbalanced profile and succeed in joining the leaders in some transitions or sub-pillars even if they are not the top TPI performers (**FIGURE L**). The TPI country profiles (**Appendix II**) pinpoint strengths and weaknesses. Focus in catching-up while avoiding imbalances is important to maintain the economic and social consensus needed for the overall transition process to be successful.

FIGURE L: Countries with five or more leader positions in the 16 sub-pillars

Legend:
- Economic transition
- Social transition
- Environmental transition
- Governance transition

Note: Leader positions are assigned to all sub-pillars scores between 75 and 100.
Source: European Commission, Transitions Performance Index 2021.

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TRANSITIONS PERFORMANCE INDEX RANKINGS

TABLE A: TPI scores in the four transitions

RANK	NAME	INCOME GROUP RANK	GROUP	TPI	ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE	ESG GAP (% OF TPI)	PROGRESS 2011-20
1	Switzerland	1	H	78.39	79.8	82.9	71.7	83.0	-2.3%	4.2%
2	Denmark	2	H	78.36	73.4	85.5	73.1	84.0	7.9%	6.0%
3	Ireland	3	H	75.93	76.1	78.3	72.3	79.0	-0.3%	9.8%
4	Netherlands	4	H	73.58	66.7	84.8	64.7	82.5	11.7%	7.2%
5	United Kingdom	5	H	73.26	58.2	77.1	78.0	75.7	25.6%	5.2%
6	Germany	6	H	73.07	70.7	82.0	65.0	79.1	4.0%	5.1%
7	Sweden	7	H	72.34	73.0	84.3	57.0	83.7	-1.1%	1.8%
8	Norway	8	H	71.29	67.3	85.8	54.2	86.8	7.1%	5.0%
9	Malta	9	H	70.74	55.7	80.1	74.4	70.1	26.5%	7.2%
10	Slovenia	10	H	70.39	62.5	85.9	60.9	77.7	14.1%	5.0%
11	Austria	11	H	70.35	70.2	80.6	59.1	78.0	0.3%	4.6%
12	France	12	H	69.65	58.9	81.0	66.8	73.2	19.3%	4.6%
	EU-27		H	68.96	61.1	77.5	65.0	74.0	14.3%	4.9%
13	Belgium	13	H	68.90	67.9	81.6	59.1	73.3	1.9%	5.6%
14	Czechia	14	H	68.84	60.4	83.9	59.0	77.3	15.3%	7.6%
15	Luxembourg	15	H	68.73	69.3	75.5	52.9	85.0	-1.1%	8.2%
16	Italy	16	H	67.64	56.7	70.2	73.8	65.7	20.2%	7.0%
17	Japan	17	H	67.45	62.2	81.4	58.8	72.6	9.8%	6.4%
18	Finland	18	H	67.40	68.2	84.1	47.9	80.7	-1.6%	1.7%
19	Spain	19	H	67.11	54.2	74.7	65.4	73.7	24.1%	4.5%
20	Portugal	20	H	66.96	50.3	76.9	66.4	73.1	31.1%	5.1%
21	Estonia	21	H	66.07	56.4	79.2	53.9	80.3	18.3%	10.8%
22	Slovakia	22	H	64.97	50.1	80.9	60.2	70.9	28.7%	6.4%
23	Latvia	23	H	64.44	47.9	72.2	68.4	66.0	32.2%	3.8%
24	Croatia	24	H	64.32	45.6	72.0	67.6	68.7	36.5%	13.5%
25	Poland	25	H	64.17	52.5	74.1	59.7	71.8	22.7%	7.0%
26	Hungary	26	H	63.96	53.0	75.3	66.2	60.5	21.4%	-0.2%
27	Lithuania	27	H	63.48	52.3	71.7	61.6	68.4	22.0%	5.2%
28	South Korea	28	H	62.53	75.4	75.4	37.6	76.7	-25.8%	5.5%
29	Israel	29	H	62.31	64.0	72.7	48.9	71.5	-3.4%	9.9%
30	Greece	30	H	62.08	45.2	70.9	65.5	63.8	34.0%	11.0%
31	Iceland	31	H	61.21	67.2	89.7	28.7	79.1	-12.2%	2.6%
32	Romania	1	UM	61.16	42.2	66.0	65.3	66.6	38.7%	5.8%
33	New Zealand	32	H	60.86	55.8	78.0	36.7	85.1	10.4%	2.9%
34	Cyprus	33	H	59.94	47.6	79.2	51.6	66.1	25.8%	0.4%
35	Singapore	34	H	59.38	72.3	62.0	42.2	71.1	-27.1%	-2.9%
36	Bulgaria	2	UM	59.34	40.8	65.3	61.2	66.7	39.1%	4.9%
37	Albania	3	UM	58.52	28.9	70.2	73.3	52.2	63.3%	4.9%
38	Australia	35	H	56.76	55.6	77.9	28.1	80.9	2.6%	2.5%
39	North Macedonia	4	UM	56.67	33.7	61.7	63.3	61.8	50.7%	9.4%
40	Indonesia	1	LM	56.49	29.5	60.6	64.3	63.9	59.6%	10.1%
41	Chile	36	H	55.86	39.9	62.0	51.4	69.9	35.7%	1.9%
42	Thailand	5	UM	55.13	42.3	71.1	56.7	50.4	29.0%	5.9%
43	Canada	37	H	54.99	60.9	77.1	26.4	72.7	-13.4%	0.5%
44	Armenia	6	UM	54.23	33.1	66.2	55.6	59.6	48.6%	7.7%
45	United States	38	H	54.21	68.2	62.5	36.1	61.7	-32.2%	3.3%
46	Tunisia	2	LM	53.62	34.2	55.7	62.1	55.5	45.3%	4.3%
47	Malaysia	7	UM	53.32	49.7	61.6	46.0	59.9	8.5%	4.7%
48	Morocco	3	LM	53.30	34.0	47.5	67.4	53.7	45.3%	4.1%
49	Georgia	8	UM	53.19	29.8	61.8	56.0	61.1	55.1%	5.9%
50	United Arab Emirates	39	H	53.15	53.7	73.9	31.8	65.9	-1.4%	10.0%
51	Philippines	4	LM	52.15	26.8	55.1	70.3	44.7	60.7%	3.7%
52	Algeria	5	LM	52.15	33.6	59.6	62.6	46.4	44.4%	-4.3%
53	Turkey	9	UM	51.90	47.1	53.5	55.6	49.3	11.6%	5.2%
54	Vietnam	6	LM	51.57	33.4	71.0	53.0	48.6	44.1%	6.1%
	World		UM	51.54	45.4	59.4	53.4	47.6	14.9%	4.3%
55	Colombia	10	UM	50.80	30.1	54.9	69.7	37.6	51.0%	6.5%
56	Moldova	11	UM	50.65	41.4	65.8	46.8	51.3	22.8%	7.5%
57	Bosnia and Herzegovina	12	UM	50.39	31.4	58.0	52.0	57.3	47.2%	2.8%
58	Montenegro	13	UM	49.92	31.1	60.0	49.9	57.0	47.1%	6.5%
59	Argentina	14	UM	49.77	39.8	57.9	51.2	49.3	25.1%	3.4%
60	China	15	UM	49.45	52.1	68.2	34.9	52.7	-6.7%	7.6%
61	Serbia	16	UM	49.44	37.5	63.4	42.8	57.1	30.2%	6.9%
62	Egypt	7	LM	49.36	34.0	50.7	61.0	44.3	38.9%	3.5%
63	India	8	LM	48.90	27.4	47.7	58.1	54.1	55.1%	4.6%
64	Ukraine	9	LM	48.51	40.3	70.5	42.7	45.7	21.2%	4.6%
65	Mexico	17	UM	48.28	36.2	55.9	61.7	33.0	31.4%	2.8%
66	Saudi Arabia	40	H	46.40	57.0	39.8	36.1	57.6	-28.5%	6.5%
67	Kenya	10	LM	45.77	18.7	58.5	57.4	41.0	73.8%	4.3%
68	Brazil	18	UM	43.79	33.0	48.3	52.6	36.5	30.8%	-3.4%
69	Russia	19	UM	43.67	41.0	66.8	35.5	38.7	7.6%	7.5%
70	Nigeria	11	LM	43.41	20.8	48.3	66.1	25.9	65.1%	2.0%
71	Iran	12	LM	40.79	33.3	44.9	44.9	37.8	23.1%	2.9%
72	South Africa	20	UM	39.43	36.5	30.0	46.4	39.6	9.2%	4.3%

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Notes: (1) 'ESG gap (% of TPI)' refers to the difference between the sum of the social, environmental, and governance (ESG) pillar weighted scores and the economic pillar score, as a percentage of the TPI score, in 2020. A negative ESG gap suggests an economic capacity to do more in the ESG agenda. (2) 'Progress 2011-20' refers to the percentage growth of TPI scores from 2011 to 2020. (1) Income groups are high income (H), upper-middle income (UM) and lower-middle income (LM).

Source: European Commission, Transitions Performance Index 2021.

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TABLE B: TPI scores and progress (2011–2020)

		COUNTRY	PROGRESS		2011–2020 TPI SCORES								
RANK	CODE	NAME	2011-20		2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
1	CH	Switzerland	4.2%		78.4	78.5	78.1	78.0	77.4	76.9	76.5	75.4	75.7	75.2
2	DK	Denmark	6.0%		78.4	78.3	77.3	76.9	77.1	76.7	75.6	74.9	74.7	73.9
3	IE	Ireland	9.8%		75.9	75.3	74.9	74.6	74.0	74.4	71.2	69.2	69.1	69.1
4	NL	Netherlands	7.2%		73.6	73.6	73.0	72.1	71.3	70.6	70.3	69.8	69.1	68.7
5	UK	United Kingdom	5.2%		73.3	73.6	73.1	72.6	72.1	71.8	71.3	70.2	69.8	69.6
6	DE	Germany	5.1%		73.1	73.4	72.9	71.9	70.9	70.8	70.7	69.7	69.6	69.5
7	SE	Sweden	1.8%		72.3	72.5	71.7	71.8	71.2	71.5	71.3	71.2	71.4	71.1
8	NO	Norway	5.0%		71.3	71.0	69.7	69.4	68.8	68.7	69.3	68.5	69.3	67.9
9	MT	Malta	7.2%		70.7	71.9	71.2	70.7	70.2	70.2	68.4	67.8	64.5	66.0
10	SI	Slovenia	5.0%		70.4	70.5	69.3	68.8	68.5	67.5	67.8	67.9	67.6	67.0
11	AT	Austria	4.6%		70.4	70.8	70.6	69.8	69.6	69.4	69.4	68.5	68.0	67.3
12	FR	France	4.6%		69.6	70.0	69.4	68.4	67.7	67.1	67.7	67.5	67.0	66.6
	EU-27	EU-27	4.9%		69.0	69.0	68.4	67.9	67.5	67.2	67.2	66.5	66.2	65.8
13	BE	Belgium	5.6%		68.9	69.4	68.3	67.7	67.4	66.9	67.0	66.2	66.0	65.2
14	CZ	Czechia	7.6%		68.8	68.9	68.2	67.8	67.2	66.7	66.3	65.0	64.3	64.0
15	LU	Luxembourg	8.2%		68.7	68.3	68.1	67.9	67.6	66.6	66.3	65.7	64.8	63.5
16	IT	Italy	7.0%		67.6	67.8	67.2	66.7	66.3	65.1	65.5	64.9	63.8	63.2
17	JP	Japan	6.4%		67.5	67.4	67.0	66.7	66.0	65.9	65.4	64.6	63.7	63.4
18	FI	Finland	1.7%		67.4	67.5	67.2	67.8	67.3	67.5	67.5	66.8	66.9	66.2
19	ES	Spain	4.5%		67.1	67.4	66.2	66.0	65.7	64.8	65.0	64.7	64.4	64.2
20	PT	Portugal	5.1%		67.0	67.2	66.3	65.8	65.6	64.8	64.7	63.9	63.7	63.7
21	EE	Estonia	10.8%		66.1	65.9	63.1	62.4	61.7	62.0	60.4	60.1	59.6	
22	SK	Slovakia	6.4%		65.0	65.1	64.1	63.5	63.9	63.9	63.2	62.0	62.0	61.1
23	LV	Latvia	3.8%		64.4	64.3	64.0	63.8	63.8	63.7	63.4	63.4	62.4	62.1
24	HR	Croatia	13.5%		64.3	64.9	64.5	63.0	63.0	62.5	62.4	60.5	57.2	56.7
25	PL	Poland	7.0%		64.2	64.2	63.2	62.9	63.1	63.3	63.0	61.6	61.0	60.0
26	HU	Hungary	-0.2%		64.0	64.0	63.8	63.3	63.8	63.6	64.5	64.4	64.4	64.1
27	LT	Lithuania	5.2%		63.5	63.6	63.2	62.1	61.6	61.5	61.6	61.0	60.4	
28	KR	South Korea	5.5%		62.5	62.6	62.3	61.6	60.8	60.3	60.3	59.8	59.6	59.3
29	IL	Israel	9.9%		62.3	62.6	62.2	61.9	61.2	60.2	60.0	58.5	57.1	56.7
30	EL	Greece	11.0%		62.1	60.9	59.8	59.2	58.8	58.3	57.7	57.1	55.6	55.9
31	IS	Iceland	2.6%		61.2	61.5	60.5	60.8	61.4	60.8	60.5	60.5	60.4	59.6
32	RO	Romania	5.8%		61.2	61.6	61.4	61.1	60.7	59.0	58.7	58.3	57.4	57.8
33	NZ	New Zealand	2.9%		60.9	61.2	61.0	60.6	59.9	59.4	59.2	58.8	58.8	59.1
34	CY	Cyprus	0.4%		59.9	60.6	60.2	60.8	59.7	59.2	59.0	59.4	58.4	59.7
35	SG	Singapore	-2.9%		59.4	59.9	60.5	59.9	60.1	59.9	60.1	60.5	60.7	61.2
36	BG	Bulgaria	4.9%		59.3	59.3	58.6	58.1	57.8	57.2	58.0	57.7	56.9	56.6
37	AL	Albania	4.9%		58.5	58.4	58.5	58.0	57.6	57.2	55.0	55.4	56.1	55.8
38	AU	Australia	2.5%		56.8	56.9	57.0	56.8	56.3	55.8	55.3	55.6	55.6	55.4
39	MK	North Macedonia	9.4%		56.7	56.8	56.5	54.5	54.6	54.3	54.2	53.8	52.3	51.8
40	ID	Indonesia	10.1%		56.5	56.3	55.9	55.1	55.0	54.1	53.9	52.8	52.0	51.3
41	CL	Chile	1.9%		55.9	56.0	56.1	55.6	55.9	56.6	56.6	55.2	55.4	54.8
42	TH	Thailand	5.9%		55.1	55.0	54.2	53.8	53.1	52.7	52.1	52.2	51.9	52.1
43	CA	Canada	0.5%		55.0	55.5	55.5	55.5	55.5	54.7	54.8	54.6	54.8	54.7
44	AM	Armenia	7.7%		54.2	53.8	52.2	51.4	50.7	50.3	50.5	50.4	50.2	50.4
45	US	United States	3.3%		54.2	54.8	54.7	55.0	54.3	53.8	53.3	53.1	53.2	52.5
46	TN	Tunisia	4.3%		53.6	53.7	53.5	53.3	54.0	53.9	53.5	53.1	52.6	51.4
47	MY	Malaysia	4.7%		53.3	53.4	53.1	52.7	51.7	51.7	51.6	50.8	51.2	50.9
48	MA	Morocco	4.1%		53.3	52.7	52.5	51.5	52.0	52.1	52.6	51.6	51.8	51.2
49	GE	Georgia	5.9%		53.2	53.6	53.6	54.2	54.8	52.7	51.9	51.2	50.9	50.2
50	AE	United Arab Emirates	10.0%		53.2	53.5	53.4	51.8	49.9	50.0	50.6	49.7	49.3	48.3
51	PH	Philippines	3.7%		52.1	52.8	53.2	52.3	52.0	51.6	52.1	51.6	50.8	50.3
52	DZ	Algeria	-4.3%		52.1	52.4	52.7	52.7	52.4	52.3	53.1	53.6	53.8	54.5
53	TR	Turkey	5.2%		51.9	51.7	51.7	50.6	50.1	50.9	50.7	50.6	49.5	49.4
54	VN	Vietnam	6.1%		51.6	51.6	51.5	51.4	51.0	50.3	50.2	49.8	49.4	48.6
	WD	World	4.3%		51.5	51.6	51.6	51.4	51.0	50.7	50.4	50.0	49.7	49.4
55	CO	Colombia	6.5%		50.8	50.7	51.8	51.3	50.0	49.5	48.1	47.3	48.6	47.7
56	MD	Moldova	7.5%		50.6	50.5	49.7	50.2	49.0	49.1	49.4	49.2	47.5	47.1
57	BA	Bosnia and Herzegovina	2.8%		50.4	50.2	50.4	50.3	50.2	49.9	50.2	50.0	49.1	49.0
58	ME	Montenegro	6.5%		49.9	50.5	50.1	49.4	48.0	48.2	48.4	49.1	48.2	46.9
59	AR	Argentina	3.4%		49.8	49.4	49.8	50.1	48.9	48.2	47.7	47.8	48.2	48.1
60	CN	China	7.6%		49.5	49.1	49.4	48.9	48.5	48.2	47.7	47.2	46.4	46.0
61	RS	Serbia	6.9%		49.4	49.2	49.1	48.8	47.8	47.7	48.2	47.2	47.0	46.2
62	EG	Egypt	3.5%		49.4	49.3	48.7	47.7	48.5	48.2	48.3	48.3	48.5	47.7
63	IN	India	4.6%		48.9	48.9	48.8	48.9	48.7	48.1	47.6	47.4	47.0	46.8
64	UA	Ukraine	4.6%		48.5	48.1	47.8	47.4	46.5	46.3	46.3	47.0	47.0	46.4
65	MX	Mexico	2.8%		48.3	48.6	48.4	48.4	48.6	48.6	48.3	47.5	47.5	47.0
66	SA	Saudi Arabia	6.5%		46.4	46.3	46.2	45.4	44.8	44.4	45.3	45.0	43.6	
67	KE	Kenya	4.3%		45.8	45.8	45.9	45.9	46.1	45.6	45.7	44.8	44.1	43.9
68	BR	Brazil	-3.4%		43.8	44.1	43.9	43.3	43.6	44.0	44.6	44.7	44.7	45.3
69	RU	Russia	7.5%		43.7	43.3	43.0	42.7	41.9	41.7	41.2	41.2	40.7	40.6
70	NG	Nigeria	2.0%		43.4	43.4	44.1	44.1	43.9	44.0	43.4	42.9	42.5	42.5
71	IR	Iran	2.9%		40.8	40.7	40.8	40.9	40.3	39.2	39.1	39.1	39.3	39.7
72	ZA	South Africa	4.3%		39.4	39.5	39.0	38.9	39.3	39.4	38.6	38.6	38.2	37.8

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Notes: 'Progress 2011-20' refers to the percentage growth of TPI scores from 2011 to 2020.

Source: European Commission, Transitions Performance Index 2021.

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TABLE C: TPI rankings (2011–2020)

RANK	CODE	NAME	INTERVAL	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
1	CH	Switzerland	[1-2]	1	1	1	1	1	1	1	1	1	1
2	DK	Denmark	[1-2]	2	2	2	2	2	2	2	2	2	2
3	IE	Ireland	[3-3]	3	3	3	3	3	3	5	7	8	6
4	NL	Netherlands	[4-5]	4	4	5	5	5	7	7	5	7	7
5	UK	United Kingdom	[4-7]	5	5	4	4	4	4	4	4	4	4
6	DE	Germany	[5-6]	6	6	6	6	7	6	6	6	5	5
7	SE	Sweden	[6-8]	7	7	7	7	6	5	3	3	3	3
8	NO	Norway	[8-12]	8	9	10	10	10	10	9	8	6	8
9	MT	Malta	[7-11]	9	8	8	8	8	8	10	11	15	13
10	SI	Slovenia	[9-11]	10	11	12	11	11	11	11	10	10	10
11	AT	Austria	[9-11]	11	10	9	9	9	9	8	9	9	9
12	FR	France	[10-13]	12	12	11	12	12	13	12	12	11	11
	EU-27	EU-27	[13-16]	13	14	13	14	14	13	14	14	13	14
13	BE	Belgium	[13-16]	13	13	13	16	14	14	14	14	13	14
14	CZ	Czechia	[13-16]	14	14	14	14	16	15	16	16	18	17
15	LU	Luxembourg	[13-19]	15	15	15	13	13	16	15	15	14	19
16	IT	Italy	[14-20]	16	16	16	17	17	18	17	17	19	21
17	JP	Japan	[17-20]	17	19	18	18	18	17	18	19	20	20
18	FI	Finland	[17-22]	18	17	17	15	15	12	13	13	12	12
19	ES	Spain	[17-20]	19	18	20	19	19	19	19	18	16	15
20	PT	Portugal	[18-21]	20	20	19	20	20	20	20	21	21	18
21	EE	Estonia	[22-22]	21	21	27	26	26	26	28	31	28	29
22	SK	Slovakia	[23-25]	22	22	22	22	21	21	23	23	23	24
23	LV	Latvia	[22-26]	23	24	23	21	22	22	22	22	22	22
24	HR	Croatia	[24-28]	24	23	21	24	25	25	25	28	33	34
25	PL	Poland	[24-27]	25	25	25	25	24	24	24	24	24	26
26	HU	Hungary	[24-28]	26	26	24	23	23	23	21	20	17	16
27	LT	Lithuania	[27-29]	27	27	26	27	27	27	26	25	26	25
28	KR	South Korea	[27-34]	28	29	28	29	30	29	29	29	29	30
29	IL	Israel	[29-31]	29	28	29	28	29	30	31	33	34	33
30	EL	Greece	[29-33]	30	33	35	35	35	35	36	36	37	36
31	IS	Iceland	**[30-44]**	31	31	33	32	28	28	27	26	27	28
32	RO	Romania	[30-34]	32	30	30	30	31	34	34	34	32	32
33	NZ	New Zealand	[32-38]	33	32	31	33	33	32	32	32	30	31
34	CY	Cyprus	[32-36]	34	34	34	31	34	33	33	30	31	27
35	SG	Singapore	[33-38]	35	35	32	34	32	31	30	27	25	23
36	BG	Bulgaria	[32-37]	36	36	36	36	36	36	35	35	35	35
37	AL	Albania	[34-40]	37	37	37	37	37	37	39	38	36	37
38	AU	Australia	**[38-55]**	38	38	38	38	38	39	38	37	38	38
39	MK	North Macedonia	[37-41]	39	39	39	43	43	41	41	41	44	44
40	ID	Indonesia	[39-44]	40	40	41	41	41	42	42	45	45	46
41	CL	Chile	[38-43]	41	41	40	39	39	38	37	39	39	39
42	TH	Thailand	[39-45]	42	43	44	45	46	45	47	46	46	43
43	CA	Canada	**[40-64]**	43	42	42	40	40	40	40	40	40	40
44	AM	Armenia	[43-47]	44	45	52	53	52	53	53	50	51	49
45	US	United States	**[42-52]**	45	44	43	42	44	44	44	44	42	42
46	TN	Tunisia	[43-50]	46	46	46	46	45	43	43	43	43	45
47	MY	Malaysia	[43-51]	47	49	49	47	50	49	50	51	48	48
48	MA	Morocco	[44-53]	48	51	51	51	49	48	46	48	47	47
49	GE	Georgia	[47-52]	49	47	45	44	42	46	49	49	49	51
50	AE	United Arab Emirates	**[46-60]**	50	48	47	50	56	54	52	55	54	55
51	PH	Philippines	**[48-62]**	51	50	48	49	48	50	48	47	50	50
52	DZ	Algeria	[49-55]	52	52	50	48	47	47	45	42	41	41
53	TR	Turkey	[47-55]	53	53	54	55	54	51	51	52	52	52
54	VN	Vietnam	[52-57]	54	54	55	52	51	52	54	54	54	54
	WD	World	[49-57]	55	54	55	53	51	52	54	53	52	52
55	CO	Colombia	**[54-65]**	55	55	53	54	55	56	61	62	56	58
56	MD	Moldova	[54-59]	56	57	59	57	57	57	56	56	60	59
57	BA	Bosnia and Herzegovina	[56-60]	57	58	56	56	53	55	55	53	55	53
58	ME	Montenegro	[59-62]	58	56	57	59	63	60	57	57	58	61
59	AR	Argentina	[56-63]	59	59	58	58	58	59	62	59	59	56
60	CN	China	[58-67]	60	62	60	61	62	62	63	63	65	65
61	RS	Serbia	[59-65]	61	61	61	62	64	64	60	64	62	64
62	EG	Egypt	[59-65]	62	60	63	64	61	61	58	58	57	57
63	IN	India	[62-67]	63	63	62	60	59	63	64	61	63	62
64	UA	Ukraine	[63-67]	64	65	65	65	65	65	65	65	64	63
65	MX	Mexico	[63-68]	65	64	64	63	60	58	59	60	61	60
66	SA	Saudi Arabia	[67-69]	66	66	66	67	67	67	67	66	66	68
67	KE	Kenya	[68-71]	67	67	67	66	66	66	66	67	68	67
68	BR	Brazil	[69-71]	68	68	69	69	69	68	68	68	67	66
69	RU	Russia	[69-72]	69	70	70	70	70	70	70	70	70	70
70	NG	Nigeria	[70-74]	70	69	68	68	68	69	69	69	69	69
71	IR	Iran	[72-73]	71	71	71	71	71	72	71	71	71	71
72	ZA	South Africa	[73-74]	72	72	72	72	72	71	72	72	72	72

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Notes: (1) European Union and World are not ranked in the TPI, but referential ranks are provided. (2) Transition group colours are based on scores, not ranks (Table B). (3) 2020 rank intervals were computed by the European Commission Joint Research Centre as part of an independent statistical audit of the TPI (Appendix V); the smaller the interval, the more robust the rank.
Source: European Commission, Transitions Performance Index 2021.

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ANALYTICAL REPORT

TRANSITIONS PERFORMANCE INDEX 2021

INTRODUCTION

During the last two years, the world has lived through an unprecedented health crisis which has affected every one, socially and economically. Together with natural resource depletion, habitat degradation, biodiversity loss and increased pollution, climate change continues to be a global threat for the environment, with global temperature increasing along with the number and intensity of natural disasters like floods, droughts and fires. Both the COVID-19 pandemic and the climate change crisis highlight the crucial role of public policies and measures to support the transition to a more sustainable economy and inclusive society to respond to current and future global challenges. Monitoring such a transition requires the of use metrics beyond the GDP indicator. In her State of the Union 2021 speech, European Commission President Ursula von der Leyen stated: 'The speed of events and the enormity of the challenges are sometimes difficult to grasp' as Europe is facing the biggest global health crisis for a century, the deepest global economic crisis for decades and the gravest planetary crisis of all time[5].

The European Commission has defined a clear agenda to meet global challenges with six priorities: implement a European Green Deal, foster a Europe fit for the digital age, develop economies that work for people, promote the European way of life, strengthen Europe's role in the world, and give a new push for European democracy. This agenda will enable the EU to progress towards the United Nations Sustainable Development Goals (SDG) by 2030 and make our society more inclusive and resilient.

Such policies require a monitoring system that goes beyond the measurement of GDP and that takes into account the multidimensional aspects of progress by using different indicators to address a fair, inclusive and sustainable prosperity. Since 2009, the European Commission has established an integrated approach[6] to measuring well-being beyond GDP. It has developed a new set of indicators, in particular ones addressing the environmental and social aspects.

The TPI presented in this report looks at the four transitions needed to progress towards these goals: the economy, the social sphere, the environment and governance. The tool provides data for EU Member States and other countries that account for 91 % of the world's GDP. The tool builds partly on the UN's SDG indicators. The EU's annual SDG report [7] presents the progress towards each SDG in the EU. The TPI is different in statistical concept compared to other composite indicators. These differences include its presentation of 10 years of data (2011-2020) and normalisation through goalposts, allowing us to analyse not only performance but also to track progress in both scores and rankings on a comparable basis across countries and over the period in the four dimensions[8]. The TPI is also a powerful communication tool for measuring progress over the decade and for benchmarking countries (in the EU and outside the EU) so as to recognise strengths and indicate weaknesses where more has to be done[9].

The independent statistical audit performed by the Joint Research Centre (JRC) validated the statistical methodology and the robustness of results[10].

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5 European Commission, 2021 State of the Union Address by President von der Leyen, 15 September 2021.

6 See COM(2009)433 and SWD(2013) 303

7 Eurostat, Sustainable development in the European Union — Monitoring report on progress towards the SDGs in an EU context — 2021 edition, Eurostat, Publications Office of the European Union, Luxembourg, 2021.

8 The TPI is focused on impact in order to inform citizens on how policy mixes in their country positively or negatively affect their quality of life and future.

9 The report A System Change Compass (October 2020) sets recommendations to support the implementation of the European Green Deal that largely inspired the conceptual framework of the TPI. It calls for 'redefining prosperity (embracing social fairness for real prosperity)' and 'redefining metrics (replacing GDP with a new, comprehensive well-being measure that also integrates social and environmental needs)'. The TPI constitutes another step in such a redefinition of metrics, together with other European Commission initiatives. The report also urges 'that all relevant stakeholders have voice, agree and share the ownership of necessary system change'. The transparency and the global approach of the TPI respond to this concern.

10 See Appendix IV

Based mostly on hard data, the choice of indicators has been guided by the principles of relevance to the topic, international comparability, parsimony, distinctiveness, and non-redundancy. A total of 28 indicators were selected, of which 23 are hard data and five are indices (i.e. composite indicators) computed by a series of NGOs and international organisations (such as the World Bank, the IMF and UN specialised agencies).

This second edition of the TPI includes few changes compared to the first edition. Digital economy indicators were added to the framework in the Economic pillar to highlight the role of digitalisation in transitions. In addition, to take into account environmental spillover effects, a measurement of material footprint was added to the Environmental pillar. The methodology and data are public and accessible in order to build confidence in the TPI's impartiality and to facilitate input for further improvement.

The goal of the index is not to prescribe what policy mix to choose, but to monitor the state of countries in terms of outcomes. It offers an evidence-based tool for all who are striving towards fair and sustainable prosperity. Chapter I explores the concept of transitions. Chapters II and III concentrate on results of the overall index, while the four chapters that follow analyse the various transitions, as covered by the TPI (Chapters IV to VII). Chapter VIII analyses performance by income group and regional dimensions, and Chapter IX offers avenues for reflection on open questions and linkages for future analysis.

I. THE CONCEPT OF TRANSITIONS

'Transitions' refers to transformational changes to enhance resilience to vulnerabilities and risks based on a set of objectives.

In the context of climate change, the concept of transition was first associated with the environmental or green transition and relates to mitigation and adaptation, which are linked to addressing the causes and consequences of climate change, respectively. In 2019, the European Commission published a Communication on 'The European Green Deal'[11] together with an initial roadmap of key policies and measures. The European Green Deal is a 'new growth strategy that aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use'.

Additionally, the Commission underlines that the 'transition must be just and inclusive'. In this regard, the European Pillar of Social Rights intends to guide action to ensure that no one is left behind. The European Green Deal aims to create a coherent policy framework that includes economic, social and environmental objectives that take into account the possible trade-offs and synergies between actions in these different dimensions. For instance, the Green transition might require social interventions (such as safety nets) to optimise positive transformations and minimise negative disruptions in society. In this context, social model thinking needs to be transformative.

The concept of transitions as considered in the TPI refers directly to the just and inclusive transition framework outlined in the European Green Deal. The TPI acknowledges the multi-dimensionality of the concept of transitions through four pillars: Economic, Social, Environmental and Governance. Digital transition is included within Economic transition.

A transition is therefore a path toward environmentally sustainable and inclusive economies and societies, which promote and defend a set of shared values. In the EU, values such as equality, non-discrimination, inclusion, human dignity, freedom and democracy are fortified and protected by the rule of law and spelled out in the EU Treaties[12] and the Charter of Fundamental Rights. As all dimensions of transitions are interrelated, the TPI is a useful tool to identify and measure possible synergies between the different pillars and to look at transitions in a holistic manner.

The concept of transitions in this report is also related to the notion of sustainable development promoted by the UN with the three pillars of sustainability: Economic Development, Social Sustainability and Environmental Protection. The transition progress measured by the TPI is directly linked to the implementation of the UN's 2030 Agenda for Sustainable Development and the SDGs[13]. Indeed, the conceptual framework of the TPI is inspired by the 17 SDGs with a large overlap of the TPI's indicators with the SDG indicators (**TABLE 1**).

The transitions measured by the TPI also show a certain degree of correspondence[14] with the policy framework of 'just transition' developed in 2015 by the International Labour Organization (ILO). The ILO considers that the three dimensions of sustainable development are of equal importance and should be addressed together. Additionally, a just transition needs to 'contribute to the goals of decent work for all, social inclusion and the eradication of poverty'[15]. The ILO sees the green economy as an opportunity for social progress and draws up a set of specific 'guidelines for a just transition towards environmentally sustainable economies and societies for all'.

The TPI is then a relevant monitoring tool for transition progress in this context, where all countries are redefining their economies and societies to tackle the impact of the COVID-19 pandemic. Although TPI is not per se a resilience index, it embeds several resilience dimensions.

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11 European Commission, *The European Green Deal COM(2019) 640 final*, 2019.

12 Consolidated version of the Treaty on European Union – TITLE I COMMON PROVISIONS – Article 2 OJ C 236, 7.8.2012, p. 17–17.

13 UN, *Transforming our world: the 2030 Agenda for Sustainable Development*, UN, New York, 2015.

14 Sabato, S. and Fronteddu, B., *A socially just transition through the European Green Deal?* Working Paper, European Trade Union Institute, 2020.

15 International Labour Organization, *Guidelines for a just transition towards environmentally sustainable economies and societies for all*, Switzerland, 2015.

TABLE 1: TPI conceptual framework and indicators

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ECONOMIC TRANSITION	SOCIAL TRANSITION	ENVIRONMENTAL TRANSITION	GOVERNANCE TRANSITION
Making the economy work for prosperity	Focusing on fairness and inclusion	Supporting the European Green Deal objectives	A new push for democracy
Education Government expenditure in education per student (% of GDP per capita) Internet users (%) Proportion of people with ICT skills (composite)	**Health** Healthy life expectancy at birth (years)	**Emissions reduction** Gross greenhouse gas emissions (tonnes per capita)	**Fundamental rights** Voice and accountability index Rule of law index
Wealth Gross domestic product (GDP) per capita, current dollars (PPP$)	**Work and inclusion** Employment rate of population 20-64 (%) Employment-to-population ratio gender gap 25+ (%) Gross enrolment ratio, pre-primary, both sexes (%)	**Biodiversity** Terrestrial key biodiversity areas (KBAs) protected (%) Freshwater KBAs protected (%) Pesticides use per area of cropland (kg/ha)	**Security** Homicide rate (per 100 000 inhabitants)
Labour productivity and R&D intensity Output per worker (2011 constant GDP PPP$) Gross expenditure on R&D (% of GDP)	**Free or non-remunerated time** Free or non-remunerated time (%)	**Material use** Resource productivity (PPP$ per kg) Material footprint (tonnes per capita)	**Transparency** Corruption Perceptions Index Basel Anti-Money Laundering Index
Industrial base Gross value added of manufacturing (% of GDP) Patent families filed in two offices (per billion PPP$ GDP)	**Equality** Gini coefficient of disposable income, after taxes and transfers Income share held by the poorest quintile (%)	**Energy productivity** Energy productivity (PPP$ per koe)	**Sound public finances** General government gross debt (% of GDP)

Source: European Commission, Transitions Performance Index 2021.

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II. PERFORMANCE OF EUROPEAN UNION MEMBER STATES

The four transitions (Economic, Social, Environmental and Governance) contribute jointly to defining a path towards a balanced situation whereby the quality of life is sustainably better for all.

The EU has set an ambitious agenda in this respect and has committed to further pursue and enhance this agenda. In the middle of the COVID-19 crisis, European Commission President Ursula von der Leyen declared: 'We chose to pull each other through and invest in a common future. (…) In past crises, the better-off survived while the most vulnerable paid a heavy price. But this time it has to be different. This time, we can only get back to our feet if we all pull each other up.'

A simple monitoring tool is effective in communicating to stakeholders and to a wider audience about performance on overall key objectives of the transition. The TPI, by presenting a time series of 10 years, can also show progress. With its detailed country profiles, the TPI can also complement other policy monitoring frameworks.

FIGURE 1: EU-27 Member States ranking and transition groups
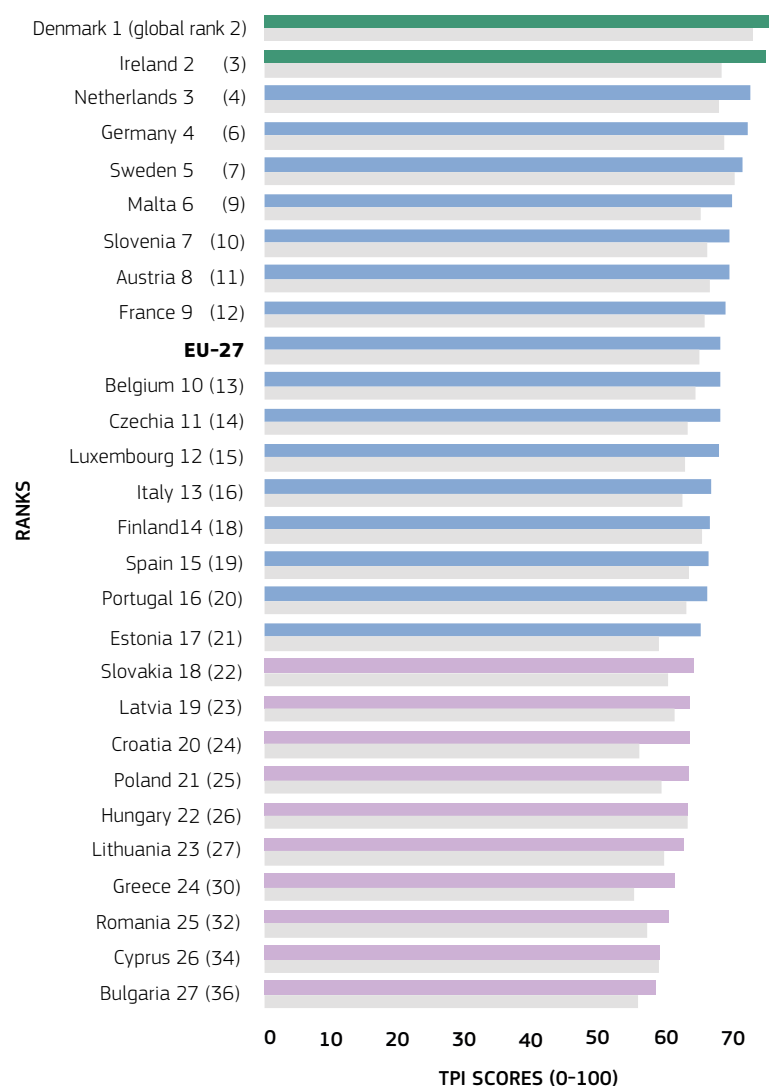
Legend:
■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[▨ 2011

Note: The number in parenthesis indicates the TPI global rank.
Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

This chapter presents the TPI scores and rankings for the EU, while Chapter II presents the global results (for 72 countries).

Five performance groups are defined with fixed score intervals. All EU countries belong to either leaders, strong transition, or good transition groups. None belongs to the moderate or weak transition groups (**FIGURE 1**). This is therefore a robust indication of the overall positive impact of EU policies.

Denmark (ranking first among EU countries) and Ireland are transition leaders, and two Member States of the so-called 'friends of the cohesion group' (Malta and Slovenia) perform better than the EU average. Most EU countries (17) are either transition leaders or in strong transition.

Progress over the 2011-2020 decade

TABLE 2 shows that all but one EU country have improved their performance since 2011, particularly Croatia, which showed an exceptional result of catching up (13.5%), and Greece and Estonia (above 10% progress). The sharp increase in Ireland (9.8%) demonstrates that a country can continue to progress even from a leading position. Many strong performers continue to progress at high speed.

A large number of countries (Belgium, Bulgaria, Czechia, Germany, Italy, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Slovenia and Slovakia) progressed above the EU average (4.9%). Cyprus, Finland and Sweden progressed less than 2%, whereas Hungary is the only EU Member State stagnating over the last 10 years (-0.2%). These countries are at risk of losing ground in the transition process unless they renew collective efforts.

Performance in the four transitions

When looking at the performance by pillar, EU Member States have not improved sufficiently in the Economic and Environmental transitions (**TABLE 2**). Pursuing ambitious targets and related investments in these domains is an absolute necessity if the EU and Member States wish to achieve balanced and sustainable prosperity.

Similar patterns across EU countries call for a coordinated policy at least in terms of objectives and targets. In this respect, the financial contribution from the COVID-19 recovery package – NextGenerationEU – goes in the right direction. However, it is now up to each country to decide how to ensure an effective use of these resources. Moreover, this does not preclude the need for policy decisions on norms and targets that may encourage the speed of adaptation.

All EU countries achieve leadership or strong performance in the Social transition. Except for Hungary and Greece, all achieve leadership or strong performance in the Governance transitions.

The EU-27 is in the strong performance group. In this group, Ireland achieves a leadership position in the Economic transition. Portugal and Spain lag behind as moderate performers in the Economic transition, and Estonia, Finland and Luxembourg do so in the Environmental transition.

As indicated by the Environmental-Social-Governance transition gap (ESG gap)[16], EU Member States succeeded in leveraging their economic structures to progress in these three transitions, with room for progress in the environmental dimension (for an interpretation of the ESG gap, please refer to section III.3).

Analysis on EU Widening Countries

According to Horizon Europe[17], 'Widening countries' are Greece and Portugal plus the 13 countries that have joined the EU since 2004 (Bulgaria, Croatia, Cyprus, Czechia, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia)[18]. These countries benefit from widening instruments to reduce the innovation gap with other EU Member States and more specifically to improve their participation in EU Framework Programmes.

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16 The ESG transition gap is computed as the difference between the weighted average of the Social, Environmental, and Governance transition scores and the Economic transition score, divided by the TPI score.

17 European Commission, Widening participant and spreading excellence.

18 It also includes 'Associated countries with equivalent characteristics in terms of R&I performance and the Outermost Regions' (defined in Art. 349 TFEU) for which data is not always available at that level in the TPI.

TABLE 2: European Union TPI ranking, pillar scores and transition groups

RANK		COUNTRY	2020 TRANSITIONS SCORES					PROGRESS	ESG GAP
REGION	TPI	NAME	TPI	ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE	2011-2020	(% OF TPI)
1	2	Denmark	78.4	73.4	85.5	73.1	84.0	6.0%	7.9%
2	3	Ireland	75.9	76.1	78.3	72.3	79.0	9.8%	-0.3%
3	4	Netherlands	73.6	66.7	84.8	64.7	82.5	7.2%	11.7%
4	6	Germany	73.1	70.7	82.0	65.0	79.1	5.1%	4.0%
5	7	Sweden	72.3	73.0	84.3	57.0	83.7	1.8%	-1.1%
6	9	Malta	70.7	55.7	80.1	74.4	70.1	7.2%	26.5%
7	10	Slovenia	70.4	62.5	85.9	60.9	77.7	5.0%	14.1%
8	11	Austria	70.4	70.2	80.6	59.1	78.0	4.6%	0.3%
9	12	France	69.6	58.9	81.0	66.8	73.2	4.6%	19.3%
		EU-27	69.0	61.1	77.5	65.0	74.0	4.9%	14.3%
10	13	Belgium	68.9	67.9	81.6	59.1	73.3	5.6%	1.9%
11	14	Czechia	68.8	60.4	83.9	59.0	77.3	7.6%	15.3%
12	15	Luxembourg	68.7	69.3	75.5	52.9	85.0	8.2%	-1.1%
13	16	Italy	67.6	56.7	70.2	73.8	65.7	7.0%	20.2%
14	18	Finland	67.4	68.2	84.1	47.9	80.7	1.7%	-1.6%
15	19	Spain	67.1	54.2	74.7	65.4	73.7	4.5%	24.1%
16	20	Portugal	67.0	50.3	76.9	66.4	73.1	5.1%	31.1%
17	21	Estonia	66.1	56.4	79.2	53.9	80.3	10.8%	18.3%
18	22	Slovakia	65.0	50.1	80.9	60.2	70.9	6.4%	28.7%
19	23	Latvia	64.4	47.9	72.2	68.4	66.0	3.8%	32.2%
20	24	Croatia	64.3	45.6	72.0	67.6	68.7	13.5%	36.5%
21	25	Poland	64.2	52.5	74.1	59.7	71.8	7.0%	22.7%
22	26	Hungary	64.0	53.0	75.3	66.2	60.5	-0.2%	21.4%
23	27	Lithuania	63.5	52.3	71.7	61.6	68.4	5.2%	22.0%
24	30	Greece	62.1	45.2	70.9	65.5	63.8	11.0%	34.0%
25	32	Romania	61.2	42.2	66.0	65.3	66.6	5.8%	38.7%
26	34	Cyprus	59.9	47.6	79.2	51.6	66.1	0.4%	25.8%
27	36	Bulgaria	59.3	40.8	65.3	61.2	66.7	4.9%	39.1%

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Notes: (1) 'ESG gap (% of TPI)' refers to the difference between the sum of the social, environmental, and governance (ESG) pillar weighted scores and the economic pillar score, as a percentage of the TPI score, in 2020. (2) 'Progress 2011-20' refers to the percentage growth of TPI scores from 2011 to 2020.

Source: European Commission, Transitions Performance Index 2021.

FIGURE 2: ESG gap for widening countries

Country	ESG gap (%)
Bulgaria	39.1%
Romania	38.7%
Croatia	36.5%
Greece	34.0%
Latvia	32.2%
Portugal	31.1%
Slovakia	28.7%
Malta	26.5%
Cyprus	25.8%
Poland	22.7%
Lithuania	22.0%
Hungary	21.4%
Estonia	18.3%
Czechia	15.3%
Slovenia	14.1%
Widening	26.0%
Non-widening	12.1%
EU-27	14.3%

ESG gap (%)

Source: European Commission, Transitions Performance Index 2021.
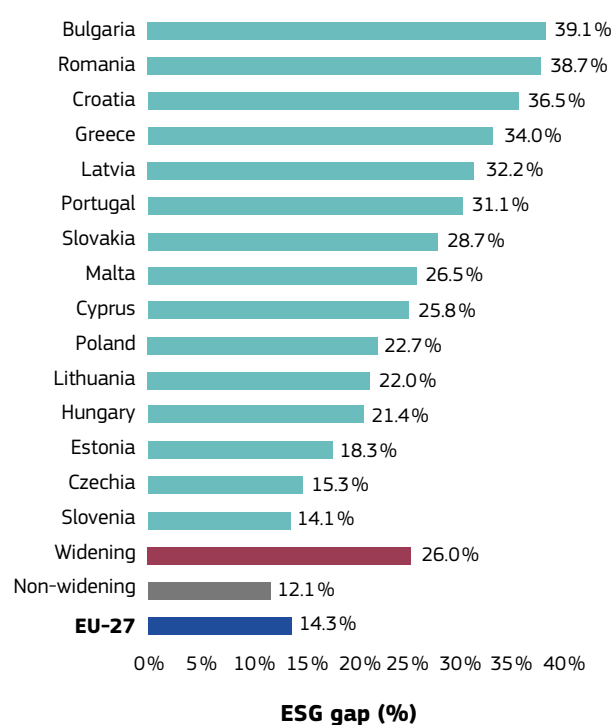
TRANSITIONS PERFORMANCE INDEX 2021

Compared to the 12 non-widening EU countries (EU-12) with an average score of 64.1, the 15 widening countries are lagging behind in performance, particularly in the Economic transition (50.7 on average). They also show larger ESG gaps (**FIGURE 2**), suggesting an imbalance and room for improvement in the Economic pillar.

Over 2011 to 2020, however, widening countries have significantly improved their scores in the Economic pillar (over 10 % compared to 5 % for the EU-12) with Bulgaria and Poland showing the larger upward trends. This progress has been mainly driven by an increase in Wealth, as well as Labour productivity and R&D intensity. Although R&D intensity surges in widening countries (with an average R&D expenditure of 39.6 % of GDP), large disparities prevail, with higher progress in Poland and Greece and sharp declines in Estonia and Slovenia.

Most of the widening countries seem to be in a catching-up phase, whereas non-widening countries are cruising and progressing (**FIGURE 3**). There is also an improvement in education among the widening countries, whereas the industrial base has been declining on average over the last 10 years.

In most widening countries, TPI results suggest a decrease in the innovation divide compared to the EU-12 countries. Nevertheless, there is still a need to improve R&I capacities in these countries.

Different actions have been implemented under Horizon 2020 and now under Horizon Europe to reduce this innovation gap. The programme component 'Widening Participation and Spreading Excellence' aims to support and improve R&I systems in these countries. It consists of actions to encourage the participation of these countries in partnerships, promote collaboration and upskill workers in research institutions and universities (twinning), create and support centres of excellence and encourage reforms and investments to improve R&I systems (teaming), attract and maintain talents in widening countries (ERA Chairs) and develop networking (COST). These widening actions receive 3.3 % of the total Horizon Europe budget. The Smart Specialisation Platform, created in 2011, has a similar objective and offers expertise to help national and regional policymakers identify areas of competitive strengths and foster innovation partnerships.

The general underperformance of the widening countries in the EU Framework Programmes has been well documented at the country level but also now at the regional level by the recent work of the European Parliamentary Research Service. Taking into account the regional dimension, the initiative FIT-4-NMP aims to identify and prioritise underrepresented regions in Horizon 2020 nanotechnologies, advanced materials and new manufacturing processes (NMP) projects. The FIT-4-NMP consortium actively supports talented newcomers, especially SMEs, from the prioritised underrepresented regions so as to increase the number and the quality of applications for Horizon 2020 NMP projects. This shift of the analysis from a country level to a regional one, acknowledging that countries are not homogenous in their transition performances, is a possible avenue for further analysis of the TPI.

II.1. THE EUROPEAN UNION, THE UNITED STATES AND CHINA

To respond to global challenges and benchmark countries beyond the EU, a global metric is needed. The TPI 2021 has a geographical coverage beyond the EU to cover 72 countries. It is possible to increase the country coverage in the future.

FIGURE 4 shows the relative position of the three main trading blocs, namely the EU, the United States, and China.

Since 2011, China has progressed by 7.6 %, the United States by 3.3 % and the EU by 4.9 %[19]. For the United States, catching up will depend partly on governmental policy orientations and also on civil society: in certain States there has been a push for a reduction in greenhouse gas emissions.

However, due to the distance to the frontier defined by the TPI goalposts[20], unless the United States and China further intensify their efforts, it is unlikely that they can catch up within the next decade; the EU in the meantime has recently confirmed its Green Deal priorities and announced that its COVID-19 recovery package aims at a collective effort to accelerate transitions[21].

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19 For comparison, the world TPI arithmetic average is 6.2 %.
20 Most goalposts are based on policy targets (see Appendix II). Both targets and goalposts may be revised in the future, in view of increased ambition or global progress.
21 Council of the European Union, 'EU budget 2021-2027 and recovery plan' and Next Generation EU – COVID-19 recovery package

FIGURE 3: Economic transition scores and progress grid

Source: European Commission, Transitions Performance Index 2021.

The analysis of progress of the three geographical entities (**FIGURE 5**) is informative. The highest rate of progress in China is mostly in the Economic transition in sub-pillars Wealth, Education, and Labour productivity and R&D intensity, and in Social transition (in Health life expectancy and Work and inclusion). China is still a weak performer in the Environmental transition.

The US's strong point is the Economic pillar (with a decline in the Industrial base, however). Despite the United States' progress in the Environmental pillar, facilitated by the low base level in 2011, its overall performance in this pillar remains weak (progress has been made notably in Resource productivity and Energy productivity with a deterioration in Greenhouse gas emissions reduction and Material footprint).

The EU performance increased in all four pillars. The overall progress in the Environmental pillar (8.6 %) hides differences: good progress in Energy and Resource productivity, but limited progress in Emissions reduction, Biodiversity protection and Material footprint.

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FIGURE 4: EU-27, United States and China scores and transition groups

Strong transition [65-75[

Moderate transition [45-55[

	TPI SCORES (0-100)
EU-27	69.0
United States	54.2
China	49.5
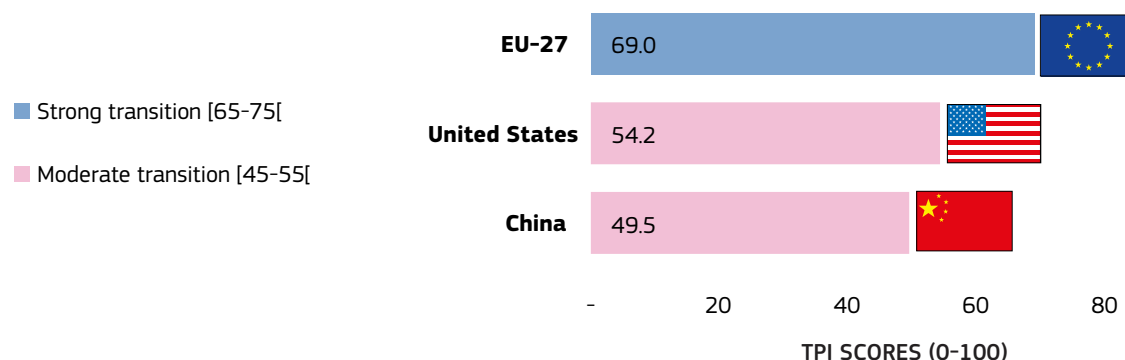
Source: European Commission, Transitions Performance Index 2021.

FIGURE 5: EU-27, United States and China TPI and pillar scores and progress since 2011

SCORES (0-100)

TPI   Economic   Social   Environmental   Governance

■ EU-27 2020   ■ US 2020   ■ CN 2020   ■ 2011
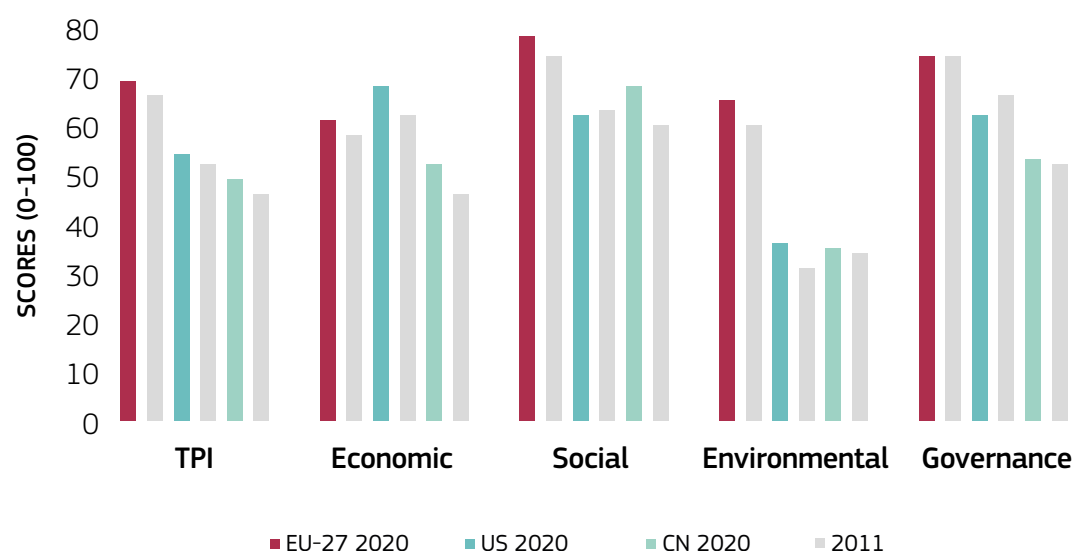
Source: European Commission, Transitions Performance Index 2021.

II.2. THE EUROPEAN UNION AND ITS MAIN TRADING PARTNERS

When looking at the EU's ten main trading partners, the EU ranks fourth (**FIGURE 6**) in strong transition. Switzerland, the United Kingdom and Norway are the top three, with Switzerland and EU countries Denmark and Ireland among the TPI leaders.

The only main trading partner in the same transition group as the EU outside of Europe is Japan, while South Korea, which is in good transition, is not far behind (**FIGURE 6**).

The gap with Canada and the United States is substantial; both countries are in moderate transition, performing slightly better than Turkey, China and India. The world average represents an average moderate performance as well, whereas Brazil and Russia are in the weak transition group.

FIGURE 6: EU-27 and main partners TPI scores 2021 and transition groups
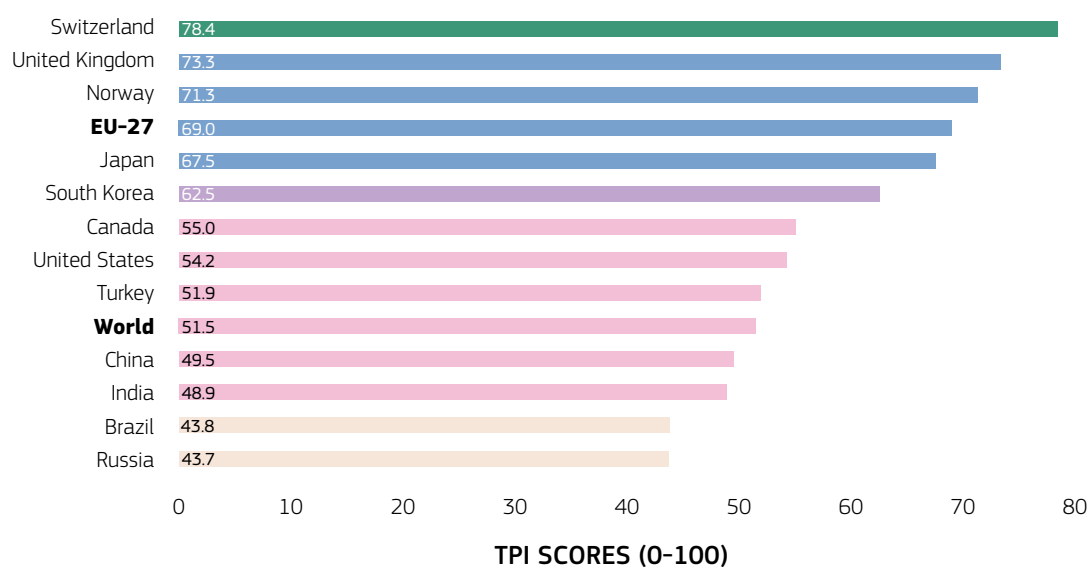
Switzerland — 78.4
United Kingdom — 73.3
Norway — 71.3
EU-27 — 69.0
Japan — 67.5
South Korea — 62.5
Canada — 55.0
United States — 54.2
Turkey — 51.9
World — 51.5
China — 49.5
India — 48.9
Brazil — 43.8
Russia — 43.7

TPI SCORES (0-100)

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Source: European Commission, Transitions Performance Index 2021.

III. GLOBAL PERFORMANCE

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The TPI aims at becoming a compass used to monitor the capacity of countries to face global challenges with the goal to achieve a fair and sustainable prosperity for citizens and future generations.

Global challenges require global responses. Designed with a 'beyond GDP' approach and using international comparable data, its global dimension constitutes one of the main added values of the TPI to help increase dialogue and citizens' involvement on a global scale.

III.1. TPI PERFORMANCE

TPI ranking and scores

Score ranges of identical width define the five performance groups (**FIGURE 7**). The results show a typical normal distribution, with 3 countries as leaders, 18 as strong performers, including the EU-27, and 21 as good performers, 25 as moderate performers, including the world average, and 5 in weak transition.

FIGURE 7: TPI ranking and transition groups (2020)
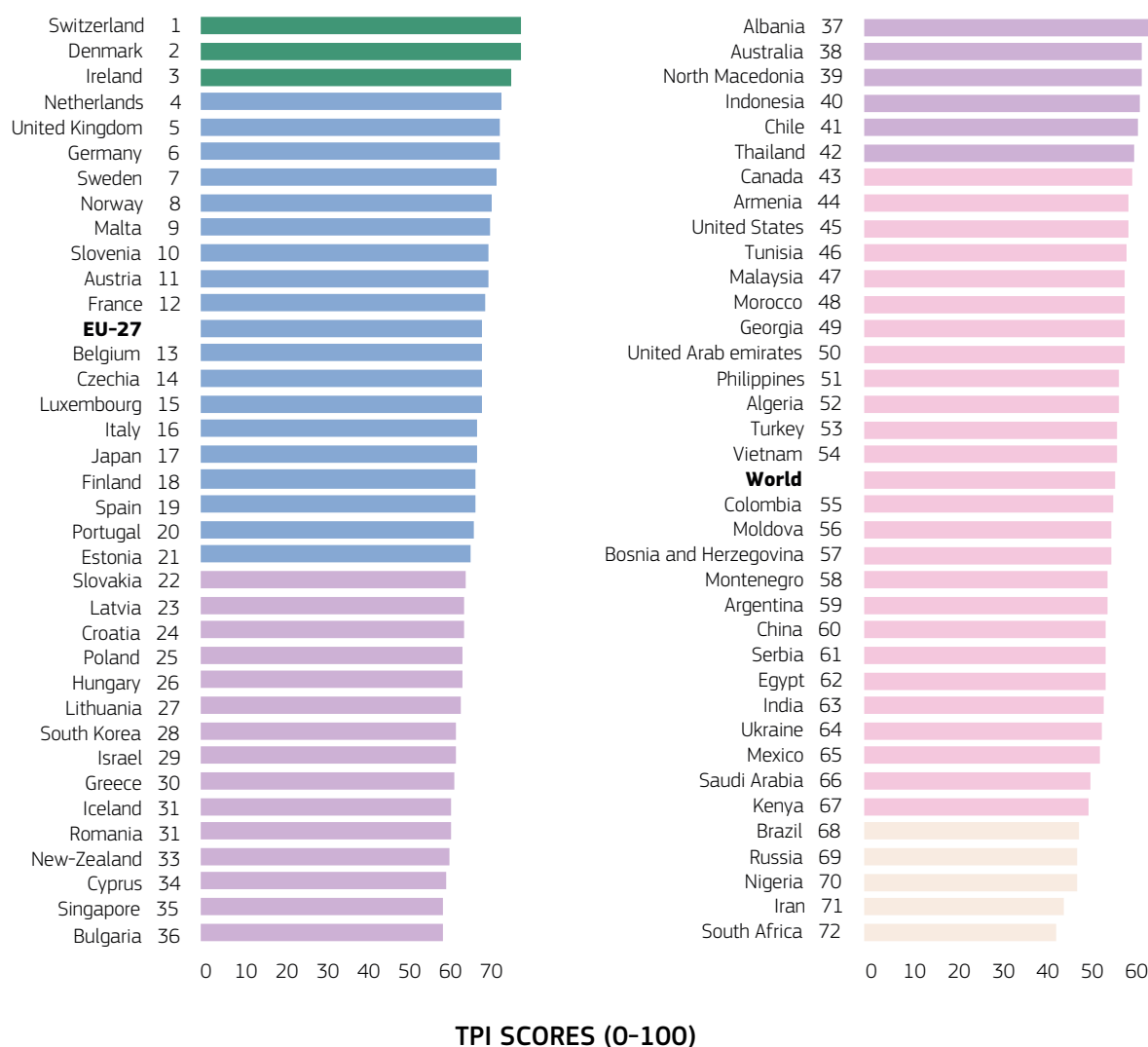
TPI SCORES (0-100)

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

TABLE 3: Top 5 TPI pillar scores

| TOP 5 | TRANSITIONS | | | | | | | |
| | ECONOMIC | | SOCIAL | | ENVIRONMENTAL | | GOVERNANCE | |
Rank	Country	Score	Country	Score	Country	Score	Country	Score
1	Switzerland	79.8	Iceland	89.7	United Kingdom	78.0	Norway	86.8
2	Ireland	76.1	Slovenia	85.9	Malta	74.4	New Zealand	85.1
3	South Korea	75.4	Norway	85.8	Italy	73.8	Luxembourg	85.0
4	Denmark	73.4	Denmark	85.5	Albania	73.3	Denmark	84.0
5	Sweden	73.0	Netherlands	84.8	Denmark	73.1	Sweden	83.7

■ Transition leader [75-100]　■ Strong transition [65-75[

Source: European Commission, Transitions Performance Index 2021.

The overall strong position of EU-27 countries is noteworthy (see Chapter II)[22].

Switzerland's performance is outstanding, with the country leading the ranking for the entire 2011 to 2020 period with a balanced performance in the four dimensions. Switzerland also leads in Economic transition, while Iceland is at the top of the ranking in Social transition, the United Kingdom in Environmental transition and Norway in Governance transition (**TABLE 3**).

Progress over the 2011-2020 decade

The world exhibited overall moderate progress from 2011 to 2020, but with significant differences in relative scores and trends, confirming the difficulty of the transition challenge (**TABLE 4**).

The countries that registered the highest gains over the period are Croatia (13.5%), Greece (11.0%) and Estonia (10.8%).

Progress is far from being solely a catching-up effect for the countries with a low TPI score in 2011. Most of the 72 countries covered by the TPI have improved their performance, on average by 4.3%[23], except for Algeria (-4.3%), Brazil (-3.4%) and Singapore (-2.9%), whose performance has receded. Hungary has had a stable score over that period (-0.2%).

FIGURE 8 shows that progress is not predetermined by the starting points (weak R2 of 0.0454). Some leaders or strong performers have made outstanding progress, such as Ireland, which is now in leader position, and the EU-27 as a whole (with growth over 4.9%).

But significant progress is also noticeable in countries that belong to the other groups of performers (**FIGURE 9**).

Performance in the four transitions

Pillar performance shows that no country is among the leaders in all four dimensions, which implies there is room for progress for all (**TABLE 5**). Only Denmark manages to be in the top 5 for the TPI in each pillar, without leading any of them.

Some countries achieve leadership in some pillars, even if they do not rank at the top of the TPI; conversely, some countries lag in some pillars despite their overall good performance in TPI scores. This illustrates the specific nature of each pillar and the specificities of each country. While the public benefits from progress in each dimension, some countries may take advantage of their strengths to make progress on their relative weaknesses[24]. The TPI country profiles show weak points where catching-up is recommended to avoid imbalances, which would destroy the economic and social consensus needed to support the global transition process.

22 Transition groups are transition leader (scores equal to or above 75); strong transition (scores between 65 and 75); good transition (scores between 55 and 65); moderate transition (scores between 45 and 55); and weak transition (scores below 45).

23 Refer to Appendix IV – Technical notes for details on the computation of the country aggregates EU-27 (27 current Member States, considered over the entire 2011-2020 period) and the world (which includes only the 72 countries considered in the TPI). The arithmetic average progress is 6.5%, and the average progress weighted by population is 6.9%, notably due to the weight of China.

24 The TPI being based on a reduced number of indicators, the strengths and weaknesses it points to need to be further analysed by a wider set of indicators in each dimension, based on existing large dashboards and expert views.

TABLE 4: TPI scores and progress (2011–2020)

		COUNTRY	PROGRESS	2011–2020 TPI SCORES									
RANK	CODE	NAME	2011–20	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
1	CH	Switzerland	4.2%	78.4	78.5	78.1	78.0	77.4	76.9	76.5	75.4	75.7	75.2
2	DK	Denmark	6.0%	78.4	78.3	77.3	76.9	77.1	76.7	75.6	74.9	74.7	73.9
3	IE	Ireland	9.8%	75.9	75.3	74.9	74.6	74.0	74.4	71.2	69.2	69.1	69.1
4	NL	Netherlands	7.2%	73.6	73.6	73.0	72.1	71.3	70.6	70.3	69.8	69.1	68.7
5	UK	United Kingdom	5.2%	73.3	73.6	73.1	72.6	72.1	71.8	71.3	70.2	69.6	69.6
6	DE	Germany	5.1%	73.1	73.4	72.9	71.9	70.9	70.8	70.7	69.7	69.6	69.5
7	SE	Sweden	1.8%	72.3	72.5	71.7	71.8	71.2	71.5	71.3	71.2	71.4	71.1
8	NO	Norway	5.0%	71.3	71.0	69.7	69.4	68.8	68.7	69.3	68.5	69.3	67.9
9	MT	Malta	7.2%	70.7	71.9	71.2	70.7	70.2	70.2	68.4	67.8	64.5	66.0
10	SI	Slovenia	5.0%	70.4	70.5	69.3	68.8	68.5	67.5	67.8	67.9	67.6	67.0
11	AT	Austria	4.6%	70.4	70.8	70.6	69.8	69.6	69.4	69.4	68.5	68.0	67.3
12	FR	France	4.6%	69.6	70.0	69.4	68.4	67.7	67.1	67.7	67.5	67.0	66.6
	EU-27	**European Union**	4.9%	69.0	69.0	68.4	67.9	67.5	67.2	67.2	66.5	66.2	65.8
13	BE	Belgium	5.6%	68.9	69.4	68.3	67.7	67.4	66.9	67.0	66.2	66.0	65.2
14	CZ	Czechia	7.6%	68.8	68.9	68.2	67.8	67.2	66.7	66.3	65.9	64.3	64.0
15	LU	Luxembourg	8.2%	68.7	68.3	68.1	67.9	67.6	66.6	66.3	65.7	64.8	63.5
16	IT	Italy	7.0%	67.6	67.8	67.2	66.7	66.3	65.1	65.5	64.9	63.8	63.2
17	JP	Japan	6.4%	67.5	67.4	67.0	66.7	66.0	65.9	65.4	64.6	63.7	63.4
18	FI	Finland	1.7%	67.4	67.5	67.2	67.8	67.3	67.5	67.5	66.8	66.9	66.2
19	ES	Spain	4.5%	67.1	67.4	66.2	66.0	65.7	64.8	65.0	64.7	64.4	64.2
20	PT	Portugal	5.1%	67.0	67.2	66.3	65.8	65.6	64.8	64.7	63.9	63.7	63.7
21	EE	Estonia	10.8%	66.1	65.9	63.1	62.4	61.7	62.0	60.4	59.1	60.1	59.6
22	SK	Slovakia	6.4%	65.0	65.1	64.1	63.5	63.9	63.9	63.2	62.0	62.0	61.1
23	LV	Latvia	3.8%	64.4	64.3	64.0	63.8	63.8	63.7	63.4	63.4	62.4	62.1
24	HR	Croatia	13.5%	64.3	64.9	64.5	63.0	63.0	62.5	62.4	60.5	57.2	56.7
25	PL	Poland	7.0%	64.2	64.2	63.2	62.9	63.1	63.3	63.0	61.6	61.0	60.0
26	HU	Hungary	-0.2%	64.0	64.0	63.8	63.3	63.8	63.6	64.5	64.4	64.4	64.1
27	LT	Lithuania	5.2%	63.5	63.6	63.2	62.1	61.6	61.5	61.8	61.2	60.6	60.4
28	KR	South Korea	5.5%	62.5	62.6	62.3	61.6	60.8	60.3	60.3	59.8	59.6	59.3
29	IL	Israel	9.9%	62.3	62.6	62.2	61.9	61.2	60.2	60.0	58.5	57.1	56.7
30	EL	Greece	11.0%	62.1	60.9	60.8	59.2	58.8	58.3	57.7	57.1	55.6	55.9
31	IS	Iceland	2.6%	61.2	61.5	60.5	60.8	61.4	60.8	60.5	60.5	60.4	59.6
32	RO	Romania	5.8%	61.2	61.6	61.4	61.1	60.7	59.0	58.7	58.3	57.4	57.8
33	NZ	New Zealand	2.9%	60.9	61.2	61.0	60.6	59.9	59.4	59.2	58.8	58.8	59.1
34	CY	Cyprus	0.4%	59.9	60.6	60.2	60.8	59.7	59.2	59.0	59.4	58.4	59.7
35	SG	Singapore	-2.9%	59.4	59.9	60.5	59.9	60.1	59.9	60.1	60.5	60.7	61.2
36	BG	Bulgaria	4.9%	59.3	59.3	58.6	58.1	57.8	57.2	56.8	57.7	56.9	56.6
37	AL	Albania	4.9%	58.5	58.4	58.5	58.0	57.6	57.2	55.0	55.4	56.1	55.8
38	AU	Australia	2.5%	56.8	56.9	57.0	56.8	56.3	55.8	55.8	55.8	55.6	55.4
39	MK	North Macedonia	9.4%	56.7	56.8	56.5	54.5	54.6	54.3	54.2	53.8	52.3	51.8
40	ID	Indonesia	10.1%	56.5	56.3	55.9	55.1	55.0	54.1	53.9	52.8	52.0	51.3
41	CL	Chile	1.9%	55.9	56.0	56.1	55.6	55.9	56.6	56.6	55.2	55.4	54.8
42	TH	Thailand	5.9%	55.1	55.0	54.2	53.8	53.1	52.7	52.1	52.2	51.9	52.1
43	CA	Canada	0.5%	55.0	55.5	55.5	55.5	55.5	54.7	54.8	54.6	54.8	54.7
44	AM	Armenia	7.7%	54.2	53.8	52.2	51.4	50.7	50.3	50.5	50.9	50.6	50.4
45	US	United States	3.3%	54.2	54.8	54.7	55.0	54.3	53.8	53.3	53.1	53.2	52.5
46	TN	Tunisia	4.3%	53.6	53.7	53.5	53.3	54.0	53.9	53.5	53.1	52.6	51.4
47	MY	Malaysia	4.7%	53.3	53.4	53.1	52.2	51.7	51.7	51.7	51.6	50.8	51.0
48	MA	Morocco	4.1%	53.3	52.7	52.5	51.5	52.0	52.1	52.6	51.6	51.8	51.2
49	GE	Georgia	5.9%	53.2	53.6	53.6	54.2	54.8	52.7	51.9	51.2	50.9	50.2
50	AE	United Arab Emirates	10.0%	53.2	53.5	53.4	51.8	49.9	50.0	50.6	49.7	49.3	48.3
51	PH	Philippines	3.7%	52.1	52.8	53.2	52.3	52.0	51.6	52.1	51.6	50.8	50.3
52	DZ	Algeria	-4.3%	52.1	52.4	52.7	52.7	52.4	52.3	53.1	53.6	53.9	54.5
53	TR	Turkey	5.2%	51.9	51.7	51.7	50.6	50.1	50.9	50.7	50.6	49.5	49.4
54	VN	Vietnam	6.1%	51.6	51.6	51.5	51.4	51.0	50.3	50.2	49.8	49.4	48.6
	WD	**World**	4.3%	51.5	51.6	51.6	51.4	51.0	50.7	50.4	50.0	49.7	49.4
55	CO	Colombia	6.5%	50.8	50.7	51.8	51.3	50.0	49.5	48.1	47.3	48.6	47.7
56	MD	Moldova	7.5%	50.6	50.5	49.7	50.2	49.0	49.1	49.4	49.2	47.5	47.1
57	BA	Bosnia and Herzegovina	2.8%	50.4	50.2	50.4	50.3	50.2	49.9	50.2	50.0	49.1	49.0
58	ME	Montenegro	6.5%	49.9	50.5	50.1	49.4	48.0	48.2	48.4	49.1	48.2	46.9
59	AR	Argentina	3.4%	49.8	49.4	49.8	50.1	48.9	48.2	47.7	47.8	48.2	48.1
60	CN	China	7.6%	49.5	49.1	49.4	48.9	48.5	48.2	47.7	47.2	46.4	46.0
61	RS	Serbia	6.9%	49.4	49.2	49.1	48.8	47.8	47.7	48.2	47.2	47.2	46.2
62	EG	Egypt	3.5%	49.4	49.3	48.7	47.7	48.5	48.3	48.5	48.5	48.5	47.7
63	IN	India	4.6%	48.9	48.9	48.8	48.9	48.7	48.1	47.6	47.4	47.0	46.8
64	UA	Ukraine	4.6%	48.5	48.1	47.8	47.4	46.5	46.3	46.3	47.0	47.0	46.4
65	MX	Mexico	2.8%	48.3	48.6	48.4	48.4	48.6	48.6	48.3	47.5	47.5	47.0
66	SA	Saudi Arabia	6.5%	46.4	46.3	46.2	45.4	44.8	44.4	44.7	45.3	45.0	43.6
67	KE	Kenya	4.3%	45.8	45.8	45.9	45.9	46.1	45.8	45.7	44.8	44.1	43.9
68	BR	Brazil	-3.4%	43.8	44.1	43.9	43.3	43.6	44.0	44.6	44.7	44.7	45.3
69	RU	Russia	7.5%	43.7	43.3	43.0	42.7	41.9	41.7	41.2	41.2	40.7	40.6
70	NG	Nigeria	2.0%	43.4	43.4	44.1	44.1	43.9	44.0	43.4	42.9	42.5	42.5
71	IR	Iran	2.9%	40.8	40.7	40.8	40.9	40.3	39.2	39.1	39.1	39.3	39.7
72	ZA	South Africa	4.3%	39.4	39.5	39.0	38.9	39.3	39.4	38.6	38.6	38.2	37.8

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Note: 'Progress 2011-20' refers to the percentage growth of TPI scores from 2011 to 2020.

Source: European Commission, Transitions Performance Index 2021.

FIGURE 8: TPI scores and 2011–2020 progress grid

Source: European Commission, Transitions Performance Index 2021.

FIGURE 9: TPI progress rates 2011–2020 (36 best performers)
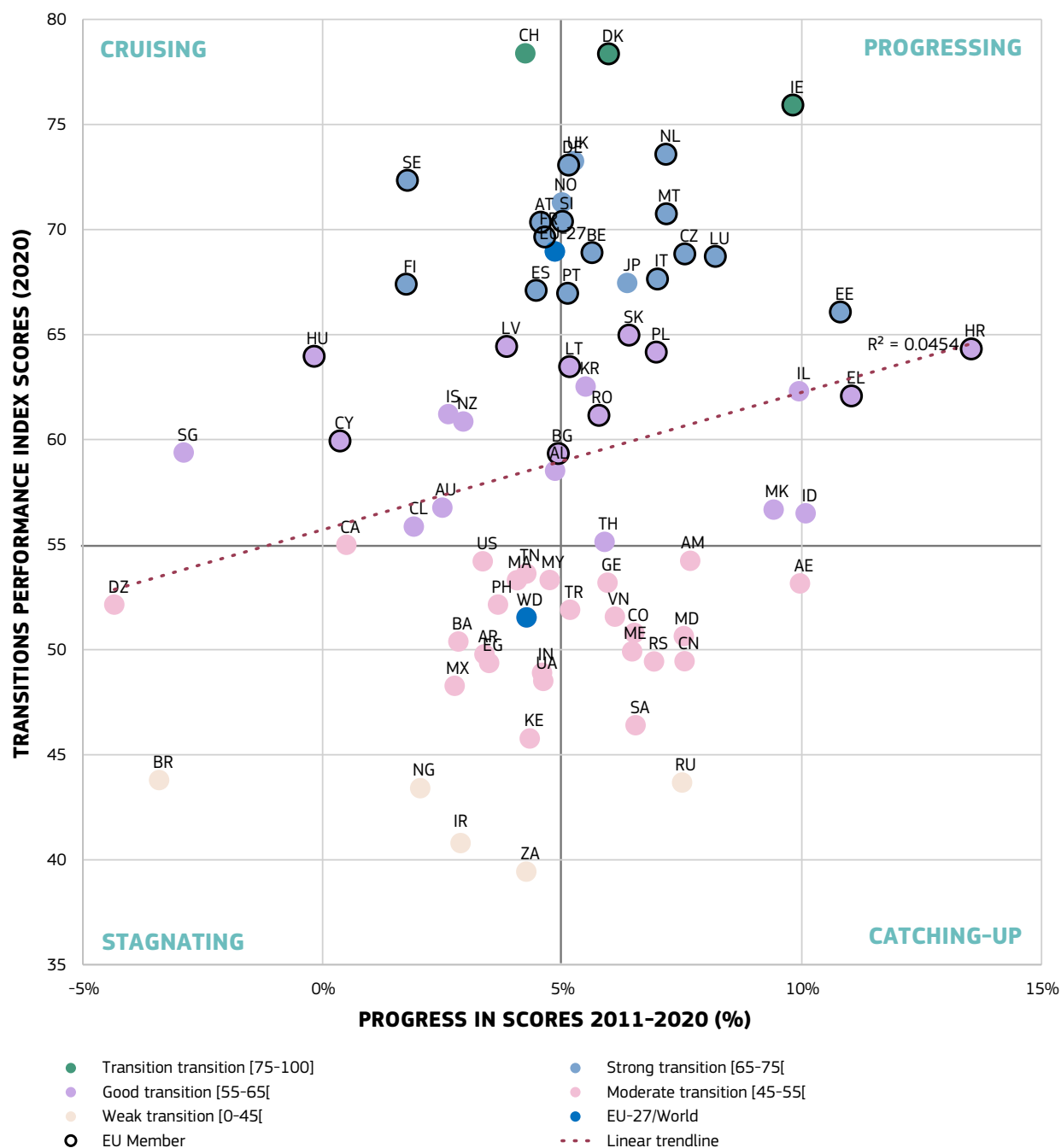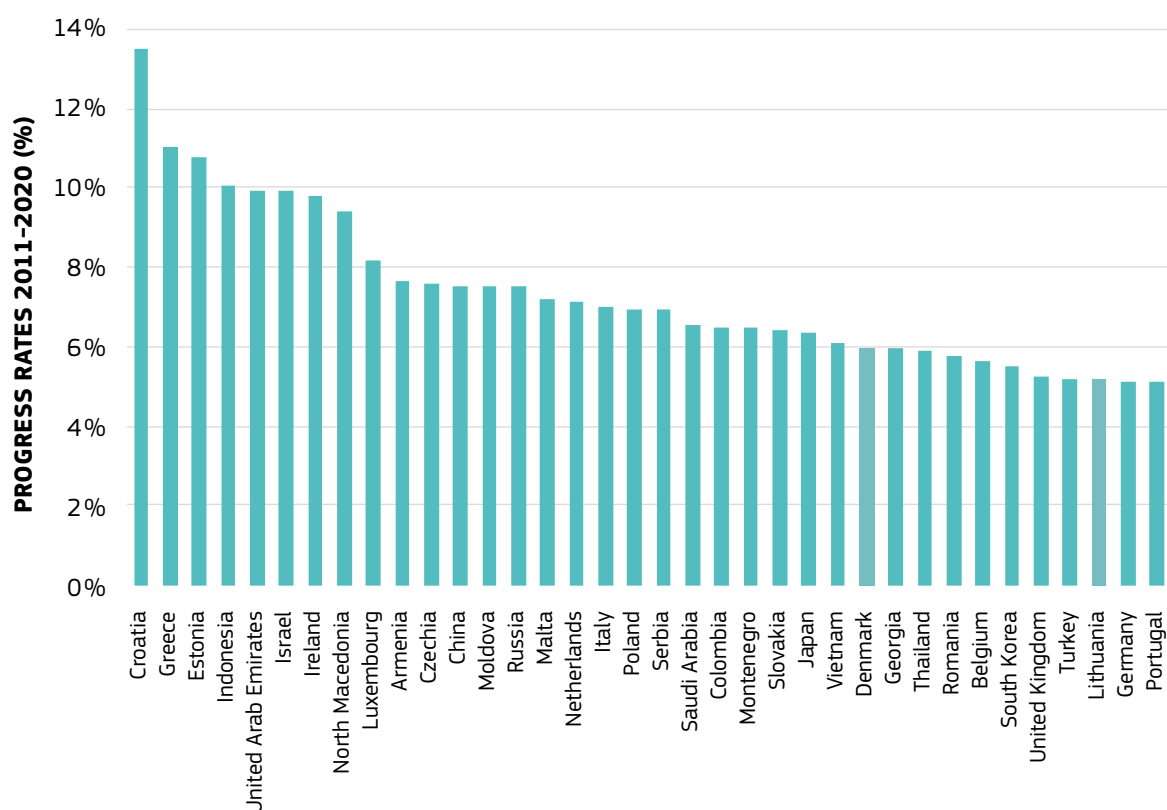

Source: European Commission, Transitions Performance Index 2021.

Transition leaders and strong performers

Countries among the TPI leader and strong transition groups are also among leading and strong performers in the Social and Governance transitions. This seems to validate the assessment of the report by the Parliamentary Assembly of the Council of Europe:

'Democracy is important for sustainable economic development – from respect for human rights, the rule of law, social justice and solidarity to transparency and accountability in public affairs, through the independence of the judiciary, freedom of the press and the firm rejection of "cronyism", corruption and business crime.[25]'

The relationship between the TPI and the Economic and Environmental transitions is more complex. The performance under the Environmental transition is less correlated with the overall TPI than the other pillars. Although there is a strong mandate and urgency for environmental policies, this could mean that the Environmental transition is still well behind the other three transitions and that additional policy efforts are needed to 'bend the curves' on each of the four sub-pillars.

At the global level, the United Kingdom, Malta, Slovenia, France, Czechia, Italy, Japan and Estonia have room for improving their Economic transition performance as also indicated by the gap analysis below.

Good performers

Regarding the Economic transition, South Korea is a leader followed by Iceland and Singapore as strong performers. In this dimension, the weak scores of Romania, Bulgaria, Albania, North Macedonia, Indonesia, Chile and Thailand are worrying. Eight other countries are in moderate Economic transition, showing room for improvement.

Regarding the Environmental transition, no country in this group ranks among the leaders. However, the strong performances of Latvia, Croatia, Hungary, Greece, Romania and Albania are noticeable, especially for Albania, which shows that a strong performance in Environmental transition is achievable despite a weak performance in Economic transition.

25 Committee on Economic Affairs and Development, Parliamentary Assembly of Council of Europe, Doc 8458.

TABLE 5: TPI scores in the four transitions

COUNTRY		INCOME GROUP		2020 TRANSITIONS SCORES					ESG GAP	PROGRESS
RANK	NAME	RANK	GROUP	TPI	ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE	(% OF TPI)	2011-20
1	Switzerland	1	H	78.39	79.8	82.9	71.7	83.0	-2.3%	4.2%
2	Denmark	2	H	78.36	73.4	85.5	73.1	84.0	7.9%	6.0%
3	Ireland	3	H	75.93	76.1	78.3	72.3	79.0	-0.3%	9.8%
4	Netherlands	4	H	73.58	66.7	84.8	64.7	82.5	11.7%	7.2%
5	United Kingdom	5	H	73.26	58.2	77.1	78.0	75.7	25.6%	5.2%
6	Germany	6	H	73.07	70.7	82.0	65.0	79.1	4.0%	5.1%
7	Sweden	7	H	72.34	73.0	84.3	57.0	83.7	-1.1%	1.8%
8	Norway	8	H	71.29	67.3	85.8	54.2	86.8	7.1%	5.0%
9	Malta	9	H	70.74	55.7	80.1	74.4	70.1	26.5%	7.2%
10	Slovenia	10	H	70.39	62.5	85.9	60.9	77.7	14.1%	5.0%
11	Austria	11	H	70.35	70.2	80.6	59.1	78.0	0.3%	4.6%
12	France	12	H	69.65	58.9	81.0	66.8	73.2	19.3%	4.6%
	EU-27		H	68.96	61.1	77.5	65.0	74.0	14.3%	4.9%
13	Belgium	13	H	68.90	67.9	81.6	59.1	73.3	1.9%	5.6%
14	Czechia	14	H	68.84	60.4	83.9	59.0	77.3	15.3%	7.6%
15	Luxembourg	15	H	68.73	69.3	75.5	52.9	85.0	-1.1%	8.2%
16	Italy	16	H	67.64	56.7	70.2	73.8	65.7	20.2%	7.0%
17	Japan	17	H	67.45	62.2	81.4	58.8	72.6	9.8%	6.4%
18	Finland	18	H	67.40	68.2	84.1	47.9	80.7	-1.6%	1.7%
19	Spain	19	H	67.11	54.2	74.7	65.4	73.7	24.1%	4.5%
20	Portugal	20	H	66.96	50.3	76.9	66.4	73.1	31.1%	5.1%
21	Estonia	21	H	66.07	56.4	79.2	53.9	80.3	18.3%	10.8%
22	Slovakia	22	H	64.97	50.1	80.9	60.2	70.9	28.7%	6.4%
23	Latvia	23	H	64.44	47.9	72.2	68.4	66.0	32.2%	3.8%
24	Croatia	24	H	64.32	45.6	72.0	67.6	68.7	36.5%	13.5%
25	Poland	25	H	64.17	52.5	74.1	59.7	71.8	22.7%	7.0%
26	Hungary	26	H	63.96	53.0	75.3	66.2	60.5	21.4%	-0.2%
27	Lithuania	27	H	63.48	52.3	71.7	61.6	68.4	22.0%	5.2%
28	South Korea	28	H	62.53	75.4	75.4	37.6	76.7	-25.8%	5.5%
29	Israel	29	H	62.31	64.0	72.7	48.9	71.5	-3.4%	9.9%
30	Greece	30	H	62.08	45.2	70.9	65.5	63.8	34.0%	11.0%
31	Iceland	31	H	61.21	67.2	89.7	28.7	79.1	-12.2%	2.6%
32	Romania	1	UM	61.16	42.2	66.0	65.3	66.6	38.7%	5.8%
33	New Zealand	32	H	60.86	55.8	78.0	36.7	85.1	10.4%	2.9%
34	Cyprus	33	H	59.94	47.6	79.2	51.6	66.1	25.8%	0.4%
35	Singapore	34	H	59.38	72.3	62.0	42.2	71.1	-27.1%	-2.9%
36	Bulgaria	2	UM	59.34	40.8	65.3	61.2	66.7	39.1%	4.9%
37	Albania	3	UM	58.52	28.9	70.2	73.3	52.2	63.3%	4.9%
38	Australia	35	H	56.76	55.6	77.9	28.1	80.9	2.6%	2.5%
39	North Macedonia	4	UM	56.67	33.7	61.7	63.3	61.8	50.7%	9.4%
40	Indonesia	1	LM	56.49	29.5	60.6	64.3	63.9	59.6%	10.1%
41	Chile	36	H	55.86	39.9	62.0	51.4	69.9	35.7%	1.9%
42	Thailand	5	UM	55.13	42.3	71.1	56.7	50.4	29.0%	5.9%
43	Canada	37	H	54.99	60.9	77.1	26.4	72.7	-13.4%	0.5%
44	Armenia	6	UM	54.23	33.1	66.2	55.6	59.6	48.6%	7.7%
45	United States	38	H	54.21	68.2	62.5	36.1	61.7	-32.2%	3.3%
46	Tunisia	2	LM	53.62	34.2	55.7	62.1	55.5	45.3%	4.3%
47	Malaysia	7	UM	53.32	49.7	61.6	46.0	59.9	8.5%	4.7%
48	Morocco	3	LM	53.30	34.0	47.5	67.4	53.7	45.3%	4.1%
49	Georgia	8	UM	53.19	29.8	61.8	56.0	61.1	55.1%	5.9%
50	United Arab Emirat	39	H	53.15	53.7	73.9	31.8	65.9	-1.4%	10.0%
51	Philippines	4	LM	52.15	26.8	55.1	70.3	44.7	60.7%	3.7%
52	Algeria	5	LM	52.15	33.6	59.6	62.6	46.4	44.4%	-4.3%
53	Turkey	9	UM	51.90	47.1	53.5	55.6	49.3	11.6%	5.2%
54	Vietnam	6	LM	51.57	33.4	71.0	53.0	48.6	44.1%	6.1%
	World		UM	51.54	45.4	59.4	53.4	47.6	14.9%	4.3%
55	Colombia	10	UM	50.80	30.1	54.9	69.7	37.6	51.0%	6.5%
56	Moldova	11	UM	50.65	41.4	65.8	46.8	51.3	22.8%	7.5%
57	Bosnia and Herzeg	12	UM	50.39	31.4	58.0	52.0	57.3	47.2%	2.8%
58	Montenegro	13	UM	49.92	31.1	60.0	49.9	57.0	47.1%	6.5%
59	Argentina	14	UM	49.77	39.8	57.9	51.2	49.3	25.1%	3.4%
60	China	15	UM	49.45	52.1	68.2	34.9	52.7	-6.7%	7.6%
61	Serbia	16	UM	49.44	37.5	63.4	42.8	57.1	30.2%	6.9%
62	Egypt	7	LM	49.36	34.0	50.7	61.0	44.3	38.9%	3.5%
63	India	8	LM	48.90	27.4	47.7	58.1	54.1	55.1%	4.6%
64	Ukraine	9	LM	48.51	40.3	70.5	42.7	45.7	21.2%	4.6%
65	Mexico	17	UM	48.28	36.2	55.9	61.7	33.0	31.4%	2.8%
66	Saudi Arabia	40	H	46.40	57.0	39.8	36.1	57.6	-28.5%	6.5%
67	Kenya	10	LM	45.77	18.7	58.5	57.4	41.0	73.8%	4.3%
68	Brazil	18	UM	43.79	33.0	48.3	52.6	36.5	30.8%	-3.4%
69	Russia	19	UM	43.67	41.0	66.8	35.5	38.7	7.6%	7.5%
70	Nigeria	11	LM	43.41	20.8	48.3	66.1	25.9	65.1%	2.0%
71	Iran	12	LM	40.79	33.3	44.9	44.9	37.8	23.1%	2.9%
72	South Africa	20	UM	39.43	36.5	30.0	46.4	39.6	9.2%	4.3%

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Notes: (1) 'ESG gap (% of TPI)' refers to the difference between the sum of the social, environmental, and governance (ESG) pillar weighted scores and the economic pillar score, as a percentage of the TPI score, in 2020. A negative ESG gap suggests an economic capacity to do more in the ESG agenda. (2) 'Progress 2011-20' refers to the percentage growth of TPI scores between 2011 and 2020. (1) Income groups are high income (H), upper-middel income (UM) and lower-middle income (LM).
Source: European Commission, Transitions Performance Index 2021.

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Unfortunately, scores are less satisfactory for South Korea, Iceland, New Zealand, Singapore and Australia, which all perform weakly under Environmental transition despite leader or strong positions in other pillars, and are demonstrations of unbalanced profiles. These high-income countries denote a persisting gap between policy choices and global trends, with growth models slow to shift on a large scale to adapt to a sustainable economy. This may have long-term adverse effects not only in terms of resilience and adaptation to society's demands, but also in terms of competitiveness, and raise concerns about a global level playing field.

The Social and Governance transitions show an overall good performance, confirming the link mentioned above, with Iceland, New Zealand and Slovakia, Hungary and Cyprus leading in Social transition.

Moderate and weak performers

Among moderate performers, nine countries achieve lead or strong performances in at least one pillar: the United States in Economic transition; Armenia, Canada, China, Moldova, Ukraine, the United Arab Emirates and Vietnam in Social transition; Colombia, Morocco and the Philippines and in Environmental transition, and Canada and the United Arab Emirates in Governance transition. Canada's score is driven by a particularly weak performance in Environmental transition.

Among weak performers, two countries achieve strong performances: Russia in Social transition and Nigeria in Environmental transition.

III.2. PROGRESS OVER TIME

TPI scores and rankings should not be compared to last year's edition because the conceptual framework is slightly different this year with the addition of three new indicators (**TABLE 6**). Rankings can also be impacted by updates in metrics and or sources for the indicators that were already included in last year's edition. The TPI is backcasted by ten years every year precisely to avoid this mistake and to depict trends in a manner that is as thorough as possible.

In addition, scores represent absolute performance and are comparable from one year to the other because goalposts are used, contrary to most composite indicators that use annual min-max normalization. Last but not least, ranks, which represent relative performance, are also comparable because the index is calculated for the same 72 countries calculated in last year's TPI and there are few missing data points[26].

The largest part of the changes in rankings compared to the last edition is explained by the new framework in use; changes due to different progress trends are limited.

This year's TPI shows that two countries have progressed to leader positions over the decade: Denmark and Ireland (**TABLE 7**). Similarly, seven countries have progressed to strong transition: Czechia, Luxembourg, Italy, Japan, Spain, Portugal, and Estonia. Four countries have progressed to good transition: North Macedonia, Indonesia, Chile and Thailand. Two countries have progressed to moderate transition: Saudi Arabia and Kenya. All show above average progress rates, except for Chile (with 1.9%), which stands out with a trend of declining scores since 2014.

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26 Contrary to most composite indicators that have different samples of countries from one year to the other and several missing data points.

TABLE 6: Changes in rankings – 2021 compared to 2020

RANK	COUNTRY	2021 TPI		2020 TPI	2021 TPI		2020 TPI	Effect in ranks	
2020	NAME	2020	2019	2019	2020	2019	2019	Performance	Model
1	Switzerland	78.4	78.5	81.4	1	1	1	0	0
2	Denmark	78.4	78.3	77.4	2	2	2	0	0
3	Ireland	75.9	75.3	74.0	3	3	5	0	2
4	Netherlands	73.6	73.6	76.5	4	4	3	0	-1
5	United Kingdom	73.3	73.6	75.0	5	5	4	0	-1
6	Germany	73.1	73.4	72.3	6	6	9	0	3
7	Sweden	72.3	72.5	73.8	7	7	6	0	-1
8	Norway	71.3	71.0	72.8	8	9	7	1	-2
9	Malta	70.7	71.9	72.4	9	8	8	-1	0
10	Slovenia	70.4	70.5	70.4	10	11	13	1	2
11	Austria	70.4	70.8	71.0	11	10	11	-1	1
12	France	69.6	70.0	70.6	12	12	12	0	0
	EU-27	69.0	69.0	68.8	12	13	17	1	4
13	Belgium	68.9	69.4	70.3	13	13	14	0	1
14	Czechia	68.8	68.9	67.7	14	14	17	0	3
15	Luxembourg	68.7	68.3	71.1	15	15	10	0	-5
16	Italy	67.6	67.8	68.8	16	16	16	0	0
17	Japan	67.5	67.4	70.0	17	19	15	2	-4
18	Finland	67.4	67.5	67.5	18	17	19	-1	2
19	Spain	67.1	67.4	67.6	19	18	18	-1	0
20	Portugal	67.0	67.2	65.8	20	20	20	0	0
21	Estonia	66.1	65.9	63.3	21	21	27	0	6
22	Slovakia	65.0	65.1	65.0	22	22	21	0	-1
23	Latvia	64.4	64.3	64.2	23	24	23	1	-1
24	Croatia	64.3	64.9	64.0	24	23	24	-1	1
25	Poland	64.2	64.2	63.6	25	25	26	0	1
26	Hungary	64.0	64.0	62.8	26	26	28	0	2
27	Lithuania	63.5	63.6	63.8	27	27	25	0	-2
28	South Korea	62.5	62.6	64.5	28	29	22	1	-7
29	Israel	62.3	62.6	62.7	29	28	29	-1	1
30	Greece	62.1	60.9	60.5	30	33	34	3	1
31	Iceland	61.2	61.5	61.8	31	31	30	0	-1
32	Romania	61.2	61.6	58.9	32	30	35	-2	5
33	New Zealand	60.9	61.2	61.2	33	32	33	-1	1
34	Cyprus	59.9	60.6	61.6	34	34	31	0	-3
35	Singapore	59.4	59.9	61.6	35	35	32	0	-3
36	Bulgaria	59.3	59.3	56.7	36	36	37	0	1
37	Albania	58.5	58.4	56.2	37	37	39	0	2
38	Australia	56.8	56.9	58.3	38	38	36	0	-2
39	North Macedonia	56.7	56.8	54.7	39	39	42	0	3
40	Indonesia	56.5	56.3	53.5	40	40	44	0	4
41	Chile	55.9	56.0	53.3	41	41	45	0	4
42	Thailand	55.1	55.0	52.7	42	43	46	1	3
43	Canada	55.0	55.5	55.8	43	42	40	-1	-2
44	Armenia	54.2	53.8	47.5	44	45	57	1	12
45	United States	54.2	54.8	56.7	45	44	38	-1	-6
46	Tunisia	53.6	53.7	51.1	46	46	48	0	2
47	Malaysia	53.3	53.4	54.1	47	49	43	2	-6
48	Morocco	53.3	52.7	51.5	48	51	47	3	-4
49	Georgia	53.2	53.6	49.9	49	47	50	-2	3
50	United Arab Emirates	53.2	53.5	55.3	50	48	41	-2	-7
51	Philippines	52.1	52.8	48.3	51	50	54	-1	4
52	Algeria	52.1	52.4	50.2	52	52	49	0	-3
53	Turkey	51.9	51.7	48.7	53	53	52	0	-1
54	Vietnam	51.6	51.6	47.6	54	54	56	0	2
	World	51.5	51.6	49.7	55	54	51	-1	-3
55	Colombia	50.8	50.7	48.2	55	55	55	0	0
56	Moldova	50.6	50.5	47.3	56	57	59	1	2
57	Bosnia and Herzegovina	50.4	50.2	43.3	57	58	66	1	8
58	Montenegro	49.9	50.5	48.4	58	56	53	-2	-3
59	Argentina	49.8	49.4	46.3	59	59	61	0	2
60	China	49.5	49.1	49.4	60	62	51	2	-11
61	Serbia	49.4	49.2	47.4	61	61	58	0	-3
62	Egypt	49.4	49.3	46.2	62	60	62	-2	2
63	India	48.9	48.9	45.9	63	63	63	0	0
64	Ukraine	48.5	48.1	44.3	64	65	65	1	0
65	Mexico	48.3	48.6	45.3	65	64	64	-1	0
66	Saudi Arabia	46.4	46.3	46.5	66	66	60	0	-6
67	Kenya	45.8	45.8	41.9	67	67	69	0	2
68	Brazil	43.8	44.1	43.2	68	68	67	0	-1
69	Russia	43.7	43.3	42.9	69	70	68	1	-2
70	Nigeria	43.4	43.4	36.1	70	69	72	-1	3
71	Iran	40.8	40.7	40.4	71	71	70	0	-1
72	South Africa	39.4	39.5	36.3	72	72	71	0	-1

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Notes: '2021 TPI' refers to the model used in the 2021 edition; '2020 TPI' refers to the model used in the 2020 edition. In green/red leave-out ranks that improve/fall by three or more positions.
The second row of titles refers to the corresponding year in data.
Source: European Commission, Transitions Performance Index 2021.

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TABLE 7: Countries changing performance groups or with negative progress over the decade

COUNTRY			PROGRESS	2011–2020 TPI SCORES									
RANK	CODE	NAME	2011–20	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
2	DK	Denmark	6.0%	78.4	78.3	77.3	76.9	77.1	76.7	75.6	74.9	74.7	73.9
3	IE	Ireland	9.8%	75.9	75.3	74.9	74.6	74.0	74.4	71.2	69.2	69.1	69.1
14	CZ	Czechia	7.6%	68.8	68.9	68.2	67.8	67.2	66.7	66.3	65.0	64.3	64.0
15	LU	Luxembourg	8.2%	68.7	68.3	68.1	67.9	67.6	66.6	66.3	65.7	64.8	63.5
16	IT	Italy	7.0%	67.6	67.8	67.2	66.7	66.3	65.1	65.5	64.9	63.8	63.2
17	JP	Japan	6.4%	67.5	67.4	67.0	66.7	66.0	65.9	65.4	64.6	63.7	63.4
19	ES	Spain	4.5%	67.1	67.4	66.2	66.0	65.7	64.8	65.0	64.7	64.4	64.2
20	PT	Portugal	5.1%	67.0	67.2	66.3	65.8	65.6	64.8	64.7	63.9	63.7	63.7
21	EE	Estonia	10.8%	66.1	65.9	63.1	62.4	61.7	62.0	60.4	59.1	60.1	59.6
39	MK	North Macedonia	9.4%	56.7	56.8	56.5	54.5	54.6	54.3	54.2	53.8	52.3	51.8
40	ID	Indonesia	10.1%	56.5	56.3	55.9	55.1	55.0	54.1	53.9	52.8	52.0	51.3
41	CL	Chile	1.9%	55.9	56.0	56.1	55.6	55.9	56.6	56.6	55.2	55.4	54.8
42	TH	Thailand	5.9%	55.1	55.0	54.2	53.8	53.1	52.7	52.1	52.2	51.9	52.1
66	SA	Saudi Arabia	6.5%	46.4	46.3	46.2	45.4	44.8	44.4	44.7	45.3	45.0	43.6
67	KE	Kenya	4.3%	45.8	45.8	45.9	45.9	46.1	45.8	45.7	44.8	44.1	43.9
22	SK	Slovakia	6.4%	65.0	65.1	64.1	63.5	63.9	63.9	63.2	62.0	62.0	61.1
43	CA	Canada	0.5%	55.0	55.5	55.5	55.5	55.5	54.7	54.8	54.6	54.8	54.7
45	US	United States	3.3%	54.2	54.8	54.7	55.0	54.3	53.8	53.3	53.1	53.2	52.5
26	HU	Hungary	-0.2%	64.0	64.0	63.8	63.3	63.8	63.6	64.5	64.4	64.4	64.1
35	SG	Singapore	-2.9%	59.4	59.9	60.5	59.9	60.1	59.9	60.1	60.5	60.7	61.2
52	DZ	Algeria	-4.3%	52.1	52.4	52.7	52.7	52.4	52.3	53.1	53.6	53.8	54.5
68	BR	Brazil	-3.4%	43.8	44.1	43.9	43.3	43.6	44.0	44.6	44.7	44.7	45.3

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Notes: 'Progress 2011-20' refers to the percentage growth of TPI scores from 2011 to 2020.
Source: European Commission, Transitions Performance Index 2021.

The scores of countries near the cut off scores for performance groups (45, 55, 65 and 75 over 100) should also be interpreted with care, as minor changes from one year to the other might impact these shifts; three countries at some point reached an upper performance group, retroceding nonetheless in recent years. Slovakia made great progress over the decade (6.4%). The country's 2020 decline might well be a statistical anomaly due to the imputation of missing data points with last observations carried forward. Canada, in turn, shows clear signs of stagnation (0.5% progress). Lastly, the United States had a progress rate of 3.3% over the decade, achieving constant progress from 2011 to 2017, reaching the good transition group in 2017 (4.9%), but with negative progress at –1.5% in 2020 compared to 2017.

Even more worrisome, four countries had negative progress rates in their TPI scores over the decade: Hungary, Singapore, Algeria and Brazil. Brazil degraded from moderate to weak performance, despite some progress in 2018 and 2019.

III.3. THE ENVIRONMENTAL–SOCIAL–GOVERNANCE (ESG) TRANSITION GAP

The relationship between the Economic transition and the three other transitions is complex. In business literature, ESG stands for 'environmental, social, and governance'. These non-financial factors are crucial for measuring the sustainability and stakeholder impact of a company or business, in contrast to focusing solely on shareholder profits. A similar perspective has been applied at the country level in the TPI with the ESG transition gap (**TABLE 5**)[27].

ESG transition gaps indicate, independently of the positioning on the TPI ranking, the extent to which an increased effort in Economic transition is particularly needed. Countries with a positive ESG transition gap need to do more on Economic transition. In contrast, countries with pronounced negative gaps are not sufficiently using their economic resources to speed up progress in the three other pillars.

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27 The ESG transition gap is computed as the difference between the weighted average of the Social, Environmental, and Governance transition scores and the Economic transition score, divided by the TPI score.

TABLE 8: Countries with negative ESG gaps

COUNTRY RANK	COUNTRY NAME	COUNTRY RANK	COUNTRY NAME	2020 TRANSITIONS SCORES					ESG GAP (% OF TPI)	PROGRESS 2011-20
				TPI	ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE		
45	United States	38	H	54.21	68.2	62.5	36.1	61.7	-32.2%	3.3%
66	Saudi Arabia	40	H	46.40	57.0	39.8	36.1	57.6	-28.5%	6.5%
35	Singapore	34	H	59.38	72.3	62.0	42.2	71.1	-27.1%	-2.9%
28	South Korea	28	H	62.53	75.4	75.4	37.6	76.7	-25.8%	5.5%
43	Canada	37	H	54.99	60.9	77.1	26.4	72.7	-13.4%	0.5%
31	Iceland	31	H	61.21	67.2	89.7	28.7	79.1	-12.2%	2.6%
60	China	15	UM	49.45	52.1	68.2	34.9	52.7	-6.7%	7.6%
29	Israel	29	H	62.31	64.0	72.7	48.9	71.5	-3.4%	9.9%
1	Switzerland	1	H	78.39	79.8	82.9	71.7	83.0	-2.3%	4.2%
18	Finland	18	H	67.40	68.2	84.1	47.9	80.7	-1.6%	1.7%
50	United Arab Emira	39	H	53.15	53.7	73.9	31.8	65.9	-1.4%	10.0%
15	Luxembourg	15	H	68.73	69.3	75.5	52.9	85.0	-1.1%	8.2%
7	Sweden	7	H	72.34	73.0	84.3	57.0	83.7	-1.1%	1.8%
3	Ireland	3	H	75.93	76.1	78.3	72.3	79.0	-0.3%	9.8%

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Note: (1) 'ESG gap (% of TPI)' refers to the difference between the sum of the social, environmental, and governance (ESG) pillar weighted scores and the economic pillar score, as a percentage of the TPI score, in 2020. A negative ESG gap suggests an economic capacity to do more in the ESG agenda. (2) 'Progress 2011-20' refers to the percentage growth of TPI scores from 2011 to 2020.

Source: European Commission, Transitions Performance Index 2021.

With this gap analysis, it is possible to identify countries having a policy mix that allows them to perform better in the TPI given their economic resources. To avoid a potentially biased interpretation resulting from low levels of Economic transition, **TABLE 9** presents the ranking of the top 10 transition gaps for countries with leader, strong or good performance in the Economic transition.

For a proper interpretation for a given country, ESG transition gaps need to be considered jointly with the overall TPI score:

● It is preferable to have a high TPI score and a balanced profile (ESG transition gap around 0%). The negative gaps of Switzerland and Ireland, both with leader or strong performances in all four pillars, are therefore of no particular concern (**TABLE 8**).

● In the case of an unbalanced profile, then it is better to do more on ESG, given the economic clout; 27 countries show positive gaps above 30%, mostly those classified as emerging or developing countries. It is also the case of ten countries with leader, strong or good performances in Economic transition, such as Japan, New Zealand and the United Kingdom, as well as seven of the EU-27 countries and the EU-27 with 14.3% (**TABLE 9**). For these ten countries the efficiency in the use of Economic transition efforts for the benefit of the other transitions should be especially high.

● The worst combination is getting a low or moderate TPI score with a pronounced negative ESG transition gap score as is the case in Canada, Iceland, Saudi Arabia, Singapore, South Korea and the United States, all with negative ESG gaps below -10% (**TABLE 8**).

It is reasonable to think that the specifiers of policy mixes related to the Economic transition may explain the contribution to increased TPI performance; it is the role of policy analysis to scrutinise these policies.

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TABLE 9: Top 10 positive ESG gap for leaders, strong or good performers in Economic transition

ESG GAP TOP 10			SCORES			ESG GAP
			TPI	ECONOMIC TRANSITION	ESG WEIGHTED AVERAGE	(% OF TPI)
1	MT	Malta	70.7	55.7	74.5	26.5%
2	UK	United Kingdom	73.3	58.2	77.0	25.6%
3	IT	Italy	67.6	56.7	70.4	20.2%
4	FR	France	69.6	58.9	72.3	19.3%
5	EE	Estonia	66.1	56.4	68.5	18.3%
6	CZ	Czechia	68.8	60.4	71.0	15.3%
	EU-27	**European Union**	69.0	61.1	70.9	14.3%
7	SI	Slovenia	70.4	62.5	72.4	14.1%
8	NL	Netherlands	73.6	66.7	75.3	11.7%
9	NZ	New Zealand	60.9	55.8	62.1	10.4%
10	JP	Japan	67.5	62.2	68.8	9.8%

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
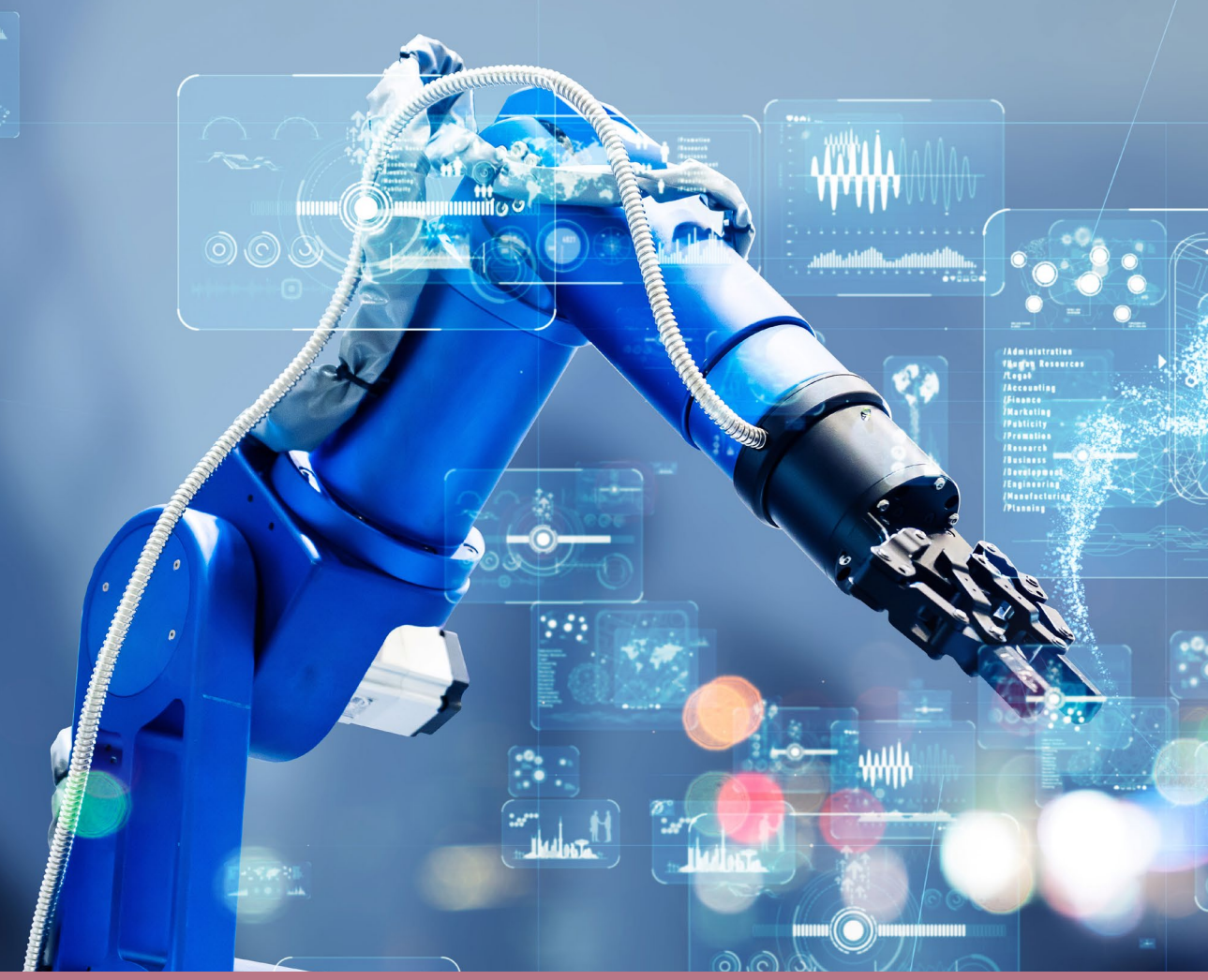
Note: 'ESG gap (% of TPI)' refers to the difference between the sum of the Social, Environmental and Governance (ESG) pillars weighted scores and the Economic pillar score, as a percentage of the TPI score in 2020.

Source: European Commission, Transitions Performance Index 2021.

IV. ECONOMIC TRANSITION

IV.1. OVERVIEW

Economic transition is hardly captured by a single indicator such as the output growth. This is the reason why the TPI relies on four different sub-pillars to measure Economic transition. A successful Economic transition balances high performances in terms of Wealth, Education and ICT use and skills, Labour productivity and R&D intensity, and Industrial base. Innovation is central in the COVID-19 recovery phase and R&I policies play an important role to support the Economic transition, as well as the other transitions. In this year's report, two indicators for ICT have been added (internet users and the proportion of people with ICT skills) to reflect the importance of the digital transition. The impact of these additional indicators is discussed in part IV.4.

The ranking and scores for Economic transition (**TABLE 10**) measure progress towards a sustainable and resilient prosperity model. On average, the world is in moderate transition and the EU-27 is in good transition. Switzerland ranks first followed by Ireland and South Korea. Only three countries are transition leaders while more than a third (30 countries) are in weak transition. Seven EU countries rank in the top 10. The large heterogeneity in performance across countries highlights opportunity for progress especially in Labour productivity and R&D intensity. Additionally, none of the countries are leaders in more than two sub-pillars, which suggests room for improvement even among leaders and strong performers.

Economic transition, leaders and strong performers

Three countries are leaders in Economic transition (Switzerland, Ireland and South Korea) and 12 countries are strong performers. Switzerland and Germany have balanced performances with leader or strong positions in all sub-pillars. The two other leaders, Ireland and South Korea, show larger variations across sub-pillars.

The scores of the leaders and strong performers do not reveal a clear pattern to identify a successful policy mix for an Economic transition model. Nevertheless, most of them combine strong or leader performances in Education and Wealth.

Among the leaders and strong performers, Industrial base shows the highest disparity between scores. Five countries are leaders or strong performers in Industrial base: South Korea, Ireland, Switzerland, Germany and Singapore. Five countries are weak or moderate performers: Belgium, Iceland, Luxembourg, Norway and the United States. The high scores in Ireland are explained by the country's attractiveness for multinational firms, especially in the pharmaceutical and electronics industries. Overall, the gross value-added score of manufacturing is decreasing in the EU-27 (-2 %) from 2011 to 2020, with large differences across countries. The average score in the EU-27 (48.3) is lower than at the global level (55.1). In this respect, the communication 'A new ERA for Research and Innovation'[28] calls for a refocusing of the European Research Area (ERA) on developing a strong European industrial base and technological sovereignty.

Economic transition, good performers

Thirteen countries are good performers in Economic transition. These countries have their strengths in Education (including ICT skills) with leader or strong performances, with the exceptions of Japan (moderate) and Italy (good). Japan's moderate score is explained by the very weak performance in ICT skills despite having a large proportion of internet users[29].

In Education and ICT skills, Canada, Estonia and the United Kingdom take the lead.

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28 European Commission, *A new ERA for Research and Innovation COM/2020/628 final*, 2020.
29 Data for ICT skills is collected by the ITU (ITU: Committed to connecting the world) as part of the SDG Indicator Framework. Skills are measured through self-reporting surveys and are not a direct assessment of skills. Therefore, as noted by ITU, the results have limitations including cultural differences in survey responses.

The situation is slightly less satisfactory in the other three sub-pillars. All countries achieve relatively homogeneous scores in Wealth with moderate to good performances, except for Australia (strong position). Most countries show moderate to weak performances in Labour productivity and R&D intensity, with the exceptions of Israel (leader), Japan and France (in good transition). In the case of Israel, this result is fuelled by the highest level of gross expenditure on R&D as a percentage of GDP, 4.9%. In Industrial base, Japan stands out as a transition leader with strong manufacturing industries and a leader position in the number of patents filed, followed by Slovenia and Czechia with strong performances; Saudi Arabia and Australia, in turn, show weak performances.

Economic transition, moderate and weak performers

More than half of the countries (44) are in moderate or weak Economic transition. Education and ICT skills seem to be the main factor explaining the performances of the moderate group compared to the weak performers. Indeed, in the moderate transition group, 10 countries out of 14 achieve strong performances in Education. On the contrary, in the weak transition group, 19 countries out of 30 are weak or moderate performers in Education, with the noteworthy exceptions of Moldova and Ukraine, which have leader positions with a relatively high government expenditure per student in education. Nonetheless, this result for Ukraine may hide inefficiencies and quality deterioration in secondary and higher education[30].

For moderate and weak performers, performances in Wealth, Labour productivity and R&D intensity and Industrial base are worrisome. China is leader in Industrial base with the world's largest manufacturing sector. The United Arab Emirates, in turn, is a leader in Wealth although its dependence on oil and gas (30% of the country's GDP) raises significant challenges for the future. All 30 countries in weak Economic transition are also weak performers in these three sub-pillars with two exceptions in Industrial base: Thailand (good transition) and Algeria (moderate transition).

IV.2. ECONOMIC TRANSITION, PROGRESS OVER 2011-2020

Over a decade, the overall score in the Economic transition has increased by 10.1% on average for the 72 countries taken together (world) and by 6.2% in the EU-27, a higher pace than the overall TPI (4.3%). Almost all countries (69) out of the 72 countries have improved their Economic transition scores, with the exceptions of Finland, Kenya and Luxembourg. Moreover, the three leader countries register robust progress rates, 8.2% in Switzerland, 20.0% in Ireland and 10.7% in South Korea, showing that leaders can still increase their performance on this pillar. The high progress rate in Ireland should be put in perspective with the remarkable increase in Wealth (67.3% in 2011-2020 and 35.3% only in 2015) due to the relocation of multinational corporations' headquarters (including their intellectual property), attracted by low corporate tax rates, which suggests that the measure of GDP in Ireland might not adequately reflect the economic activity in the country[31].

Middle-income countries are progressing the most and some countries succeed in catching up with improvement in Wealth and Education / ICT skills. As a measure of efficiency in the use of resources, progress in the Economic transition must go hand in hand with progress in the three other transitions.

The largest progress rates in the Economic transition are seen for Egypt (44.0%), Nigeria (43.9%) and Iran (43.8%). These rates are mainly driven by the improvement in digitisation and access to the internet, a clear catch-up effect observed in other countries as well. For the analysis of the four dimensions, 'catch-up effect' refers to the fact that a) the same absolute progression when applied to a low starting point corresponds to a higher percentage rate of increase and b) the initial progress can be easier by picking 'low hanging fruits'. Therefore, a high rate of progress that is partly due to a catch-up effect should be seen in somewhat relative terms.

30 Repko, M. and Ruda, Y., 'Ukrainian-style Education: 129 Billion Hryvnya – a Waste or an Investment in the Next Generation?', VoxUkraine, 7 March 2017

31 OECD, 'Irish GDP up by 26.3% in 2015?'. Paris, October 2016

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TABLE 10: Economic transition pillar ranking

RANK	NAME	PROGRESS 2011-20	ECONOMIC TRANSITION	Education	Wealth	Labour productivity & R&D intensity	Industrial base
1	Switzerland	8.2%	79.8	79.9	97.2	73.0	72.8
2	Ireland	20.0%	76.1	60.3	100.0	57.8	88.2
3	South Korea	10.7%	75.4	75.2	59.5	72.2	88.5
4	Denmark	9.4%	73.4	85.2	78.6	68.0	61.8
5	Sweden	2.9%	73.0	88.1	72.2	70.8	59.8
6	Singapore	5.1%	72.3	57.7	100.0	69.2	70.4
7	Germany	3.7%	70.7	72.5	72.1	66.7	70.7
8	Austria	5.7%	70.2	74.1	73.6	69.4	64.5
9	Luxembourg	-1.4%	69.3	80.3	100.0	61.9	42.9
10	Finland	-5.1%	68.2	77.6	66.5	62.7	63.8
11	United States	10.1%	68.2	70.3	84.6	70.5	53.5
12	Belgium	7.9%	67.9	79.5	68.1	69.4	55.0
13	Norway	4.1%	67.3	81.2	87.7	62.9	42.6
14	Iceland	2.8%	67.2	88.1	74.6	57.9	47.4
15	Netherlands	6.5%	66.7	76.4	76.7	58.6	55.6
16	Israel	10.7%	64.0	67.1	54.1	81.6	55.8
17	Slovenia	6.0%	62.5	73.6	51.7	47.9	68.1
18	Japan	5.9%	62.2	50.0	56.3	58.6	80.6
	EU-27	6.2%	61.1	68.4	58.9	53.8	60.1
19	Canada	4.7%	60.9	80.1	65.0	47.0	48.2
20	Czechia	11.5%	60.4	68.0	54.2	46.2	66.4
21	France	0.2%	58.9	65.7	61.4	59.2	50.3
22	United Kingdom	2.3%	58.2	76.2	58.8	48.5	46.4
23	Saudi Arabia	11.1%	57.0	73.6	62.4	47.9	42.8
24	Italy	5.2%	56.7	60.9	54.5	50.7	57.9
25	Estonia	4.6%	56.4	78.0	50.3	40.3	49.7
26	New Zealand	6.4%	55.8	73.5	56.0	40.8	48.0
27	Malta	12.0%	55.7	73.4	57.1	40.3	47.4
28	Australia	3.0%	55.6	68.2	68.9	51.8	36.6
29	Spain	4.6%	54.2	71.7	51.2	44.9	44.8
30	United Arab Emirates	4.7%	53.7	67.1	78.3	45.5	29.5
31	Hungary	5.8%	53.0	66.4	44.0	38.2	55.5
32	Poland	17.4%	52.5	67.4	45.5	36.9	52.8
33	Lithuania	8.8%	52.3	66.7	51.8	35.2	49.8
34	China	14.4%	52.1	58.9	22.9	31.2	78.7
35	Portugal	5.5%	50.3	66.1	45.4	38.2	45.9
36	Slovakia	5.1%	50.1	65.7	43.6	31.3	51.3
37	Malaysia	9.9%	49.7	60.9	36.5	30.2	60.2
38	Latvia	8.5%	47.9	73.9	42.0	27.8	39.0
39	Cyprus	11.3%	47.6	66.8	53.5	25.9	38.8
40	Turkey	26.3%	47.1	48.5	40.3	37.8	56.4
41	Croatia	7.0%	45.6	65.0	37.0	33.9	39.6
	World	10.1%	45.4	48.1	27.2	33.3	62.9
42	Greece	9.4%	45.2	63.3	38.3	40.5	34.7
43	Thailand	15.4%	42.3	47.7	24.3	21.2	63.1
44	Romania	6.3%	42.2	55.1	40.7	27.1	40.5
45	Moldova	20.8%	41.4	82.5	17.1	11.1	36.6
46	Russia	18.3%	41.0	50.6	37.2	29.2	41.9
47	Bulgaria	17.8%	40.8	53.1	31.8	24.9	45.0
48	Ukraine	10.5%	40.3	76.9	17.5	14.5	36.1
49	Chile	12.9%	39.9	61.2	31.2	20.9	37.2
50	Argentina	3.9%	39.8	61.0	27.7	22.5	38.1
51	Serbia	12.0%	37.5	55.1	25.5	20.4	39.4
52	South Africa	14.0%	36.5	54.9	16.0	22.9	40.9
53	Mexico	12.6%	36.2	46.8	25.5	18.2	44.7
54	Tunisia	3.9%	34.2	57.5	13.5	18.0	35.5
55	Egypt	44.0%	34.0	51.9	17.1	21.9	35.5
56	Morocco	18.3%	34.0	57.7	10.2	16.9	37.5
57	North Macedonia	4.9%	33.7	54.3	22.3	18.0	31.1
58	Algeria	0.9%	33.6	39.8	14.8	20.0	49.0
59	Vietnam	38.9%	33.4	57.1	14.5	9.9	38.0
60	Iran	43.8%	33.3	47.0	17.4	22.1	37.5
61	Armenia	31.0%	33.1	49.4	17.7	15.3	39.1
62	Brazil	3.4%	33.0	48.3	19.9	22.5	33.5
63	Bosnia and Herzegovina	18.5%	31.4	48.9	20.1	16.4	31.3
64	Montenegro	24.4%	31.1	63.7	25.7	23.3	7.4
65	Colombia	8.1%	30.1	45.5	19.1	12.7	33.5
66	Georgia	32.0%	29.8	45.2	19.9	13.2	32.0
67	Indonesia	21.8%	29.5	39.7	16.3	10.4	41.0
68	Albania	29.9%	28.9	57.1	19.0	12.5	18.2
69	India	12.2%	27.4	34.3	8.6	13.1	42.4
70	Philippines	2.8%	26.8	33.7	11.3	8.8	42.3
71	Nigeria	43.9%	20.8	28.3	6.9	15.4	26.2
72	Kenya	-2.6%	18.7	28.9	6.6	11.2	21.7

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Notes: 'Progress 2011-20' refers to the percentage growth of economic transition scores from 2011 to 2020.

Source: European Commission, Transitions Performance Index 2021.

The only downward trends are registered in Finland (-5.1%), and Luxembourg (-1.4%), both strong performers, and Kenya (-2.6%) at the bottom of the ranking. Finland shows declines in education expenditure (-7.4%), ICT skills (-32.2%)[32]; gross expenditure on R&D (-22.9%), and Industrial base (-7.4%). Luxembourg shows important declines in gross expenditure on R&D (-18.5%) and in the gross value of manufacturing (-22.4%). Finland's decline in the Economic pillar reflects the economic crisis faced by the country in the past decade following the collapse of the electronics sector (Nokia-led ICT cluster) and the contraction of the paper industry. Kenya achieves a poor performance in the pillar despite important progress in Education (36.2%) and Wealth (84.8%), a result driven by the low starting points, in part due to the goalpost's lower bounds.

Education, progress over 2011-2020

In the Education sub-pillar, progress over the decade is limited for the EU-27 (3.3%) but larger at the world level (26.3%), which was fuelled by the significant increase in internet users' score. A majority of countries (66) improved their scores in this sub-pillar, pushed by a digital boom in many middle-income countries. The six countries declining are all high-income countries: Finland, France, Ireland, Iceland, Portugal and the United Kingdom. Conversely, the largest progress is made mostly by middle-income countries such as Egypt, Iran and India.

Wealth, progress over 2011-2020

In Wealth, progress rates are significant at the world (+28.7%) and EU-27 levels (+27.7%). Again, the majority of countries (66) progress or stagnate. The largest improvements are made by middle-income countries catching up: Vietnam, Moldova and Kenya. The downward movements in Wealth are seen in Iran, which was strongly affected by the reinstatement of US sanctions in 2018, and in Algeria and the United Arab Emirates, which are highly dependent on the oil and gas prices.

Labour productivity & R&D intensity, progress over 2011-2020

Fifty-seven countries improved their scores in Labour productivity and R&D intensity with an average progress rate of 11.6% at the world level and 8.1% in the EU-27. For this sub-pillar, the pattern is similar to Wealth; middle-income countries are catching-up with largest progress rate: Vietnam, Thailand and Georgia. The declines are seen in countries experiencing economic difficulties over the past decade: Nigeria, Ukraine and Argentina.

If Labour productivity scores have increased in the EU-27 over the decade (+6.8% on average), the progress remains lower in comparison to the world level (+17.1%). As noted by the 2022 Annual sustainable growth survey[33], this trend in the EU-27 is explained by the difficulties European companies have in scaling-up and adapting their activities to a fast-changing world where digital technologies have a key role. Therefore, measures to develop innovation ecosystems and support the adoption of technologies, notably by SMEs, are important as outlined in the renewed European Research Area.

Industrial base, progress over 2011-2020

Industrial base is the only sub-pillar showing a decrease in world score (-3.8%) as well as in the EU-27 (-2.4%), a trend partly explained by the transformation of developed economies which are shift from manufacturing to services. Twenty-one countries improved their scores in Industrial base including high-income countries such as Ireland or Denmark.

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32 Note that Finland ranks first in the Digital Economy and Society Index (DESI, 2020), which includes digital skills.
33 European Commission, *2022 European Semester: Annual sustainable growth survey*, 24 November 2021.

IV.3. SPECIFIC IMPACT OF COVID-19

The outbreak of COVID-19 has caused global health and economic shocks that will have long-lasting effects on all countries. It poses policy challenges for developed and developing countries. The effect of the pandemic on the Economic pillar is not fully visible in this edition as data is reported with a delay.

Education

Many countries decided to close schools in 2020 in order to curb the spread of the virus. In the emergency situation, new remote learning systems were implemented that accelerated the digitisation of education. These disruptions in education systems exacerbated education inequalities and learning losses as home-schooling environments differ significantly in terms of access to technologies, skills, and support by family and schools. Early research on high-income countries (Belgium, the Netherlands, Switzerland and the United Kingdom) finds higher losses for disadvantaged families, with possible long-term effects[34]. Impacts for middle-income countries with lower access to technology are expected to be more dramatic.

Recognising the challenges posed by the COVID-19 and the digital inequality, the EU's Digital Education Action Plan (2021-2027)[35] is a policy initiative created to support the development of high-performing digital education ecosystems and enhance digital skills and competences. This long-term strategic action plan aims at a high quality, inclusive and accessible digital education in Europe. Additionally, an important part of the National Recovery and Resilience Plans of Member States is dedicated to education and specifically to digital education. Most countries plan to invest in infrastructure to improve connectivity in schools and reduce the digital gap between learners. A majority of Member States will also invest in Vocational Education and Training (VET) and support digital skills via upskilling and reskilling programmes in the context of digital and green transitions, supported by the Recovery and Resilience Facility[36].

Wealth

The pandemic has further accelerated the use of digital technologies, not only in education but also in remote working, e-commerce and changes in consumption and production behaviours. Global GDP declined by 3.1% in 2020[37] due to the strong impact of lockdowns and other measures to contain the pandemic. According to the IMF, the gap in expected recovery across countries has widened between high-income and low-income countries partly due to differences in policy support. Most high and upper-middle income countries adopted economic recovery packages in order to build more sustainable and resilient economic and social systems, whereas low and lower-middle income countries are often constrained in implementing such packages. In this regard, the EU's NextGenerationEU[38] plan aims to boost the economic recovery and social cohesion, including through specific support for digital and green transitions.

There is a clear pattern of decline in TPI Wealth scores in 2020 in comparison with 2019. This is one of the few indicators for which data is up to date. Sixty-four countries have stagnating or declining GDP per capita growth rates and scores, whereas only eight countries were in that situation between 2018 and 2019. In 2020, the drop is stronger at the EU-27 level (-5.1%) than at the world level (-2.9%). The five largest downward movements take place in Montenegro, Spain and Argentina. Most countries in the western Balkan region experienced a decline as well: Montenegro, Bosnia and Herzegovina, North Macedonia, Albania, Serbia. China has the largest increase in Wealth, which was aided by strict lockdown measures to contain the pandemic.

Labour productivity & R&D intensity

Some early data suggests that the pandemic has negatively affected labour productivity, as measured by output per worker, notably due to companies retaining workforce in spite of a slowdown in production[39]. The adoption of new technologies induced by the pandemic can provide opportunities to raise productivity in some sectors, such as in telemedicine in healthcare.

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34 Engzell, Per, Frey, Arun, Verhagen, Mark D. *Learning loss due to school closures during the COVID-19 pandemic. Proceedings of the National Academy of Sciences, 2021, vol. 118, no 17.*

35 European Commission, '*Digital Education action Plan*', COM/2020/624 final, September 2020

36 European Commission, Recovery and Resilience Facility

37 International Monetary Fund (IMF), World Economic Outlook, October 2021

38 European Union, NextGenerationEU

39 World Intellectual Property Organization (WIPO), *Global Innovation Index: Tracking Innovation through the COVID-19 Crisis, 2021*

As innovation is a key driver of recovery, the World Intellectual Property Organization (WIPO) is optimistic and notes that despite the economic crisis, R&D expenditure seems to be more resilient based on preliminary data. Confirming these views, international patent fillings reached a higher point in 2020 (+3.5% compared to 2019), with a particularly strong increase in the medical technology, pharmaceutical and biotechnology categories. In the TPI, the impact of COVID-19 on Labour productivity and R&D intensity is not yet visible because of data lags.

Industrial base

The COVID-19 pandemic has revealed the vulnerabilities of globalised and interconnected economies based on an international division of labour around technological competences. The pandemic has disrupted global value chains and many countries have faced difficulties in providing essential supplies. The resilience of economies depends then on robust supplies chains. In the post-pandemic era, innovation is key to shaping the response strategy in the transformation towards more sustainable and prosperous economies, with a central role for R&I policies.

In the 'My agenda for Europe'[40], European Commission President Ursula von der Leyen called for 'technological sovereignty' to achieve ownership of key technologies in Europe and for enhanced resilience to prepare for future shocks and invest in the capacity to develop or source technologies and avoid 'one-sided dependencies' to countries[41]. The implementation of the Industrial Strategy and the updated version in 2021[42] will contribute to addressing the EU's strategic dependencies with measures which include the launch of new industrial alliances so as to diversify international supply chains.

The Industrial base indicator in the TPI is an important measure of a country's capacity to produce and to innovate. It is worth noting that the measure should be analysed by considering the specificities of each country, including their size and the structure of their economy. Between 2019 and 2020, more than half of the countries (43) improved their scores in the Industrial base sub-pillar. At the global level the score stagnated in 2020 (-0.1%) and slightly decreased at the EU-27 level (-0.9%). There is no clear pattern of changes in the Industrial base. Some high-income countries have downward trends, such as Germany (-3.5%) and France (-2.3%), whereas others improved, such as Norway (+1.9%). Similarly, some middle-income countries are declining, such as the Philippines (-3.8%) while others are increasing, such as Nigeria (+9.6%).

IV.4. IMPACT OF THE ADDITION OF THE DIGITAL DATA

The trend of digital transformation has been accelerated by the outbreak of COVID-19. The crisis has revealed the central role of digital skills to ensure the continuity of activities in companies and public administration. The fourth industrial revolution raises challenges for the future of work, with a need for upskilling and reskilling to foster employability in the labour market.

It is estimated that within ten years, nine out of ten jobs will require digital skills[43] although almost half of the world's population is still offline. In this context, this edition of the TPI includes digital data on internet users and the proportion of people with ICT skills (a composite) to capture the role of digital competences in the Economic transition.[44] Appendix I, Conceptual framework, shows how this change impacts the rankings compared to those obtained with the 2020 framework by leaving out each of the added indicators in turn.

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40 Von der Leyen, Ursula, *Political guidelines for the next European Commission 2019-2024*, October 2019

41 Edler, J., Blind, K., Frietsch, R., Kimpeler, S., Kroll, H., Lerch, C., ... & Walz, R, *Technology sovereignty: From demand to concept*, Fraunhofer Institute for Systems and Innovation Research (ISI), 2020.

42 European Commission, *Updating the 2020 industrial strategy: towards a stronger single market for Europe's recovery*, May 2021

43 World Economic Forum, '*Jobs will be very different in 10 years. Here's how to prepare*', 2020.

44 The ICT skills indicator has a relatively high percentage of missing values (22.97%); nevertheless, as pointed by the JRC audit (Appendix V), there is no impact on the rankings when missing values are imputed, suggesting a good robustness of the TPI to missing values.

These new indicators mirror the Commission's priorities in the Europe Fit for the digital age agenda[45] and the central role of the Digital transition in the recovery strategy. The recovery and resilience plans include measures to contribute to the digital and green transitions with, for example, the energy-efficient use of digital technologies. The TPI is therefore a tool to help monitor digital strategies in the EU and other countries.

IV.5. LINK WITH OTHER MEASURES OF EDUCATION

The Education sub-pillar includes ICT skills and internet users along with a measure of government expenditure in education. The latter is a proxy input indicator to measure the collective effort in education. Therefore, the education system's efficiency and outcomes are not taken into account by the TPI. It is then interesting to reflect on the relationship between expenditure in education and the results achieved, measured by other output measures such as NEET rates (neither in employment nor in education and training) or PISA (Programme for International Student Assessment) scores. A comparison between resource spent in education per student and PISA scores is available in the OECD's report 'Government at a Glance 2021'[46] for OECD countries. The PISA scores measure the performance of 15-year-old students in reading, mathematics and science. The expenditure levels are positively correlated with PISA scores and the relationship is stronger at lower levels of spending and weakens as spending increases.

TPI comparison NEET rates

NEET rates refer to the percentage of people neither in employment nor in education and training by sex, age and labour status. **FIGURE 10** shows the link between the government expenditure in education per student (% of GDP per capita) and the proportion of young adults (15-24 years) neither in employment nor in education or training. Expenditure in education and NEET measures are correlated as education expenditure increases the ability to maintain and improve skills to succeed in the transition from studies to work.

Additionally, the sub-pillar Work and inclusion is correlated with Education (0.57) suggesting that a stronger performance in education tends to be associated with better employment rates and inclusion. The NEET rates show large differences across countries as well as across genders (not visible on this figure). In the EU, NEET rates tend to be high in Italy, Romania and Czechia with large differences between women and men in Czechia, Poland and Slovakia. Conversely, NEET rates are lower in the Netherlands, Sweden and Luxembourg with a shorter gender gap. Some countries achieve a relatively high score in NEET rates considering the level of government expenditure per student, such as Moldova, whereas other countries, such as Japan and Singapore, have relatively low NEET rates for the amount spent. The association between NEET rates and education expenditure is not straightforward as NEET rates are also influenced by other factors, such as social and family environments.

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45 European Commission, '*A Europe fit for the digital age*'.
46 OECD, *Government at a Glance 2021*, OECD Publishing, Paris, 2021, p.214.

FIGURE 10: Government expenditure in education per student (% of GDP per capita) and NEET rates
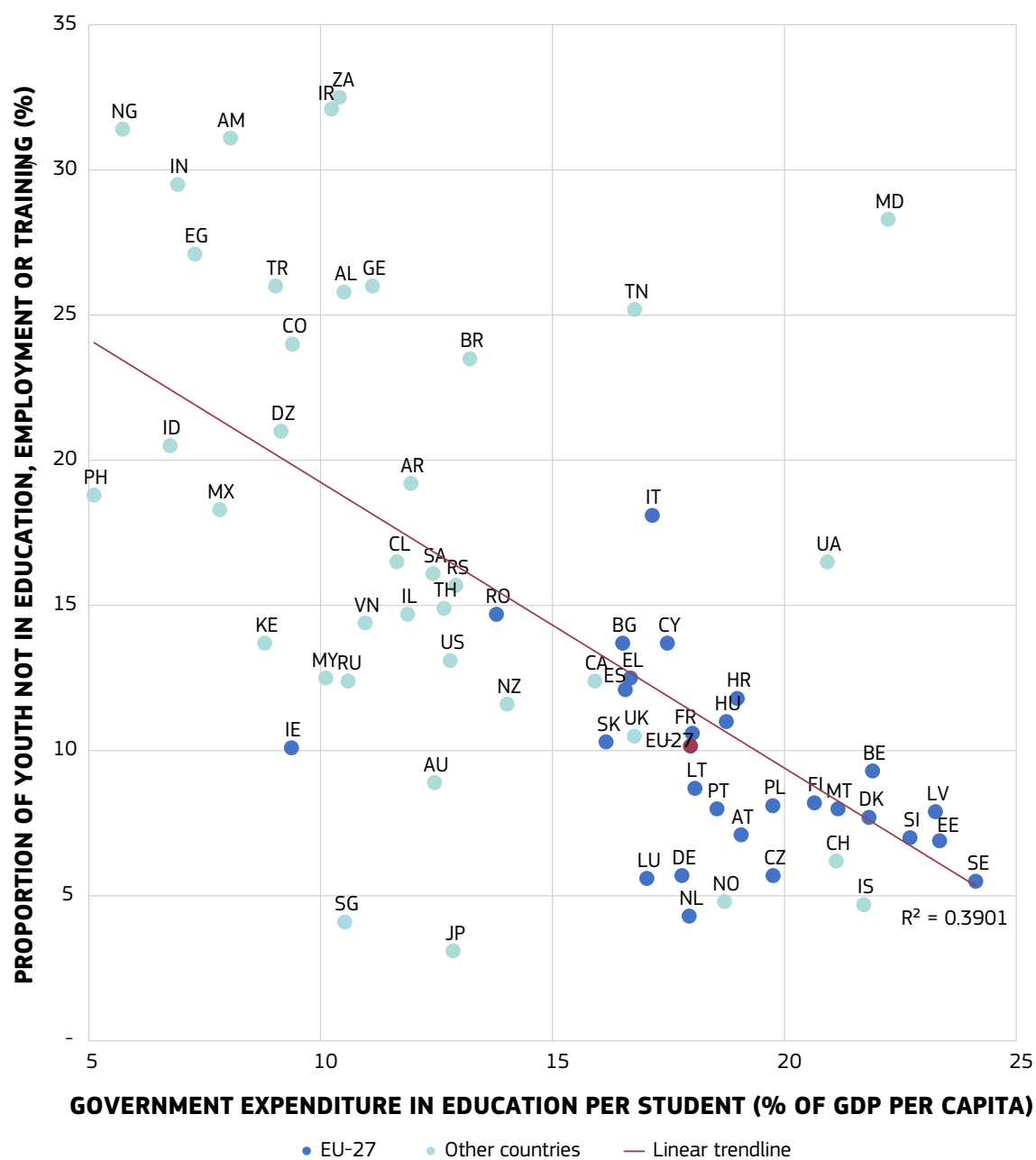
Source: European Commission, Transitions Performance Index 2021.

V. SOCIAL TRANSITION

V.1. OVERVIEW

Demographic changes, digitalisation and technological transformations, climate change, and globalisation have profound implications for modern societies.

Societal transformations – such as incremental changes to our institutions, values, rules and lifestyles – have always contributed to the evolution of European societies by complementing or responding to political, economic or technological changes. More recently, however, Europe acknowledged the need to harness the potential of these transformations to address how radical changes, such as the Digital and Green twin transitions, affect its citizens, its economy and its environment.

The twin transitions often create new living and working conditions, such as changes in skills requirements, business models, or employment terms and conditions, which in turn affect citizens' incomes, well-being and health. A successful Social transition can mobilise collective resources and support societal and individual well-being and welfare by ensuring that common values and fundamental rights, like gender equality, social inclusion, fair income and poverty reduction, are not neglected. This is even more important now, since the COVID-19 pandemic has greatly affected many aspects of social life and challenged social cohesion and resilience.

Policy at the EU level supports Member States, businesses, social partners and citizens towards achieving higher levels of sustainable production, while reaching the employment, skills and poverty reduction targets proposed by the European Pillar of Social Rights Action Plan and endorsed by the Porto Social Summit of May 2021[47].

Within this context, the role of the TPI is to follow the progress towards these societal goals and promote the debate over the most effective and efficient means to achieve them, so that no citizen is left behind[48]. As explained in the conceptual framework, the lean choice of TPI indicators for the Social transition provides a snapshot of key features: Health, Work and inclusion (with a gender dimension), Free or non-remunerated time and Equality (reflected by a balanced income distribution). A more detailed explanation of the conceptual framework and the selected indicators is included in Appendices I and III, respectively.

Transition leaders and strong performers in Social transition

The fact that 24 countries, as well as the EU-27, are transition leaders in three or more sub-pillars highlights that progress in Social transition is a realistic objective, and an issue of policy priorities (**TABLE 11**). Leader positions by several countries in the second half of the ranking corroborates this assessment.

All EU-27 countries are transition leaders or strong transition performers.

Iceland is the top performer in the Social transition as well as in the sub-pillar Free or non-remunerated time. Japan dominates the sub-pillar Health, New Zealand in the Work and inclusion one, and Slovenia in the Equality sub-pillar.

Among the 27 leaders in the Social transition, 12 achieve leader positions in all four sub-pillars, 15 countries have a less-than-strong performance in one sub-pillar (notably Luxembourg, New Zealand and the United Kingdom with a merely good performance in Equality). Within this upper group, room for progress is the greatest in the Equality indicator.

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47 These ambitious EU targets are: at least 78 % of the population aged 20 to 64 in employment; at least 60 % of all adults participating in training every year; and a reduction of at least 15 million in the number of people at risk of poverty or social exclusion.
48 European Commission, Communication on *Annual Sustainable Growth Strategy 2021*, COM/2020/575 final.

In the group of strong transition performers, the situation is also rather satisfactory, with no country in moderate or weak transition in any of the sub-pillars, except for Armenia in Work and inclusion, Moldova in Work and inclusion and in Free or non-remunerated time, and Israel and Bulgaria in Equality. All countries in that group achieve leadership in at least one sub-pillar, except for Romania.

Good performers in Social transition

The group of good performers in the Social transition (16 countries as well as the world average) presents a more dispersed performance across the four sub-pillars; the TPI may therefore be useful mainly in drawing attention to the potential risks of imbalances.

Five countries in this group manage to be transition leaders in one sub-pillar. However, six countries have a weak transition performance in at least one sub-pillar, most commonly in Work and inclusion.

Singapore, Algeria, Kenya and Argentina show both leader and weak positions, a demonstration of imbalance.

Moderate and weak performers in Social transition

Ten countries are moderate or weak performers in the Social transition. Colombia and Turkey are transition leaders in Health while Egypt is transition leader in Equality. Brazil is strong in two sub-pillars, Health and Free or non-remunerated time, but the country shows a weak performance in Equality, demonstrating an imbalanced transition performance. This is also the case for Iran, with scores ranging from 17.4 in Work and inclusion to 70.9 in Health. Nigeria, India and South-Africa have moderate or weak transition performances in Health, which is the sub-pillar with the best scores. South-Africa shows an exceptionally weak score in Equality, with 4.6.

V.2. SOCIAL TRANSITION, PROGRESS OVER 2011-2020

In terms of performance and progress over the past decade in Social transition, **TABLE 11** highlights that:

- Progress has been relatively balanced across groups of countries. Transition leaders and strong performers progressed on average by 4.9%, good performers by 7.1%, whereas moderate and weak performers progressed by 5.1%. Within these groups there are, of course, countries progressing and countries regressing.

- On average, the 72 countries progressed by 4.7% (vs 4.4% in the EU-27) over the last decade, in line with the progress achieved in the composite TPI.

- China, Malta, Malaysia, Moldova, Montenegro, North Macedonia, Poland, Russia, Saudi Arabia, Serbia, South Africa and the United Arab Emirates all show material progress in the societal transition (above 10%).

- There is also a more moderate but clear progress in several countries, which improved their performances during the last 10 years. For instance, eight countries (as well as the EU-27 as a whole) became leaders and four countries became strong performers, while eight other countries managed to improve from moderate to good transition performers.

- On the other hand, Albania, Armenia, Bulgaria, Egypt, Iran, Nigeria, Norway, Sweden, Ukraine and the United States all show declining scores over the decade.

- Among the 10 countries with moderate or weak scores, there are four countries with declining TPI scores over the last decade, notably Egypt, Nigeria, Morocco and Iran.

As there is no clear pattern of progress in the Social transition in terms of base levels (2011) or income levels, explanations for diverging paths may derive from more detailed analyses of country profiles.

TABLE 11: Social transition pillar ranking

	COUNTRY	PROGRESS	2020 SCORES				
RANK	NAME	2011-20	SOCIAL TRANSITION	Health	Work & inclusion	Free or non-remunerated time	Equality
1	Iceland	3.0%	89.7	89.9	86.5	94.3	88.9
2	Slovenia	6.0%	85.9	85.8	80.2	80.2	92.3
3	Norway	-1.3%	85.8	87.9	85.5	87.1	83.9
4	Denmark	2.4%	85.5	86.8	84.2	87.8	84.1
5	Netherlands	2.0%	84.8	88.1	81.8	86.8	83.1
6	Sweden	-0.3%	84.3	89.7	87.4	88.7	76.1
7	Finland	4.6%	84.1	86.7	80.5	81.8	85.6
8	Czechia	7.8%	83.9	79.3	81.9	78.2	91.7
9	Switzerland	2.0%	82.9	91.7	87.1	89.7	70.4
10	Germany	1.0%	82.0	86.3	85.3	89.8	72.7
11	Belgium	5.2%	81.6	85.2	77.9	75.4	84.6
12	Japan	6.7%	81.4	97.0	77.7	83.3	71.3
13	France	4.4%	81.0	90.3	80.3	83.8	73.1
14	Slovakia	8.3%	80.9	78.5	76.5	76.2	87.9
15	Austria	3.6%	80.6	86.5	81.8	81.3	75.4
16	Malta	13.1%	80.1	88.2	77.7	70.6	81.1
17	Estonia	9.7%	79.2	80.8	80.5	80.1	76.9
18	Cyprus	3.7%	79.2	91.4	74.8	77.5	73.8
19	Ireland	5.5%	78.3	86.9	76.8	73.2	76.0
20	New Zealand	2.9%	78.0	84.1	89.1	82.0	64.9
21	Australia	3.2%	77.9	86.4	82.7	80.1	67.9
	EU-27	4.4%	77.5	85.7	77.3	77.8	71.6
22	Canada	1.5%	77.1	87.5	75.5	80.4	68.8
23	United Kingdom	2.9%	77.1	83.8	83.4	83.7	64.8
24	Portugal	8.1%	76.9	86.5	78.6	76.4	69.4
25	Luxembourg	0.2%	75.5	88.5	77.0	78.3	63.7
26	South Korea	6.0%	75.4	93.5	69.2	63.0	73.2
27	Hungary	8.1%	75.3	74.0	72.7	74.0	78.4
28	Spain	4.0%	74.7	90.3	71.7	77.7	63.6
29	Poland	10.9%	74.1	78.9	72.5	63.8	77.4
30	United Arab Emirates	12.3%	73.9	70.0	68.7	60.5	87.5
31	Israel	7.0%	72.7	91.3	84.3	72.2	53.0
32	Latvia	8.8%	72.2	70.8	81.2	76.8	65.5
33	Croatia	9.6%	72.0	78.7	64.8	61.9	77.0
34	Lithuania	4.1%	71.7	72.3	79.7	78.1	63.2
35	Thailand	3.6%	71.1	77.5	73.8	65.9	68.0
36	Vietnam	2.5%	71.0	67.7	82.4	76.8	63.5
37	Greece	7.2%	70.9	86.2	59.1	65.5	69.8
38	Ukraine	-3.8%	70.5	64.3	58.7	59.3	88.1
39	Albania	-3.7%	70.2	80.3	65.7	62.3	70.2
40	Italy	2.7%	70.2	89.7	65.1	66.8	61.0
41	China	13.3%	68.2	78.4	79.6	61.7	58.2
42	Russia	11.7%	66.8	64.0	76.0	69.8	61.8
43	Armenia	-3.1%	66.2	73.7	40.9	57.0	80.4
44	Romania	5.9%	66.0	72.8	69.6	65.4	59.3
45	Moldova	13.7%	65.8	65.1	52.0	37.1	90.5
46	Bulgaria	-1.2%	65.3	70.9	72.8	75.9	51.1
47	Serbia	16.1%	63.4	72.9	61.0	63.2	58.0
48	United States	-1.2%	62.5	70.4	66.8	71.3	49.3
49	Chile	6.5%	62.0	83.5	57.4	67.3	46.2
50	Singapore	5.7%	62.0	95.2	54.2	65.2	40.8
51	Georgia	4.1%	61.8	65.6	47.4	68.6	63.5
52	North Macedonia	18.4%	61.7	70.5	46.1	58.4	66.1
53	Malaysia	12.1%	61.6	68.9	70.7	60.5	51.7
54	Indonesia	8.6%	60.6	59.4	56.5	67.2	60.0
55	Montenegro	11.8%	60.0	73.2	55.3	58.1	54.2
56	Algeria	3.0%	59.6	71.3	26.9	32.6	85.5
	World	4.7%	59.4	67.2	49.5	58.6	60.0
57	Kenya	8.4%	58.5	42.3	68.7	77.4	53.5
58	Bosnia and Herzegovina	2.2%	58.0	74.0	27.5	46.5	70.5
59	Argentina	4.9%	57.9	73.8	39.8	78.1	45.3
60	Mexico	3.7%	55.9	69.2	49.0	68.3	43.3
61	Tunisia	4.9%	55.7	73.0	22.1	39.8	71.8
62	Philippines	5.9%	55.1	56.7	58.4	57.0	51.0
63	Colombia	8.1%	54.9	79.9	52.7	72.8	28.1
64	Turkey	5.7%	53.5	78.0	27.8	56.5	49.1
65	Egypt	-4.5%	50.7	59.9	9.9	32.8	77.7
66	Nigeria	-7.8%	48.3	31.3	39.4	47.7	65.8
67	Brazil	2.5%	48.3	68.0	49.6	66.8	22.8
68	India	2.5%	47.7	51.1	16.2	39.8	67.9
69	Morocco	1.1%	47.5	62.3	25.1	34.5	57.2
70	Iran	-0.8%	44.9	70.9	17.4	30.6	50.2
71	Saudi Arabia	10.3%	39.8	63.4	19.1	44.9	31.8
72	South Africa	33.5%	30.0	37.2	43.3	52.4	4.6

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Notes: 'Progress 2011-20' refers to the percentage growth of economic transition scores from 2011 to 2020.

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

V.3. TPI AND EQUALITY
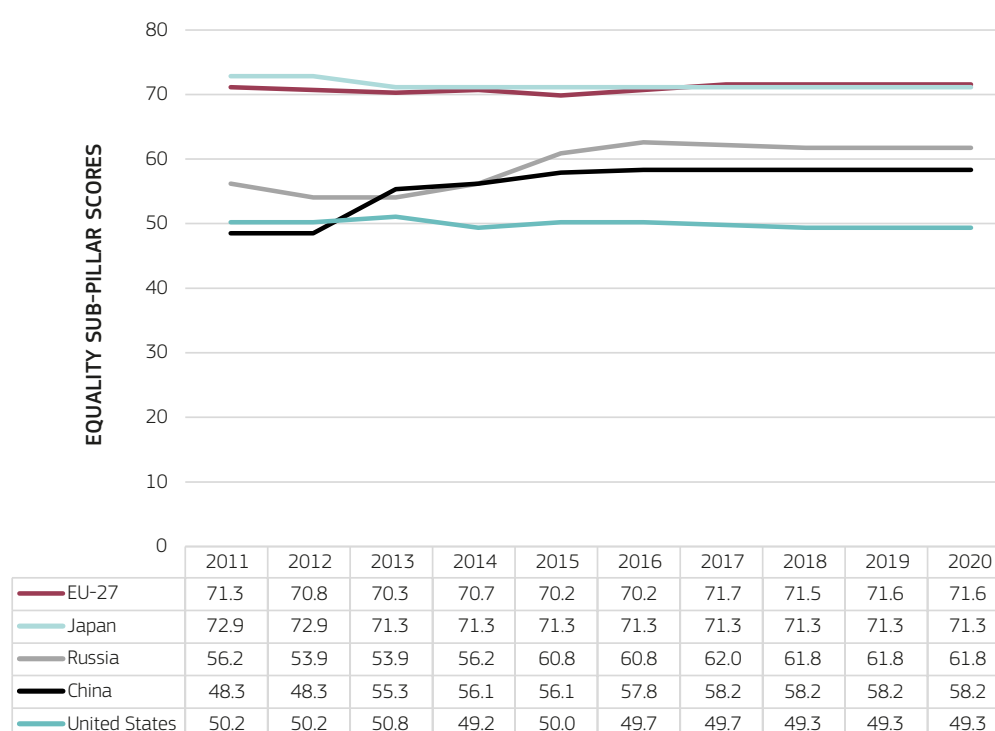
Evolution of inequalities

The evolution of inequalities is an important factor affecting well-being. Economic and Environmental transitions may result in positive societal and environmental effects. However, they also present significant risks which, if not sufficiently anticipated and accompanied by public interventions, may affect the poorest and most vulnerable. The emergence of new threats, such as pandemics, increases the need to pay special attention to variables estimating inequality. There are already indications that the COVID-19 crisis has worsened inequalities and increased poverty in some countries.

The Equality sub-pillar is central to the TPI and after consultation with experts and stakeholders is measured by combining two indicators:

● The Gini coefficient, which is an objective measure of the dispersion of income in a population. Mathematically there cannot be a more comprehensive measure of income inequality. The indicator was retained after taxes and social transfers, so that countries with effective income redistribution policies are recognised.

● The share of revenues received by the poorest 20% of the population[49].

FIGURE 12 compares the degree to which some countries' scores have evolved along this sub-pillar over time. The EU-27 shows stability, Japan shows a declining pattern, while China is catching up and overtaking a stagnating United States, with Russia showing steady, incremental progress. In terms of levels, **FIGURE 11** illustrates that the EU-27 and Japan are well above China or Russia, and even more so, the United States.

FIGURE 11: TPI Equality sub-pillar scores

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
EU-27	71.3	70.8	70.3	70.7	70.2	70.2	71.7	71.5	71.6	71.6
Japan	72.9	72.9	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3
Russia	56.2	53.9	53.9	56.2	60.8	60.8	62.0	61.8	61.8	61.8
China	48.3	48.3	55.3	56.1	56.1	57.8	58.2	58.2	58.2	58.2
United States	50.2	50.2	50.8	49.2	50.0	49.7	49.7	49.3	49.3	49.3

Source: European Commission, Transitions Performance Index 2021.

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49 The situation of the poorest population is already integrated in the Gini coefficient. The addition of this sub-pillar reinforces the need for an additional effort for this social group.

The evolution of equality is the result of policy choices and not predetermined by any of the TPI's variables. The evolution of the top five is particularly positive, except for Ukraine (-4.6%) due to the impact of war.

As for the degree to which equality in the EU-27 has evolved, the TPI's equality indicator remains quite stable after a deterioration from 2011 to 2016 (**FIGURE 11**)[50].

An open issue: Interactions between TPI performance and inequalities

Of course, as the equality indicator is part of the TPI, there is by construction a statistical link. However, equality is only one indicator among 28, so this element does not exclude a more general reflection on the relation between inequalities and the TPI as a different approach to measure prosperity.

The question examined here is whether progress in policy areas measured by other TPI indicators significantly facilitates progress in equality, similar to a feedback loop.

The answer seems to be negative. The correlation between the TPI Equality sub-pillar and other TPI indicators was examined and none of the elements taken in isolation has a marked correlation with equality. On the other hand, the composite TPI itself has a net positive correlation of 0.69 with equality in 2020, which is lower than with other sub-pillars in the Social transition.

V.4. IMPACT OF COVID-19 ON THE SOCIAL TRANSITION

The COVID-19 pandemic has greatly affected people around the globe. Not only the pandemic has had a direct impact on citizens' health, but also on their access to work and therefore on their income. It has also highlighted the need for new skills, in particular digital skills.

As most schools have been partly closed during that period, the crisis has also put an additional burden on women.

Finally, the crisis has also brought forward the disparities between countries, and even inside countries, as different measures were taken, not only to contain the COVID-19 pandemic but also to mitigate the effects of partial unemployment.

The impact of COVID-19 is not fully captured in this edition of the TPI because of delays in data transmission for aggregate indicators.

Health

The indicator 'Healthy life expectancy at birth (years)' from WHO was last updated in December 2020 and the last data available is from 2019. So far, only the United States has a declining healthy life expectancy from 2011 to 2019, notably due to the opioid crisis. According to WHO, the increase in healthy life expectancy from 2011 to 2019 at the global level has not kept pace with the increase in life expectancy, meaning that the increase in healthy life expectancy is more due to declining mortality rather than reduced years with disability.[51]

The data included in the TPI does not yet take into account the impact of COVID-19 on healthy life expectancy. At the time of the drafting, more than five million deaths due to COVID-19 were officially registered. In many countries, a major part of the official number of deaths due to COVID-19 occurred in 2021. If the first wave of the COVID-19 pandemic affected mostly elderly people, then the average age of death may have decreased with subsequent waves.

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50 The financial crisis (2008-2010), banking crisis (2010-2012) and sovereign debt crisis (mainly 2010-2014) may have had an impact, but the linkages are not assessed here.
51 WHO, '*GHE: Life expectancy and healthy life expectancy*'.

FIGURE 12: Equality sub-pillar score and progress over 2011-2020
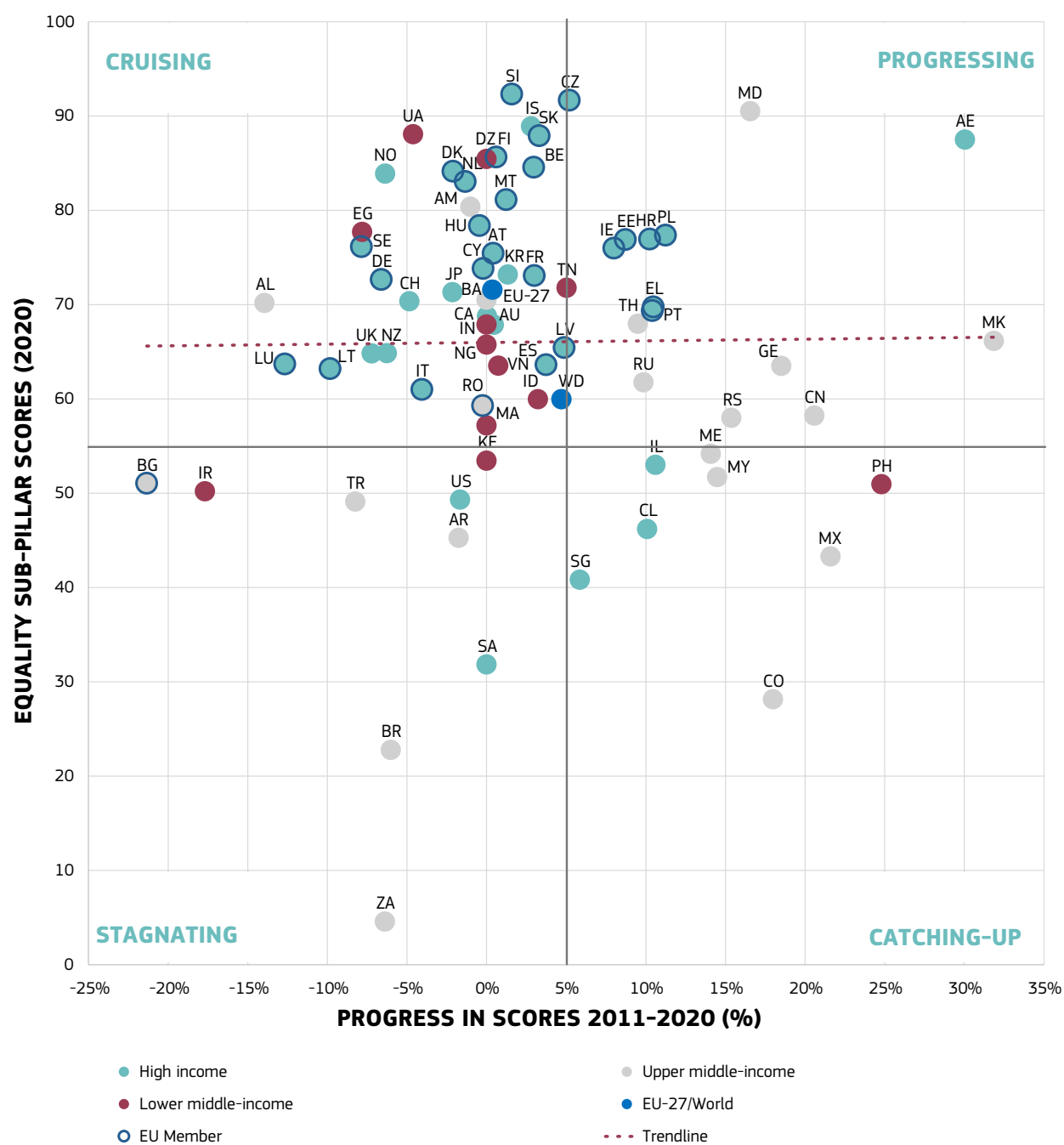
Source: European Commission, Transitions Performance Index 2021.

In 2020, life expectancy at birth fell in the vast majority of the EU-27 Member States with available 2020 data[52]. It is therefore probable that healthy life expectancy would decrease over the next years when the full impact of the COVID-19 pandemic is reflected.

In addition, the COVID-19 pandemic has had major consequences on the organisation of health systems in many countries, delaying many medical operations and raising fears about the future burden of undiagnosed diseases.

The COVID-19 pandemic has accentuated some already existing trends in public health.

For instance, changes in lifestyle (more stress, less physical activities, unhealthy diet) were already a major public health issue before the COVID-19 pandemic. There is also evidence that overweight and obesity risks, which are major comorbidity factor risks for COVID-19, have increased during the pandemic, accompanied by a lack of physical activities enhanced by partially closures of sport facilities. Before the pandemic, the World Health Organization had already estimated that this issue has 'grown to epidemic proportions, with over 4 million people dying each year as a result of being overweight or obese in 2017 according to the global burden of disease'[53].

The COVID-19 pandemic has had a huge impact on mental health, notably on students, which may negatively impact learning outcomes in the coming years, as well as their well-being. The future well-being and productivity of adults may also be affected by the ongoing pandemic.

Finally, environmental factors, such as air, water and environmental pollution affect healthy life. For instance, according to the World Health Organization, 4.2 million deaths occur every year as the result of exposure to ambient air pollution[54].

Therefore, although healthy life expectancy has kept increasing (except in the United States) and considering the different risks described above, it is legitimate to wonder if the healthy life expectancy will flatten.

Work and inclusion

During the past 10 years, the share of those employed in the age bracket 20-64 has increased in the EU-27, from 67.9 % to 72.5 % in aggregate. A more modest growth can be noticed for the 19 countries participating in the Euro area. It is worth pointing out that the employment share of this age group increased not only in aggregate terms but also in every individual EU-27 Member State, probably as a rebound from the economic and sovereign debt crises, which affected the EU-27 between 2007 and 2012.

However, this trend came to a halt in 2020, as all EU-27 Member States (with the notable exceptions of Croatia and Poland) saw a reduction in this indicator, most likely due to the impact of COVID-19 in employment. Re-skilling and upskilling of workers who lost their jobs or work in sectors undergoing a digital/green transformation may be necessary, in order to prevent further job losses in the medium or long term.

FIGURE 13 shows the comparison between the sub-pillar Work and inclusion and the European Skills Index[55]. The positive association suggests that a strong skills framework impacts positively on work and inclusion. However, achievements in both indices vary considerably by member state. Sweden outperforms in both dimensions. With similar and relatively low scores in the European Skills Index, Spain considerably outperforms Greece in work and inclusion. In turn, with similar scores in work and inclusion, Denmark and Germany shows better performances in Work and inclusion than Malta or Poland. While Czechia shows the best performance in the European Skills Index, four countries (Denmark, Germany, Sweden and United Kingdom) outperform its score in Work and inclusion.

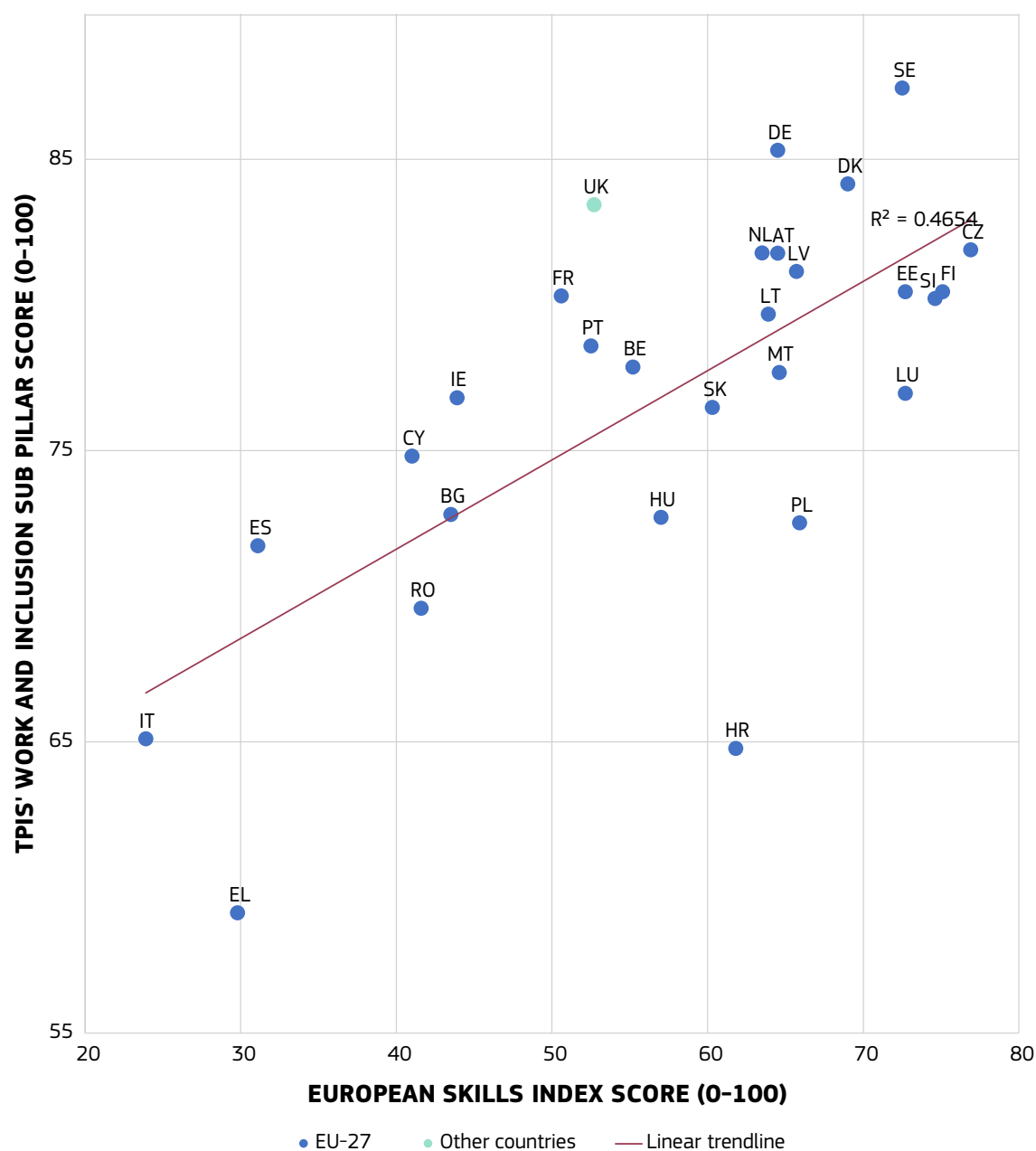52 Eurostat, '*Life expectancy decreased in 2020 across the EU*'
53 WHO, '*Obesity*'
54 WHO, '*Air pollution*'
55 European Centre for the Development of Vocational Training (CEDEFOP), *European Skills Index*,

FIGURE 13: European Skills Index and TPI's Work and inclusion sub-pillar scores

Source: European Commission, Transitions Performance Index 2021.

While increased participation in the labour market is important in achieving or maintaining an inclusive society, potential gender differences show how equitable this increase is.

Over the past decade, the gender gap in the employment-to-population ratio has decreased from 14.6 % to 13.7 % in the EU-27, suggesting a slow movement towards a more equal participation of women in the EU's labour market. The indicator is not weighted for individual country populations, and data for the most populous EU-27 Member States show that the gender gap improved in four out of five of them (Germany, France, Italy and Spain), with Poland being the only one marking an increase. Overall, 17 countries saw their gender gaps improve (the best performers being Luxembourg and Malta), while in 10 others there was a widening in the gap between men and women.

The lack of available data for 2020 makes it impossible to trace a potential COVID-19 impact on the gender gap in the current edition of the TPI. However, other measurable factors such as the division of labour in childcare due to the increased rate of home-schooling provide a warning about a potential reversal of the progress made on this front before the pandemic[56].

If this trend continues after the pandemic, the pattern of increasing enrolment rates[57] in early childhood education and care services in the EU-27, which was observed in the past decade, could contribute to an increased participation of women in the labour market,. However, a combination of public interventions will be needed to ensure employers and education institutions can use both traditional and digital solutions in a flexible way, which facilitates equitable access to education and employment for children and parents, respectively.

In addition, the pandemic highlighted the need for skills adaptation (reskilling and upskilling) in the context of digitalisation and the Green transition. Education and skills are a strong determinant for social inclusion. Besides, the current labour shortage in some sectors could put on hold the recovery.

In most countries where 2020 data are fully available for that sub-pillar, the score decreased between 2019 and 2020.

Finally, the available data does not consider partial unemployment, which increased massively due to measures put in place in place massively in many countries

Equality

Developments in income inequality could shed some light on the initial impact COVID-19 had on the global economy, which was already under digital and green transformations. During the biggest part of 2020, the world witnessed a slowing down in social and economic activity due to lockdowns, an acceleration in the adoption of digital technologies in commerce, government and the workplace, as well as a reduction in some emission- and pollution-generating activities.

While the effects of such changes were sizeable, the 10-year Equality sub-pillar does not project a similar 'break' in data from 2019 to 2020, probably due to delays in data collection and lags in transmission to aggregate indicators.

The academic and policy debate around this question has provided mixed results so far. Early evidence suggested that the pandemic decreased unweighted income inequality among countries[58].

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56 European Commission, '*Focus on: Is home-schooling during the pandemic exacerbating gender inequalities?*', 14 December 2020.
57 UNESCO, '*Early childhood care and education*'.
58 When weighted for population though, China's continued growth and India's contraction further complicated the picture. See Deaton, A., *Covid-19 and global income inequality,* National Bureau of Economic Research, 2021

Alternative opinions highlighted the importance of factors other than income so as to have a complete picture on global inequalities or pointed out that important changes happening now might have long-lasting negative effects on equality globally. Such alternative approaches focus on factors such as the deterioration of access to education and living standards[59], limited access to health care[60], or pre-existing inequalities affecting women and minorities[61].

As far as within-country inequality is concerned, some studies show that, in some high-income countries, government responses (e.g. direct payments to households, partial unemployment guarantees, and exceptional relief measures etc.) tempered the impact of the crisis on low-income households and on inequalities. However, available data also shows that high-income households were able to accumulate more wealth[62]. In addition, the World Inequalities Report highlights that 'the large stimulus packages implemented by rich countries were both essential and successful in preventing a sharp rise in poverty and inequality at the bottom of the distribution. It should be noted, however, that these programs were costly and increased public debt by the order of 5-20% of national income'. Choices over the size, modalities and timeline for debt repayment may also have an impact on inequalities within and among countries.

As evidence keeps coming in[63], this debate may inform future versions of the TPI sub-pillar Equality, to capture such movements, if they emerge.

V.5. LINKAGE BETWEEN SOCIAL AND ENVIRONMENTAL TRANSITIONS

The social dimension is at the heart of the EU's ambitious green agenda. The Annual Sustainable Growth Survey, part of the 2022 European Semester Autumn package published on 24 November 2021, highlights that 'Europe's economic, social and environmental policy agenda should ensure that governments at all levels, businesses, social partners and households, contribute consistently towards reaching the EU targets for the Green and Digital transitions, as well as the employment, skills and poverty reduction targets set with the European Pillar of Social Rights Action Plan'.

Social and environmental policies are joint ambitions aimed at ensuring a socially fair Green transition.

In regard to climate change, the Green transition will create massive opportunities for mitigation and adaptation, in particular in terms of job creation. Significant investments will be needed to accompany the necessary labour market transitions and support reskilling and upskilling, both pre-conditions for a just and effective transition.

In addition, changes triggered by the Green transition may affect the most disadvantaged and vulnerable communities, as well as some regions and sectors.

59 UNDP, *COVID-19 and Human Development: Assessing the Crisis, Envisioning the Recovery*, New York, 2020.
60 Stiglitz, J., '*Conquering the Great Divide*', Finance & Development, Fall 2020, IMF, Washington, DC.
61 Ferreira, F. H. G., '*Inequality in the time of COVID-19*', Finance & Development, Summer 2021, IMF, Washington, DC.
62 Chancel, L., Piketty, T., Saez, E., Zucman, G. et al., *World Inequality Report 2022*, World Inequality Lab. 2021.
63 See for example how the rising share of population in extreme poverty may be affecting more the LAC, MENA and SSA regions: World Bank Blogs, '*Updated estimates of the impact of COVID-19 on global poverty: Turning the corner on the pandemic in 2021?*', June 2021

The provisional agreement between the European Parliament and the Council on the 8th Environment Action Programme strengthens the synergies between social and environmental policies and links the achievement of EU environmental and climate objectives to the implementation of the European Pillar of Social Rights.

The World Inequality Report published in December 2021[64] provides insights to the links between global income/wealth inequalities and ecological inequalities, as well as to inequalities in contributions towards climate change–mitigating policies.

Consequently, a dynamic linkage is proposed between the Social and Environmental transitions, to check how both dimensions progress over 2011–2020 period.

FIGURE 14 shows the performance levels and progress made both in Social and Environmental transitions, with the country label indicating the 2020 level. Most countries progressed in both pillars (green lines), with steep progress in a significant number of countries as shown by longer lines, and particularly in the European Union (dotted lines). Luxembourg stands out, catching up significantly in environmental metrics over the decade while stagnating in the social dimension.

Eight countries progressed in Environmental transition with declines in Social transition (blue lines): Albania, Armenia, Egypt, Norway, Ukraine and the United States. In the EU-27, it is also the case of Belgium and Sweden.

FIGURE 14: Social and environmental performance and joint progress (2011–2020)

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

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64 Chancel, L., Piketty, T., Saez, E., Zucman, G. et al., *World Inequality Report 2022*, World Inequality Lab. 2021.

In turn, five countries, none in the EU-27, progressed socially while declining in the environmental dimension (purple lines): Algeria, Argentina, Brazil, Georgia and Singapore.

Only two countries declined in both dimensions over the past decade: Iran and Nigeria.

The figure highlights different dynamics for countries, both in terms of progress (line length), direction of the transition (colour and/or steepness showing progress in the Environmental transition and flatness showing progress in the Social transition). For instance, Croatia and Latvia are in 2020 very close on both dimensions, coming from different positions in 2011.

VI. ENVIRONMENTAL TRANSITION

VI.1. OVERVIEW

Environmental transition entails systemic changes in the way we produce and consume, which allows society to move towards a more sustainable and resilient economy and represents a unique opportunity for countries to build back better following the COVID-19 crisis. Although climate change, unsustainable resource use, biodiversity loss and environmental degradation require urgent action, governments need to pursue investments and reforms that support low-carbon, resilient investments, backed up with efficient climate policies. In addition, the EU's efforts towards moving to a climate neutral economy by 2050 are not enough to meet the global challenge of addressing the global problem of climate change: the COP26 climate summit stressed the need for global actions from all countries.

On the other hand, the Green transition is an enormous growth opportunity, as all countries need to switch to cleaner energy use, manufacturing, and consumption.

At the EU level, the Green Deal sets the blueprint for the green transformation[65], which will be implemented on the ground up to 2030 through the 8th Environmental Action programme. It enshrines a mechanism to monitor economic, social and environmental progress 'beyond GDP'.

Environmental issues can be interlinked with other dimensions of the TPI (for instance health and labour market transitions to support reskilling and upskilling or digitalisation). Delivering on the other transitions can have some synergies with the Environmental transition.

The upper goalposts for this transition have been set at moderate levels to gauge progress, but they could be tightened in future editions. As a result, progress in Environmental transition is only a provisional assessment (**TABLE 12**).

Environmental transition also embeds different aspects, from emissions reduction and increase energy productivity, to protect biodiversity and decrease material consumption. The Environmental pillar covers different objectives contributing to the green transition.

The new edition of the index aims to consider environmental spillovers by adding material footprint (relevant for SDG 12 – Responsible consumption and production) to sub-pillar 3.3, aiming at better gauging the objective to ensure a sustainable use of resources and to foster the circular economy. This sub-pillar has been now renamed 'Material use', to track to what extent production is decoupled from material use (i.e. becoming more resource efficient) and the overall material impact of the consumption of goods (including the goods imported net of goods exported).

The Environmental transition is a global phenomenon endeavour. For instance, material use raises issues related to personal choices and way of life. This translates into a larger question such as to what extent can GDP growth be decoupled from material use and to what extent internal consumption impacts other countries in terms of material extraction, pollution and degradation of ecosystems, thus increasing pressures on the planet. Innovation and eco-design, new business models and the circular economy, digitalisation, and more responsible consumer behaviour and informed consumer choices all contribute to the objective of reducing the material footprint. The systemic changes in the way we consume and produce will boost a new growth model, which is good for the prosperity (economy competitiveness), the people (wellbeing and health) and the planet (safe operating space within the planetary boundaries).

65 European Commission, The European Green Deal COM(2019) 640 final, 2019.

Statistical specificities

When adding material footprint, the Environmental pillar appears to be less correlated with the other transitions (0.01 versus 0.43 reported in the first edition, considering the latest available year of data only), showing even more the need for a major shift in environmental policies. The current results under the Environmental pillar should make us question the sustainability of our consumption patterns. The new indicator 'material footprint' has a unique characteristic in that it is negatively correlated to the index. As mentioned by the JRC audit, 'the Environmental pillar shows an apparently independent behaviour in respect to the other three. As a consequence, the Environmental pillar contributes less to the index than the other three pillars'.

In addition, 'the Environmental pillar proves its specificity again by causing an average rank change of 7.4 positions. In effect, this addition implies important shifts in scores in the Environmental pillar. Compared to the previous edition, scores decrease mostly for high-income countries, while lower middle-income countries tend to benefit from this addition. This result classifies the Environmental pillar unequivocally as impactful, and it is due to the diversity of this pillar compared to the rest of the index' (JRC audit in Appendix V).

This statistical anomaly was expected and is conceptually sound on two grounds. First, the rationale for the inclusion of Material footprint is to include a factor of adjustment to resource productivity, as both indicators evolve around the same concept of Material use. On one side, resource productivity represents the materials used directly in production in an economy compared to GDP. On the other side, material footprint is calculated based on the extraction of raw materials in external countries to meet the country overall material demand, adding the raw material equivalent of imports net of the raw material equivalent of exports, in per capita terms.

The second conceptual rationale relates to public policy. In effect, most countries are in a declared path of bending the curve of consumption and use of raw materials, just like they are on a path of bending the curve on GHG emissions. So even if the levels of material use as still high and for some countries in a growing path, the expectation is to see these indicators decreasing over time, a trend this index is in a position to capture with the backcasting of data over a decade.

Environmental transition, leaders and strong performers

According to the scores based on the new edition, only the United Kingdom achieves a leader position in Environmental transition, with leader and strong transition performances in all four sub-pillars.

Nineteen countries are strong performers, as well as the EU-27. Four of them (Colombia, the Philippines, Morocco and Nigeria) are outside Europe. The performance of Albania, ranked 4th, is commendable as Albania is overall 31 in the TPI index. Albania is leader in three sub-pillars, with a moderate position in Material use. Since 2011, Albania achieved significant progress in the adoption of a modern environmental legislation, driven by the efforts to approximate the EU environmental acquis, as the country was granted candidate status to the European Union in 2014[66].

Countries in strong transition show quite balanced performances across all sub-pillars, apart from material use, where Denmark, Latvia, Portugal, Greece and Romania are weak performers, and seven other countries are in moderate transition. Several countries are environmental leaders for several dimensions. Malta, Italy, Denmark, Ireland, the Philippines, Colombia, Croatia and Nigeria are leaders in two environmental indicators.

66 UNECE, '*3rd Environmental Performance Review of Albania*', September 2018

The overall picture shows significant progress in energy productivity and reasonable progress in the reduction of greenhouse gas (GHG) emissions: Forty-four countries as well as the EU-27 and world averages are leaders or strong performers in Emissions reduction. In contrast, the remodelled sub-pillar Material use becomes an even weaker point, with only three countries as leaders or strong performers (Italy, the Netherlands and the United Kingdom,) and 57 as moderate or weak performers, including the EU-27 and world averages (compared to 40 last year with only resource productivity). Energy productivity falls in between with 24 countries, as well as the EU-27 in leader or strong transition, and 33 countries, as well as the world average in moderate or weak transition.

Environmental transition, good performers

The group of good performers comprises 23 countries. The Netherlands is a strong performer in three dimensions, with moderate transition in Emissions reduction. Nine countries are leaders or strong performers in two dimensions. Most of these efforts are related to Emissions reductions and Biodiversity.

Material use is moderate or weak for nearly all countries.

Environmental transition, moderate and weak performers

Two main opposite patterns emerge from the data on the 29 countries that compose the moderate and weak performance groups (the world average is in moderate transition).

One group consists of a large number of countries that despite lagging in their environmental score, demonstrate leadership or strong performance in one or more sub-pillars. This highlights the relative autonomy of the environmental efforts that can be pursued, whatever the socio-economic profile and localisation of a country.

Another group of countries lacking strong points, most of them high-income economies, have with moderate or weak performances in the four sub-pillars (Australia, Canada, Iceland, New Zealand, Russia, Saudi Arabia, South Korea, the United States and the United Arab Emirates at the bottom of the ranking). This shows that environmental performance depends strongly on national policy choices and priorities. In addition, as highlighted by the JRC, the unbalanced profile of these countries makes their ranking in the TPI less robust to changes in pillar weights and other modelling assumptions. The JRC audit mentions, 'when a country

shows unbalanced values, it is particularly penalised by the geometric mean', which implies that these countries are rewarded by the choice made to use arithmetic averages, their TPI scores would have been even lower with the choice of aggregating with geometric means.

Indeed, considering the different modelling choices assessed in the JRC audit, the under-performance in the Environmental transition lowers significantly the overall TPI score, as reflected by the confidence intervals of ranks. This is for instance the case for Canada which shows leader or strong performance in all the other pillars and is ranked 44, with a confidence interval of [40, 64], showing that with marginally different, and still sound modelling choices, Canada could have been ranked as low as 64. This kind of unbalanced profile shows the importance of having a holistic approach when looking at transitions.

VI.2. ENVIRONMENTAL TRANSITION, PROGRESS OVER 2011–2020

Over the last decade, **TABLE 12** exhibits progress in Environmental transition for all countries but three:

● The world's (average) progress is high, at 6 %, above the overall TPI progress rate over the last decade. However, there are big disparities in progress. The highest rate is that of Luxemburg (+30.7 %); Croatia, France, Estonia, Israel, Italy, Malta, the Netherlands, the United States and the United Arab Emirates have rates above 15 %.

● Only six countries, all in merely good, moderate or weak transition, see their scores declining over the last decade, in particular Singapore (–13.8 %), followed by Algeria, Iran, Brazil, Georgia and Argentina.

● Compared with starting points, patterns across sub-pillars diverge and require further analysis of country profiles. In particular, best performers in terms of progress belong to all levels of performance groups in the Environmental transition.

● Countries with leader and strong positions in the Environmental transition have a simple average progress rate of 9.5 %.

● Among weak performers, the average progress rate is 6.2 %.

TABLE 12: Environmental transition pillar ranking

	COUNTRY	PROGRESS	2020 SCORES				
RANK	NAME	2011–20	ENVIRONMENTAL TRANSITION	Emissions reduction	Biodiversity	Material use	Energy productivity
1	United Kingdom	14.7%	78.0	69.6	86.5	69.6	86.2
2	Malta	15.9%	74.4	77.9	71.3	48.4	100.0
3	Italy	15.5%	73.8	70.0	76.9	69.4	79.1
4	Albania	3.7%	73.3	85.4	77.3	50.1	80.3
5	Denmark	13.9%	73.1	66.3	93.8	39.1	93.1
6	Ireland	12.2%	72.3	46.7	83.2	59.2	100.0
7	Switzerland	6.1%	71.7	74.6	52.3	59.8	100.0
8	Philippines	2.6%	70.3	90.9	53.3	61.6	75.3
9	Colombia	7.1%	69.7	84.6	49.2	54.2	90.9
10	Latvia	1.8%	68.4	74.6	96.2	40.8	61.8
11	Croatia	23.7%	67.6	75.0	82.2	50.8	62.3
12	Morocco	2.9%	67.4	89.1	54.8	53.0	72.5
13	France	15.1%	66.8	71.7	77.2	58.0	60.2
14	Portugal	7.3%	66.4	72.5	70.7	43.8	78.6
15	Hungary	3.2%	66.2	72.1	84.6	50.6	57.8
16	Nigeria	-0.1%	66.1	93.4	77.1	59.0	34.8
17	Greece	12.9%	65.5	65.0	84.8	42.9	69.2
18	Spain	12.2%	65.4	70.4	58.3	59.2	73.7
19	Romania	9.6%	65.3	75.4	73.9	37.5	74.5
20	Germany	11.5%	65.0	57.9	77.6	55.3	69.2
	EU-27	8.6%	65.0	65.0	77.8	48.3	68.9
21	Netherlands	18.0%	64.7	53.8	74.1	65.4	65.8
22	Indonesia	8.4%	64.3	84.9	45.9	54.4	71.8
23	North Macedonia	11.9%	63.3	79.0	66.9	48.2	59.0
24	Algeria	-4.8%	62.6	78.4	64.1	57.0	50.8
25	Tunisia	5.5%	62.1	85.2	52.2	51.4	59.8
26	Mexico	6.3%	61.7	77.6	51.3	53.3	64.9
27	Lithuania	1.9%	61.6	69.2	93.0	21.3	62.9
28	Bulgaria	4.8%	61.2	66.3	95.5	43.9	39.3
29	Egypt	0.9%	61.0	86.1	41.8	55.4	60.5
30	Slovenia	12.7%	60.9	65.8	77.1	45.0	55.5
31	Slovakia	9.7%	60.2	69.2	86.9	29.4	55.2
32	Poland	9.5%	59.7	56.7	88.3	35.4	58.4
33	Belgium	10.7%	59.1	55.8	74.6	55.9	50.2
34	Austria	6.4%	59.1	61.3	70.3	33.8	70.9
35	Czechia	11.7%	59.0	51.3	92.5	45.0	47.1
36	Japan	10.2%	58.8	61.1	54.8	55.9	63.6
37	India	6.6%	58.1	89.6	35.3	53.5	54.1
38	Kenya	2.4%	57.4	93.6	48.1	57.3	30.5
39	Sweden	8.5%	57.0	78.3	66.6	28.0	55.2
40	Thailand	2.6%	56.7	75.0	62.8	42.8	46.2
41	Georgia	-0.5%	56.0	82.4	43.1	54.8	43.7
42	Armenia	2.2%	55.6	86.8	39.8	49.0	46.9
43	Turkey	6.4%	55.6	73.8	19.4	50.2	78.9
44	Norway	13.3%	54.2	59.6	67.2	20.4	69.5
45	Estonia	16.9%	53.9	53.3	93.8	24.5	44.1
	World	6.0%	53.4	70.8	40.2	50.4	52.1
46	Vietnam	1.4%	53.0	83.6	48.9	39.1	40.4
47	Luxembourg	30.7%	52.9	15.4	64.5	47.7	83.8
48	Brazil	-2.2%	52.6	79.5	40.4	35.0	55.7
49	Bosnia and Herzego	0.2%	52.0	65.9	64.5	47.4	30.1
50	Cyprus	7.4%	51.6	53.3	49.3	34.3	69.5
51	Chile	2.1%	51.4	75.6	42.1	33.4	54.7
52	Argentina	-0.5%	51.2	65.7	41.2	43.7	54.2
53	Montenegro	4.0%	49.9	74.8	41.4	28.8	54.5
54	Israel	21.2%	48.9	56.3	17.7	46.2	75.2
55	Finland	11.3%	47.9	57.9	78.1	18.0	37.4
56	Moldova	0.9%	46.8	86.4	18.1	52.8	30.0
57	South Africa	6.8%	46.4	63.0	44.8	49.8	27.9
58	Malaysia	1.1%	46.0	59.5	43.2	30.6	50.8
59	Iran	-4.4%	44.9	57.8	51.5	40.5	29.7
60	Serbia	8.7%	42.8	70.4	25.0	38.0	38.0
61	Ukraine	9.8%	42.7	74.1	34.1	42.5	19.8
62	Singapore	-13.8%	42.2	51.8	21.1	23.9	71.9
63	South Korea	4.1%	37.6	41.5	34.6	36.1	38.4
64	New Zealand	7.9%	36.7	28.6	36.7	33.9	47.5
65	Saudi Arabia	5.5%	36.1	21.1	31.7	50.4	41.4
66	United States	15.6%	36.1	23.3	41.8	34.1	45.3
67	Russia	0.6%	35.5	27.3	39.6	50.8	24.2
68	China	4.0%	34.9	63.9	9.2	28.8	37.7
69	United Arab Emirate	28.3%	31.8	0.0	51.6	25.1	50.7
70	Iceland	2.3%	28.7	34.2	42.0	22.9	15.7
71	Australia	14.3%	28.1	0.0	54.8	11.1	46.5
72	Canada	3.6%	26.4	18.5	37.9	20.5	28.5

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Notes: 'Progress 2011-20' refers to the percentage growth of economic transition scores from 2011 to 2020.

Source: European Commission, Transitions Performance Index 2021.

Greenhouse gas emissions

At world level, the score in gross greenhouse gas emissions has been quite stable (+0.6%) over the period 2011-2020, ranked around 33-34, with great disparities among countries. The EU has progressed with 7.6%, meaning that gross greenhouse gas emissions have decreased[67], but it ranks below the world average. Only three EU-27 countries (Hungary, Latvia and Lithuania) have increased their emissions over the decade. Some good progress was made by other countries, for instance Czechia, Denmark, Estonia, Finland, Germany, Greece, Malta and the Netherlands with a progress rate above 10%. According to the European Environment Agency, the EU-27 achieved its climate targets by 2020. However, the 2030 target of a 55% reduction in net GHG emissions can be reached only if additional efforts are made and new policies are adopted and implemented[68]. At country level, only 21 Member States reached their national targets in 2020.

Concerning other countries, the situation is more contrasted. Some countries in leader, strong or good transition, such as Israel, Norway Ukraine and the United Kingdom progressed well with average rates above 10%. Canada, New Zealand and the United States also have showed good progress (above 10%, and 3.7% for the United States), but from low scores, and still in weak transition.

A total of 24 non-EU-27 countries are on a slightly negative trend; of concern is that 14 of these are countries in leader position in that indicator (scores above 75). These are mostly lower middle-income countries, which could lose ground in the TPI if they do not redouble their efforts to bend the curve on GHG emissions.

Two countries (the Australia and the United Arab Emirates) have emissions above the upper limit of the goalpost, meaning that their normalised score for that sub-pillar in the index is 0.

When targeting climate neutrality by 2050, as in the case of the European Green Deal and the Paris Agreement, the net greenhouse emissions might be considered to assess the gap between overall GHG emissions and carbon removals from forests, agricultural practices or engineered solutions. However, due to lack of quality data at the worldwide level, gross greenhouse gas emissions have been taken into account.

Data at EU-27 country level for net greenhouse gas emissions (including LULUCF[69]) can be found at the Eurostat website[70].

Biodiversity

The indicators chosen for Biodiversity show together a global progression over the period 2011-2020 with an average progress rate of 4.5%. However, the indicator on pesticide use per area of cropland shows an increase in the use of pesticides (which is treated negatively in the TPI). Terrestrial and freshwater key biodiversity areas protected both increased.

These results should be contrasted with other indicators and reports on biodiversity[71] and over a longer period of time, which show a general decline in biodiversity in the world. For instance, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) latest Global Assessment, published in 2019, estimated that one million animal and plant species are threatened with extinction worldwide, many of them thought to be insects.

As part of the European Green Deal, the EU's biodiversity strategy for 2030[72] is a comprehensive, ambitious and long-term plan to protect nature and reverse the degradation of ecosystems. In the post COVID-19 context, the strategy aims to build EU societies' resilience to future threats such as the impacts of climate change – forest fires, food insecurity and disease outbreaks – including by protecting wildlife and fighting illegal wildlife trade.

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67 The goalpost for this sub-pillar is a "bad", meaning the higher the indicator is, the lower the score is. Above a certain data, the score would be 0.

68 European Environment Agency, '*EU achieves 20-20-20 climate targets, 55% emissions cut by 2030 reachable with more efforts and policies*', 26 October 2021.

69 Land Use, Land Use Change and Forestry.

70 Eurostat, Greenhouse gas emissions by source sector (source: EEA), online code: SDG_13_10

71 See Brondizio, E. S., Settele, J., Díaz, S., & Ngo, H. T, *Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*, 2019 and EEA's European environment, State and Outlook 2020

72 European Commission, *Biodiversity strategy for 2030*

Material use

Progress under Material use should be analysed with care as this sub-pillar is composed of two indicators, which are currently not positively correlated, meaning resource productivity and material footprint do not go in the same direction (in terms of normalised scores), even though, as explained at the beginning of the section, they nuance each other to provide a holistic picture of material use that is nuanced from the production and consumption perspectives. Typically, high-income countries performances are stronger for resource productivity and weaker for material footprint. Lower middle-income countries have a better score in material footprint as these countries consume less. Material footprint is therefore an adjustment for the overall material use to reflect better the pressure put on the planet through consumption.

In fact, when looking at the individual progress with each indicator composing the sub-pillar, most countries show a declining trend for material footprint with a global average of -3.8% and a score of 63.3 (good transition) and an EU decline of -7.3% and a score of 41.4 (weak transition). A handful of countries (Saudi Arabia, Greece, and to a minor extent Iran, South Africa, Slovenia and Egypt) made any progress during that period, i.e. decreased their material footprint. Four countries (Australia, Luxemburg, Singapore and the United Arab Emirates), all in the high-income group, have scores of 0 in material footprint for having values above the upper lower bound of 40 tonnes per capita per year (with, respectively, 104, 76, 49 and 43 tonnes per capita of material footprint in 2017, values imputed for years 2018 to 2020).

The UNDP Human Development Report published in 2020 includes the planetary pressures–adjusted Human Development Index (HDI). This index includes two environmental indicators: the material footprint (consumption-based) and CO_2 emissions per capita index (production-based)[73].

Although the planet lacks currently a global boundary framework for material footprint (such the one that exists under the COP for GHG emissions), this adjusted HDI estimates that the maximum sustainable value would be 7.2 tonnes per capita, Currently only 10 countries included in the TPI are within this limit: Nigeria, Kenya, Algeria, Moldova, Morocco, the Philippines, India, Egypt, Indonesia and Tunisia, all achieving leader positions.

On resource productivity, the situation is opposite: most countries progressed during the period 2011-2020. The global progress rate is 23.7% and 11.4% for the EU. All countries in leader, strong or good transition, including the EU-27, had progress above 10%. Overall, 43 countries increased their score by more than 20%, of which ten increased them by more than 50%, showing great global progress at decoupling growth from material use.

At the sub-pillar level of Material use, the world progressed by 4.8% and the EU-27 by 2.5%, with the world score slightly above the EU-27's (50.4 and 48.3 respectively) and great disparities between countries. Fourteen countries show a progress by more than 20%, most of these are EU countries (Belgium, Cyprus, Czechia, Germany, Greece, Ireland, Italy, Luxemburg, the Netherlands, Poland, Spain, and Slovenia). In contrast, 30 countries show a declining trend, including five EU countries (Estonia, Hungary, Latvia, Lithuania and Romania). The biggest decline appears to be in countries already at the bottom of the ranking, in weak transition, China with -11.4%, Lithuania with -23.3% and Norway with -21%. Only exception is Australia, which currently ranks last, and shows a progress rate of 25.7%.

Energy productivity

Energy productivity has a remarkable progress rate of 16.9%, well above the progress rate of the pillar and the overall index. The EU-27 progress rate is 20.1%.

Most countries progressed over the period 2011-2020, except for six countries (Singapore, Brazil, Argentina, Algeria, Georgia and Iran).

Three countries (Ireland, Malta and Switzerland) have the maximum score of 100, performing better than the upper bound of the goalpost, which has been set at a GDP over total energy supply of 20 (2015 PPP$ per kilogram of oil equivalent).

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73 UNDP, *Human Development Report 2020*, New York.

VI.3. IMPACT OF COVID-19

The COVID-19 pandemic triggered a 5.4% drop globally in CO_2 emissions in 2020. Unfortunately, these emissions have been rapidly recovering in 2021, in particular due to a rebound in the use of coal and oil.

The impact of the pandemic may be more indirect, with changes in habits induced by confinements. For instance, new working modes, like teleworking, may have a mixed impact on the environment, with fewer emissions from commuting but potentially more from energy use in individual homes and from new working methods linked to digitalisation, depending on several factors.

In addition, the pandemic has accelerated the shift towards a more digital world and has triggered changes in online shopping behaviours that are likely to have lasting effects. However, online shopping and home delivery have been proven to have an increasing negative impact on the environment, not only in terms of carbon emissions due to the transportation of goods, but also in terms of packaging waste, in particular single-use plastic-based packaging.

The COVID-19 pandemic has amplified the change in use-related patterns, boosting the use of digital technologies, which played an essential positive role in coping with the COVID-19 crisis and responsible for direct rebound effects that also have environmental and climate impacts. When evaluating such impact, it is important to account for both not only energy-related issues should be addressed but also impacts in terms of the material use and other impacts linked to mining, or critical raw material extraction and production and disposal of Waste from Electric and Electronic Equipment (WEEE) disposal.

VII. GOVERNANCE TRANSITION

EU values such as equality, non-discrimination, inclusion, human dignity, freedom and democracy, are fortified and protected by the rule of law and spelled out in the EU Treaties[74] and the Charter of Fundamental Rights. The increased risks of disinformation, populism, and insufficient social dialogue show that a fair and sustainable prosperity needs to be accompanied by a political governance that promotes fundamental rights, rule of law, security and transparency.

A sustainable path for 'a new growth strategy with a view to transform an economic zone into a fair and prosperous society'[75] requires ensuring that society is based on a common societal model, in which people feel they have a stake and to which they feel they belong. Governance transition describes key aspects of the institutional and societal framework that ground the social contract between citizens and their government. This pillar reflects the institutional and collective choices to be made to preserve and improve societies. It includes a sub-pillar Fundamental rights with two composite indicators measuring perceptions of the extent to which citizens can participate in selecting their government (Voice and accountability) and have confidence in and abide by the rules of society (Rule of law). The second sub-pillar Security includes the homicide rate. Transparency consists of two composite indicators quantifying the corruption perceptions (Corruption Perception Index) and the risk assessment for money laundering and terrorist financing (Basel Anti-Money Laundering Index). The last sub-pillar measures the Sound public finances (Debt-to-GDP ratio) and it captures in which extent the investments needed for the transitions – particularly the Environmental transition – are made in a sustainable way.

The Governance pillar focuses on key indicators defining a path to a fair and sustainable society which promotes and defends a set of shared values including fundamental rights, democracy and the rule of law. This pillar relies mostly on composite indicators which may lead to some repetition of information and a lack of clarity in the framework; it can also make the interpretation of results more challenging from an actionable policy perspective. Nonetheless, every composite indicator in the framework was selected to exclude or reduce these risks to the minimum and all the composite indicators are well flagged and used only in the Governance pillar as explained in the JRC audit (Appendix V).

As stated in the political guidelines of President von der Leyen, the Commission has established a comprehensive European Rule of Law Mechanism to deepen its monitoring of the situation in Member States. This Mechanism acts as a preventive tool, deepening dialogue and joint awareness of rule of law issues. At its centre is the annual Rule of Law Report[76], established in 2020, which provides a synthesis of significant developments – both positive and negative – in all Member States and the Union as a whole. Additionally, the European Democracy Action Plan, the renewed Strategy for the Implementation of the Charter of Fundamental Rights and targeted strategies towards a 'Union of Equality' are part of this broader EU effort to promote and defend a set of shared values including the respect of fundamental rights, democracy and the rule of law[77]. The EU Justice Scoreboard[78] is also a part of the EU's Rule of Law toolbox, providing annually data on efficiency, quality and independence of justice systems in all Member States.

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74 Article 2 of the Treaty on European Union
75 European Commission, *The European Green Deal*
76 European Commission, communication *2021 Rule of Law Report*, COM(2021) 700 final, 2021.
77 Article 2 of the Treaty on European Union
78 European Commission, '*EU Justice Scoreboard*'.

VII.1. OVERVIEW

More than half of the 72 countries achieve leader or strong performances in the Governance transition, with Norway ranking first, followed by New Zealand and Luxembourg (**TABLE 13**). Six EU countries rank in the top 10. On average, all 72 countries taken together (world) are in moderate transition and EU-27 is in strong transition. Most countries can make significant progress in Governance transition, especially in Transparency.

Sound public finances consists of a single indicator, the Debt-to-GDP ratio. The JRC audit (Appendix V) finds that this sub-pillar seems to describe a different concept than the three other sub-pillars as suggested by the low and sometimes negative correlations of this sub-pillar with the other elements of the Governance pillar. In fact, Sound public finances shows large heterogeneity across countries. Some countries in weak transition perform particularly well such as Russia, Nigeria or Iran. On the contrary, some leader or strong transition countries have weak performances, such as Japan, Singapore, Italy or Greece.

Debt-to-GDP ratio is one of the few indicators for which we have data from 2020, thus covering the first year of the pandemic. In many countries, the recovery packages adopted during and after the COVID-19 crisis will have long-term effects on this sub-pillar scores. In this regard, EU and its Member States have adopted the Recovery and Resilience Facility (the Facility), a European recovery plan to mitigate the economic and social impacts of the pandemic while supporting the priorities of green and digital transitions[79]. In total, 15 countries have moderate or weak performances in Sound public finances. This result is driven by the decision last year to adopt relatively mild goalposts (upper and lower bounds of 25% and 180% of GDP respectively) to anticipate low interest rates and the effects of recovery packages on public finances. These goalposts were not revised in this year's edition.

Governance transition, leaders and strong performers

Eighteen countries are leaders in Governance transition, with 11 countries with leader position in Fundamental rights, Security and Sound public finances. Among the leaders, there is a relative heterogeneity in Sound public finances. Luxembourg and Estonia leading this sub-pillar, whereas the United Kingdom's performance is in moderate transition. Over the 18 countries, only Finland and Estonia achieve leading performance in Transparency and strong performance in Security. It suggests that even among the Governance transition leaders, there is room for improvement especially in Transparency.

Twenty countries are strong performers with Spain, Belgium and France having the highest performance. EU-27 belongs to this group too. Most of these countries – including Spain, France, Portugal, Canada, Japan, Cyprus and Italy – are leaders or strong performers in both Fundamental rights and Security but weak or moderate performers in Transparency and Sound public finances. In the group of strong performers, Bulgaria and United Arab Emirates stand out with a particular pattern of moderate Fundamental rights and Transparency but leader performances in Security and Sound public finances.

Governance transition, good performers

Thirteen countries are good performers in the Governance transition. The United States and Greece stand out with, respectively, leader and strong performances in Fundamental rights and good performances in Transparency. The sub-pillars with significant numbers of weak performers are Fundamental rights (Saudi Arabia, Bosnia and Herzegovina and Serbia) and Transparency (Bosnia and Herzegovina and Serbia). In addition, several countries perform moderately in these two sub-pillars.

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79 European Council, '*Special meeting of the European Council (17, 18, 19, 20 and 21 July 2020)*', General Secretariat of the Council, Brussels, 21 July 2020.

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TABLE 13: Governance transition pillar ranking

RANK	NAME	PROGRESS 2011-20	GOVERNANCE TRANSITION	Fundamental rights	Security	Transparency	Sound public finances
			2020 SCORES				
1	Norway	4.2%	86.8	96.7	89.4	73.5	89.4
2	New Zealand	-1.4%	85.1	95.8	84.6	74.0	88.0
3	Luxembourg	5.0%	85.0	94.9	91.9	63.3	100.0
4	Denmark	-1.7%	84.0	95.2	80.7	74.4	89.0
5	Sweden	-3.1%	83.7	94.9	79.7	73.8	92.0
6	Switzerland	1.1%	83.0	95.2	87.2	64.7	88.8
7	Netherlands	1.6%	82.5	94.9	87.2	65.5	82.3
8	Australia	-3.1%	80.9	92.7	82.3	68.3	79.1
9	Finland	-2.7%	80.7	96.4	73.2	75.6	71.3
10	Estonia	9.9%	80.3	89.8	68.5	76.0	100.0
11	Iceland	2.3%	79.1	94.1	82.4	65.2	66.4
12	Germany	2.9%	79.1	92.8	81.5	65.4	71.6
13	Ireland	3.6%	79.0	92.6	82.6	62.1	78.4
14	Austria	2.6%	78.0	94.2	81.3	63.9	62.5
15	Slovenia	-3.6%	77.7	84.1	89.1	64.2	64.7
16	Czechia	1.1%	77.3	84.6	86.6	55.9	91.7
17	South Korea	2.3%	76.7	83.7	86.9	56.6	85.2
18	United Kingdom	-2.8%	75.7	91.3	78.1	66.5	48.7
	EU-27	0.1%	74.0	85.4	81.1	60.9	57.0
19	Spain	-3.6%	73.7	83.0	86.6	63.3	38.8
20	Belgium	-0.7%	73.3	90.7	72.6	66.8	42.5
21	France	-3.5%	73.2	88.3	78.2	63.7	41.9
22	Portugal	0.0%	73.1	88.9	83.9	61.3	28.9
23	Canada	-4.4%	72.7	94.1	71.9	62.8	40.3
24	Japan	2.4%	72.6	88.7	93.5	59.7	0.0
25	Poland	-3.5%	71.8	71.8	84.8	56.4	79.1
26	Israel	2.6%	71.5	79.2	74.7	61.0	69.7
27	Singapore	-4.2%	71.1	69.5	96.0	66.1	16.2
28	Slovakia	1.9%	70.9	78.1	79.0	53.4	77.2
29	Malta	-9.8%	70.1	84.5	73.6	48.5	81.7
30	Chile	-5.4%	69.9	85.1	53.3	62.9	95.1
31	Croatia	8.1%	68.7	66.7	87.4	55.2	58.9
32	Lithuania	8.2%	68.4	84.1	52.4	62.9	85.7
33	Bulgaria	4.6%	66.7	53.4	76.9	58.9	100.0
34	Romania	0.6%	66.6	68.2	77.2	48.7	84.0
35	Cyprus	-13.4%	66.1	76.9	77.4	53.1	39.3
36	Latvia	0.3%	66.0	82.0	53.5	55.1	88.1
37	United Arab Emirates	1.5%	65.9	46.9	89.4	52.9	90.7
38	Italy	0.2%	65.7	72.5	87.5	53.8	15.6
39	Indonesia	9.8%	63.9	45.4	90.0	46.7	92.5
40	Greece	12.8%	63.8	72.9	81.6	58.0	0.0
41	North Macedonia	1.9%	61.8	49.8	78.2	50.4	83.1
42	United States	-6.4%	61.7	86.1	50.6	59.2	29.7
43	Georgia	8.2%	61.1	56.7	67.6	53.5	77.4
44	Hungary	-14.4%	60.5	67.4	65.4	47.4	64.2
45	Malaysia	0.1%	59.9	59.3	68.4	47.6	72.6
46	Armenia	18.1%	59.6	49.2	72.6	51.8	75.2
47	Saudi Arabia	2.2%	57.6	32.4	77.3	50.5	95.1
48	Bosnia and Herzegovina	0.9%	57.3	37.6	78.5	44.1	92.4
49	Serbia	-3.8%	57.1	44.0	77.8	42.4	78.5
50	Montenegro	-0.9%	57.0	52.0	67.5	54.8	47.0
51	Tunisia	2.0%	55.5	58.1	61.2	46.4	58.2
52	India	0.4%	54.1	52.6	61.1	47.2	58.3
53	Morocco	1.9%	53.7	36.8	75.6	44.1	67.5
54	China	0.7%	52.7	26.3	88.3	36.6	73.3
55	Albania	8.5%	52.2	44.7	67.0	40.1	66.1
56	Moldova	3.1%	51.3	41.1	54.9	43.7	93.7
57	Thailand	8.0%	50.4	37.9	64.7	37.5	84.1
58	Argentina	7.7%	49.3	52.2	48.9	46.6	49.8
59	Turkey	-8.7%	49.3	27.7	64.6	41.8	90.5
60	Vietnam	4.3%	48.6	26.5	74.3	32.3	86.3
	World	-2.6%	47.6	45.7	48.8	44.8	57.9
61	Algeria	-12.7%	46.4	17.6	76.2	34.0	80.3
62	Ukraine	5.5%	45.7	39.3	45.4	41.9	76.9
63	Philippines	4.2%	44.7	37.5	44.3	39.5	82.8
64	Egypt	-1.1%	44.3	21.4	64.9	42.1	58.2
65	Kenya	6.4%	41.0	32.8	50.7	29.0	72.5
66	South Africa	-15.6%	39.6	60.6	0.0	47.6	71.3
67	Russia	3.2%	38.7	18.2	38.5	39.1	100.0
68	Iran	-1.0%	37.8	13.1	65.3	17.4	90.6
69	Colombia	2.2%	37.6	43.5	9.4	47.8	73.9
70	Brazil	-14.9%	36.5	51.7	7.3	45.1	52.3
71	Mexico	-12.7%	33.0	36.9	5.7	41.9	76.8
72	Nigeria	7.4%	25.9	24.4	1.1	29.6	93.5

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Notes: 'Progress 2011-20' refers to the percentage growth of economic transition scores from 2011 to 2020.

Source: European Commission, Transitions Performance Index 2021.

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The situation is more satisfactory in Security and Sound public finances. All countries achieve leading or strong performance in Security with the exception of the United States (moderate) and Tunisia (good). In Sound public finances, all countries are leader, strong or good performers with the exceptions of Greece (weak), the United States (weak) and Montenegro (moderate).

Governance transition, moderate and weak performers

The world average and 21 countries are in moderate or weak Governance transition, despite 17 of them being leader or strong performers in Sound public finances. Only Argentina and Brazil are in moderate transition in Sound public finances and no countries are in weak transition. There is a large diversity in Security with a mix of leading and strong performers (Morocco, China, Albania, Vietnam, Algeria, and Iran) together with very weak performers such as South Africa, Colombia, Brazil, Mexico and Nigeria, with scores below 10.

In contrast, performances in Fundamental rights and Transparency are worrisome: out of 21 countries, 16 are weak performers in both Fundamental rights and Transparency. Only South Africa stands out with a good performance in Fundamental rights.

VII.2. GOVERNANCE TRANSITION, PROGRESS OVER 2011–2020

The overall score in the Governance transition over a decade has decreased on average by 2.6% for the 72 countries taken together (world) and has stayed stable (+0.1%) for EU-27 countries. Nonetheless, the rates of progress show great disparities. Out of 72 countries, 43 countries – in all regions of the world – have improved their governance scores. It is noticeable that in the top 3, Norway and Luxembourg have registered relatively high progress rates above 4% which shows that even leaders can significantly improve their performance in governance.

The highest progress rates in the Governance transition are seen in Armenia, Greece, Estonia, Indonesia, Albania, Lithuania, Croatia and Thailand (between 8% and 10% progress rates). The large progress rates in these three countries are fuelled by improvements in Fundamental rights in Armenia, Transparency in Greece and Security in Estonia. The good results in Greece are explained by the reforms adopted after 2012 to counterbalance the austerity programme[80]. Additionally, the Greek Government has proposed new legislation to improve the transparency of media ownership[81]. In Armenia, despite the large progress in Fundamental rights over the last 10 years, the situation should be analysed in the light of more recent developments. The martial law imposed in 2020 during the military conflict with Azerbaijan, as well as the state of emergency introduced during the pandemic have restricted the rights to freedom of expression and peaceful assembly[82].

On the other side, 39 countries have decreased their governance score, in particular countries in the moderate or weak performance groups. The biggest downward trends were registered in South Africa, Brazil, Hungary, Cyprus, Algeria and Mexico. These results are mainly explained by the decline in Security in South Africa and Brazil; in Fundamental rights and Transparency in Hungary and in Sound public finances in Brazil. In Hungary, the 2021 Rule of Law Report mentions that the transparency and quality of the legislative process as well as media pluralism remain a source of concern.

Fundamental rights, progress over 2011–2020

In the Fundamental rights sub-pillar, the progress of all 72 countries (world) remains limited (+0.2%) and the score declines for EU-27 (-1.6%). Less than half of the countries covered (31) improved their score in this sub-pillar indicating a need for efforts. The largest progress rates in Fundamental rights are achieved by Armenia, Vietnam and Tunisia, whereas the most downward movements are seen in Turkey, Brazil and Hungary. Since the Tunisian Revolution in 2011, the country has made significant progress in human rights with the adoption of a new constitution and laws to improve women's rights as well as the organisation of free legislative and presidential elections. Nevertheless, serious human rights violations persist in Tunisia [83].

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80 Transparency International, '*CPI 2020: Western Europe & European Union*', 28 January 2021.
81 European Commission, *Rule of Law Report 2021: country chapter abstracts*, OIB.
82 Amnesty International, '*Armenia 2020*'.
83 UN, *Written Statement on the state of fundamental rights in Tunisia*, Human Rights Council, February 2021.

As part of the new European Rule of Law Mechanism, the Rule of Law Report is published to monitor developments in rule of law across Member States. Pressure is increasing on the rule of law globally[84] but EU maintains effort to promote and defend shared values.

Security, progress over 2011-2020

The picture changes in Security with limited world average progress (+0.2%) but improvement in the EU-27 (+2.9%) due to a significant increase in the scores of Norway and Greece. Norway's improvement in Security should be put in perspective with the exceptionally high level of homicide rate occurred in 2011 due to the 2011 Norway attacks.

A total of 49 countries improved their scores in Security between 2011 and 2020. In Colombia, despite the dramatic reduction in the homicide rate in the last decade (from 35.3 to 25.3 homicides per 100 000 inhabitants from 2011 to 2020), the country has still one of the lowest scores on this sub-pillar (9.4 over 100). The largest drops in security scores are seen in South Africa and Mexico for which the levels in 2011 were already two of the lowest.

Transparency, progress over 2011-2020

In Transparency, the progress remains limited at the world level (+0.8%) but more remarkable at the EU-27 level (+2.5%). Thirty-six countries improved their scores in Transparency between 2011 and 2020. The biggest improvements are in Argentina and Kenya for which the scores were relatively low in 2011. The largest decline are in two EU countries: Hungary and Malta where deep fraud corruption patterns have been revealed in Malta which led to the resignation of the prime minister in 2019.

Sound public finances, progress over 2011-2020

The scores in Sound public finances significantly decreased at the world level (-19.8%) as well as at the EU-27 level (-10.3%). Out of 72 countries, only 13 countries improved or stabilised their scores with Iceland experiencing the most positive movement helped by a substantial devaluation following the Icelandic financial crisis (2008-2011). On the other hand, scores in Sound public finances worsened the most in Singapore and Italy.

VII.3. SPECIFIC IMPACT OF COVID-19

To cope with the exceptional health and economic situation of COVID-19, most governments adopted urgent measures to curb the spread of the virus and support their economy. Some of these measures will have long term effects on Fundamental rights, Security, Transparency and Sound public finances. The impact of COVID-19 is not fully captured in this edition of the TPI because of delays in data collection and lags in transmission to aggregate indicators. Therefore, small changes of the sub-pillars over shorter periods of time should not be over-interpreted.

Fundamental rights

Many countries adopted lockdowns and other measures to slow down the spread of the virus during the first months of the pandemic. Fourteen EU Member States – Bulgaria, Czechia, Estonia, Finland, France, Germany, Hungary, Italy, Latvia, Luxembourg, Portugal, Romania, Spain, and Slovakia – declared a state of emergency or equivalent, based on constitutional provisions or under ordinary laws[85]. These measures directly affect human rights such as freedom of movement and freedom of expression and assembly, freedom of religion, freedom to conduct a business and the right to data protection. Moreover, the measures raise concerns on the right to privacy with contact tracing for instance.

While COVID-19 affects all of us, certain individuals and groups are particularly vulnerable during the pandemic because of their overall health and socio-economic situation. This includes older persons, Roma, asylum seekers and persons with disabilities to name just a few. If the emergency nature of the crisis justifies some restrictions, there are concerns that the pandemic becomes a pretext for some countries to curb human rights not related to the pandemic. The justification of the emergency measures taken by some countries, their proportionality and legal foundation are key questions to address. The emergency measures have affected the political process and, in some places, have raised concerns about the impact on democracy[86].

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84 European Commission, communication 2021 Rule of Law Report, COM(2021) 700 final.
85 European Agency for Fundamental Rights, *The Coronavirus Pandemic and Fundamental rights: A Year in Review, 2021.*
86 Council of Europe, *Venice Commission Interim Report*, 8 October 2020.

In the EU, the European Commission has made clear from the outset that the response to this crisis must fully respect the fundamental principles and values as set out in the Treaties. Emergency measures must be limited to what is necessary, strictly proportionate, clearly restricted in time, and in line with constitutionally enshrined safeguards, as well as European and international standards. Moreover, governments must make sure that such measures are subject to regular scrutiny.

In the EU, the European Commission has monitored developments in all Member States and analysed the exceptional measures taken, with their impact on the rule of law reflected in the country chapters of the 2021 Rule of Law Report[87]. This year's Report consolidates the exercise started by the 2020 report and deepens the Commission's assessment and further develops the impact and challenges brought to the fore by the COVID-19 pandemic. The monitoring highlights the resilience of national systems but also the need to reflect how to better prepare for future crises affecting the rule of law. The report notes that during the pandemic 'transparency and public access to information were a general concern'[88]. As part of this resilience effort, the digitalisation of public administration and justice systems mitigate the negative impact of the pandemic. In this regard, the 2021 EU Justice Scoreboard notes that the majority of EU Member States have digital tools for courts, prosecutors and staff. Nevertheless, significant progress can still be made[89].

There is no clear pattern emerging in the TPI on deterioration of Fundamental rights with the COVID-19 crisis. The changes in governance over year-to-year period should be analyse cautiously as the majority of year-to-year changes in Voice and accountability and Rule of law indicators are too small relative to the margins of errors, to be viewed as statistically significant[90]. The composite indicator Voice and accountability, which captures perception of freedom of expression, freedom of association and free media, does not decrease significantly from 2019 to 2020 compared to the previous period from 2018 to 2019. The indicator Voice and accountability is constructed from 21 data sources for which only one data source (Institutional Profile Database) was not updated in 2020.

At the world level, this indicator drops by 4.1% between 2019 and 2020 confirming a persistent downward trend in the previous years. At the EU-27 level, it stabilises between 2019 and 2020 confirming the trend in the previous years.

The second component of the Fundamental rights sub-pillar measures to which extend countries adhere to the rule of law. This indicator increases at the global level (+3.1%) between 2019 and 2020, whereas it is decreasing between 2018 and 2019 (-2.6%).

Security

The COVID-19 pandemic has changed the nature of social interactions. Early research suggests that the containment measures adopted have had a significant effect on crimes with variation across countries and type of crimes. As the reliability and comparability at the global level of other data related to security are difficult, the homicide rate was chosen as a proxy for this sub-pillar.

Regarding the homicide rate, the UN Office on Drugs and Crime notes that homicide rates declined by up to 25% in some countries during lockdown periods[91]. The changes are expected to be temporary with pre-pandemic dynamics soon returning. Nevertheless, preliminary data from the US Center for Disease Control and Prevention suggests that homicide rates rose by 30% in the US between 2019 and 2020[92], primarily driven by rising gun violence in the context of extensive social unrest and political polarisation.

Confinements and quarantine measures have had a negative impact on family-related violence, enhanced by economic stress, increased exposure to exploitative relationships and social isolation. In addition, according to UNODC, other types of crimes, such as property crime and interpersonal violence, might increase in the aftermath of the pandemic, especially due to the economic crisis.

Data on homicide rates for 2020 are not yet available with a large coverage. Therefore, the impact of COVID-19 on Security is not captured in this edition of the TPI.

87 European Commission, '*2021 Rule of law report – Communication and country chapters*'.
88 European Commission, communication *2021 Rule of Law Report*, 2021., p. 4.
89 European Commission, '*EU Justice Scoreboard*'.
90 World Bank, '*Worldwide Governance Indicators 2021 Interactive, FAQ*'.
91 UNODC, *Property Crime Brief*, 2020. The latest data used in the index is from year 2018, imputed to 2019 and 2020
92 National Center for Health Statistics, '*Quarterly Provisional Estimates for Mortality Dashboard*'.

Transparency

COVID-19 has also revealed that corruption in health care systems is prevalent in many countries, from Norway to Mexico[93]. By taking emergency measures to respond quickly to the crisis situation, governments have relaxed safeguards, raising the risk of corruption. This has been the case with the easing of procurement rules in many countries that have created opportunities for corruption as suggested by early research in the UK with 'high priority lane' to fast track offers of personal protective equipment (PPE) biased in favour of those with political access[94], or in Colombia[95] where contracts signed during the emergency were more likely to be awarded to campaign donors.

At a lower level, the corruption can take many forms such as favouritism to prioritise treatments to people having social connections with providers, theft and embezzlement, bribery, manipulation of data and other forms of corruption. Corruption tends also to affect disproportionality the most vulnerable people. Moreover, countries with high levels of corruption tend to be violators of fundamental rights as suggested by the high correlation between the two sub-pillars Transparency and Fundamental rights (0.9)[96]. The pandemic is also expected to affect money laundering and fraud risk as user behaviours change and virtual transactions are preferred over in-person transactions[97].

The Transparency World average score decreases between 2019 and 2020 (-1.9%) after improving by 3.7% between 2018 and 2019. At the EU-27 level, Transparency stabilises (+0.1%) following an improvement in the previous year (+2.2%). If the measure of Transparency seems to suggest a worsening situation in 2020 – mostly due to declines in the Basel anti-money laundering index – it is too early to draw any clear conclusions on the link with the COVID-19 crisis.

Sound public finances

Public debts and deficits have increased in many developed and developing countries since the financial crisis of 2008, encouraged by low interest rates. The 2020 health and economic crises triggered by the pandemic have exacerbated this trend as health and social expenditures are rising in most countries. Moreover, many middle-income and high-income countries adopted stimulus packages to recover from the pandemic. In this regard, the EU's NextGenerationEU[98] plan aims to boost the economic recovery and social cohesion, including specific support for digital and green transitions.

The post-pandemic situation raises concerns on debt sustainability in many countries. According to the IMF, 35 to 40 countries are in debt distress, such as Tunisia or Argentina which have defaulted on some of their loans in 2020. In this regard, the G20 adopted a 'Debt Service Suspension Initiative' (DSSI) for 77 of the poorest countries to suspend interest payments they owe. The UN highlights that additional resources will be needed to overcome the crisis and achieve the Sustainable Development Goals[99]. In the EU, the Commission has identified 12 Member States with macroeconomic vulnerabilities related to imbalance and excessive imbalance[100]. COVID-19 has not changed the nature of Member States' imbalances but may increase the risk to macroeconomic stability. Additionally, the net public wealth (public assets minus public debts) for rich countries has declined since 1970, as documented in the World Inequality Report 2022[101]. The COVID-19 crisis has exacerbated this trend, which has been driven by the rise of public debt following shutdowns of economies and the recovery packages adopted by governments. Countries with small or negative public debt are then constrained in their actions to redistribute income, mitigate growing inequality and, more generally, invest in the transitions.

93 Transparency International, '*The ignored pandemic behind COVID-19*', December 2020

94 Transparency International UK, '*Track and Trace: Identifying corruption risks in UK public procurement for the COVID-19 pandemic*', April 2021

95 Gallego, J. A., Prem, M., & Vargas, J. F., *Corruption in the Times of Pandemia*, Available at SSRN 3600572, 2020.

96 See Table V.5 in JRC Statistical Audit of the TPI

97 Council of Europe, '*Money laundering and terrorism financing trends in MONEYVAL jurisdictions during the COVID-19 crisis*', September 2020.

98 European Union, NextGenerationEU

99 United Nations, '*Debt and COVID-19: A global response in solidarity*', April 2020

100 European Commission, '*Economic policy coordination in 2021 : overcoming COVID-19, supporting the recovery and modernising our economy*', COM(2021) 500 final, June 2021

101 Chancel, L., Piketty, T., Saez, E., Zucman, G. et al., *World Inequality Report 2022*, World Inequality Lab. 2021.

The impact of COVID-19 is observable in the scores on public finances. At the EU-27 level, the score decreases by 13% between 2019 and 2020, whereas it had improved (+2.1%) between 2018 and 2019. Similar trends appear at the world level with a widening of deficits: the score decreased (-13%) in 2020, whereas the trend was a slight decrease between 2018 and 2019 (-1.0%). Some countries have severely deteriorated between 2019 and 2020, such as Canada, France, Italy, Portugal, Spain and the United States. These downward trends are explained largely by economic slowdown and policies to support the recovery.

VII.4. LINKAGES WITH OTHER MEASURES OF DEMOCRACY

Challenges related to the exercise of democracy are global. As highlighted in the Communication of the European Commission 'On the European democracy action plan'[102], the world's democracies have a common interest in working together to address them. Democracy, the rule of law and fundamental rights are core European values and cannot be taken for granted. In this regard, the European democracy action plan aims to strengthen the resilience of EU democracies, which includes actions to protect election integrity and promote democratic participation, strengthen media freedom and media pluralism and counter disinformation. Democracy requires checks and balances, institutions and safeguards to preserve pluralistic democratic debate, unhampered activities and financing of civil society, free and fair elections, free media and academic freedom.

The governance pillar of the TPI partly captures some aspects of democracy notably with the Voice and accountability composite indicator in Fundamental rights. Voice and accountability includes measures on freedom of expression, free media, satisfaction with democracy and an electoral index to name a few, but has limited scope on some dimensions such as 'checks and balances'. It is then important to verify that the scores obtained under the Governance pillar are consistent with other measures of democracy such as 'Robust Democracy' and 'Executive Accountability' in the Sustainable Governance Indicators[103] (SGI).

The SGI are published by the Bertelsmann Foundation, a think tank, and aims to provide a survey of sustainable governance for OECD member countries; it does not therefore cover the full set of countries in the TPI. 'Robust Democracy' is one of the dimensions measured by the SGI with 'Sustainable Policies' and 'Good Governance'. 'Robust Democracy' consists of a composite indicator with equal weights on aspects related to the electoral processes, access to information, civil rights and political liberties, and rule of law. The correlation between the two TPI sub-pillars Fundamental rights and Transparency (with equal weights) and the SGI measure of Quality of Democracy is strong (0.85).

Some aspects of democracy are also captured by the 'Executive Accountability' dimension of the SGI, which includes citizens' participatory competence, legislative actors' resources, media, parties and interest associations and independent supervisory bodies (the latter with sub-dimensions such as audit, ombuds and data protection functions, which are integral parts of the concept of democracy). The correlation between SGI's 'Executive Accountability' and TPI's Fundamental rights and Transparency is strong too (0.81). Other measures of aspects related to democracy exist such as the Economist Intelligence Unit's Democracy Index[104] and the International Institute for Democracy and Electoral Assistance (IDEA) 'Global State of Democracy'[105].

These positive and strong correlations suggest that the TPI captures well some aspects of democracy measured by the Sustainable Governance Indicators. The TPI is then consistent with other measures of quality of democracy.

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102 European Commission, *European Democracy Action Plan*
103 Sustainable Governance Indicators, *SGI 2020*
104 Economist Intelligence, '*Democracy Index 2020: In sickness and in health?*', 2021
105 International Institute for Democracy and Electoral Assistance (IDEA), '*The Global State of Democracy Report 2021*', 2021

VIII. PERFORMANCE BY INCOME GROUP AND REGION

VIII.1. PERFORMANCE BY INCOME GROUP[106]

Even if TPI results show that there is no predetermination of TPI performance by GDP per capita, the latter is still a factor with influence[107]. At the geographical level, countries are influenced by the performance of their neighbours and closest partners. For this reason, the performance by groupings per income or regional groups proves informative on the relative performance, in addition to the global rankings.

This year, four countries changed categories of income group: Romania from high-income to upper middle-income; Indonesia and Iran from upper middle-income to lower middle-income; and Moldova rose to the upper middle-income from the lower middle-income.

TABLE 14 shows the performance by income group, following the World Bank classification. High-income countries reflect the overall rankings of the TPI. Among upper middle-income countries, Romania, Bulgaria and Albania top the ranking, participating actively in EU policies, either as a Member State or as a candidate country. However, it is worth noting that Romania was previously in the high-income group.

Among lower middle-income countries, Indonesia (which was previously among the upper middle-income countries), Tunisia and Morocco top the ranking. These three countries, in the context of the Euro-Mediterranean partnership[108], have signed Association Agreements with the EU. Although focused on trade, these agreements are part of the partnership framework that aims at fostering political, security, cultural, human as well as economic and financial cooperation, including regulatory convergence.

In the group of upper middle-income countries, the progress rate of the TPI over a decade is the same as in the group of high-income countries (+5.3%). Lower middle-income countries are also progressing in their transitions (+3.8% on average), but less than the other income groups.

Strong progress rates among middle-income countries show that transitions performance can also go together with catching up economies: 11 out of 20 upper middle-income countries, Armenia, China, Moldova, Russia, Serbia, Colombia, Montenegro, Georgia, Thailand, Romania, and Turkey all have progress rates above 5%; among the 12 lower-middle-income countries, this is the case of Indonesia (10.1%) and Vietnam (6.1%). All countries are confronted with the same global challenges that require efforts to pursue the transitions. Transition is then a concept that goes beyond Europe's priorities.

TABLE 14: Ranking by income group

	INCOME GROUPS					
	TPI (HIGH INCOME)		UPPER MIDDLE INCOME		LOWER MIDDLE INCOME	
Rank	**Country**	**Score**	**Country**	**Score**	**Country**	**Score**
1	Switzerland	78.4	Romania	61.2	Indonesia	56.5
2	Denmark	78.4	Bulgaria	59.3	Tunisia	53.6
3	Ireland	75.9	Albania	58.5	Morocco	53.3
4	Netherlands	73.6	North Macedonia	56.7	Philippines	52.1
5	United Kingdom	73.3	Thailand	55.1	Algeria	52.1

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[

Source: European Commission, Transitions Performance Index 2021.

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106 The World Bank defines income groups based on GNI per capita as calculated using the World Bank Atlas method: lower middle-income economies are defined as those with a GNI per capita between USD 1 045 and USD 4 095 in 2020; upper middle-income economies are those with a GNI per capita between USD 4 096 and USD 12 695; high-income economies are those with a GNI per capita of USD 12 695 or more. The TPI does not include low-income economies, defined as those with a GNI per capita of USD 1 045 or less.
107 See discussion in Section IX.1.
108 Together with Egypt, Jordan and Lebanon.

TABLE 15: The Americas TPI ranking and pillar scores

RANK		COUNTRY	2020 TRANSITIONS SCORES					PROGRESS	ESG GAP
REGION	TPI	NAME	TPI	ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE	2011-2020	(% OF TPI)
1	41	Chile	55.9	39.9	62.0	51.4	69.9	1.9%	35.7%
2	43	Canada	55.0	60.9	77.1	26.4	72.7	0.5%	-13.4%
3	45	United States	54.2	68.2	62.5	36.1	61.7	3.3%	-32.2%
4	55	Colombia	50.8	30.1	54.9	69.7	37.6	6.5%	51.0%
5	59	Argentina	49.8	39.8	57.9	51.2	49.3	3.4%	25.1%
6	65	Mexico	48.3	36.2	55.9	61.7	33.0	2.8%	31.4%
7	68	Brazil	43.8	33.0	48.3	52.6	36.5	-3.4%	30.8%

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Notes: (1) 'ESG gap (% of TPI)' refers to the difference between the sum of the social, environmental, and governance (ESG) pillar weighted scores and the economic pillar score, as a percentage of the TPI score, in 2020. (2) 'Progress 2011-20' refers to the percentage growth of TPI scores from 2011 to 2020.
Source: European Commission, Transitions Performance Index 2021.

VIII.2. PERFORMANCE BY REGION

The Americas

The seven countries of the American continent lag behind in terms of TPI scores compared to other regions of the world. Leading in the Americas in the global TPI ranking, Chile performs at the lower end of the countries in good transition (**TABLE 15**). Canada and the United States, despite being leaders or strong performers in two pillars and one pillar respectively, stand in the moderate performer group, mostly because of their weak performance in the Environmental transition. In Latin America, after Chile, Colombia, Argentina and Mexico follow in moderate transition with progress rates ranging between 6.5% in Colombia, ranked 55, and 2.8% in Mexico, ranked 65. The situation is more worrisome for Brazil, ranked 68, with an overall decline over the decade (-3.4%) and weak performance in the Economic and Governance transitions.

Only Canada is in the leader group in the Social transition. In the Environmental transition, Colombia and Mexico lead with strong and good performances respectively. In the Economic transition, Canada and the United States

stand apart in good and strong transition respectively. In Governance, Chile and Canada are in strong transition, followed by the United States in good transition. This implies all countries not named show, in the respective pillar, moderate or weak performances.

South-East Asia and the Pacific

In contrast, in South-East Asia and the Pacific, the top seven countries together form a pack of good performers (**TABLE 16**). Japan exhibits a strong transition, followed by South Korea, New Zealand, Singapore, Australia, Indonesia and Thailand in good transition. All made important progress over the decade, except for Singapore (-2.9%), Australia (merely 2.5% progress) and New Zealand (2.9%) Thailand is a newcomer in this performer group. For the high-income countries in the upper end of the TPI, the Environmental transition is the main weakness: South Korea, New Zealand, Singapore and Australia are all weak performers.

TABLE 16: South-East Asia and Pacific TPI ranking and scores

RANK		COUNTRY	2020 TRANSITIONS SCORES					PROGRESS	ESG GAP
REGION	TPI	NAME	TPI	ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE	2011-2020	(% OF TPI)
1	17	Japan	67.5	62.2	81.4	58.8	72.6	6.4%	9.8%
2	28	South Korea	62.5	75.4	75.4	37.6	76.7	5.5%	-25.8%
3	33	New Zealand	60.9	55.8	78.0	36.7	85.1	2.9%	10.4%
4	35	Singapore	59.4	72.3	62.0	42.2	71.1	-2.9%	-27.1%
5	38	Australia	56.8	55.6	77.9	28.1	80.9	2.5%	2.6%
6	40	Indonesia	56.5	29.5	60.6	64.3	63.9	10.1%	59.6%
7	42	Thailand	55.1	42.3	71.1	56.7	50.4	5.9%	29.0%
8	47	Malaysia	53.3	49.7	61.6	46.0	59.9	4.7%	8.5%
9	51	Philippines	52.1	26.8	55.1	70.3	44.7	3.7%	60.7%
10	54	Vietnam	51.6	33.4	71.0	53.0	48.6	6.1%	44.1%
11	60	China	49.5	52.1	68.2	34.9	52.7	7.6%	-6.7%
12	63	India	48.9	27.4	47.7	58.1	54.1	4.6%	55.1%

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Notes: (1) 'ESG gap (% of TPI)' refers to the difference between the sum of the social, environmental, and governance (ESG) pillar weighted scores and the economic pillar score, as a percentage of the TPI score, in 2020. (2) 'Progress 2011-20' refers to the percentage growth of TPI scores from 2011 to 2020.
Source: European Commission, Transitions Performance Index 2021.

TABLE 17: Middle East and Africa TPI ranking and scores

RANK		COUNTRY	2020 TRANSITIONS SCORES					PROGRESS	ESG GAP
REGION	TPI	NAME	TPI	ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE	2011-2020	(% OF TPI)
1	29	Israel	62.3	64.0	72.7	48.9	71.5	9.9%	-3.4%
2	46	Tunisia	53.6	34.2	55.7	62.1	55.5	4.3%	45.3%
3	48	Morocco	53.3	34.0	47.5	67.4	53.7	4.1%	45.3%
4	50	United Arab Emirates	53.2	53.7	73.9	31.8	65.9	10.0%	-1.4%
5	52	Algeria	52.1	33.6	59.6	62.6	46.4	-4.3%	44.4%
6	62	Egypt	49.4	34.0	50.7	61.0	44.3	3.5%	38.9%
7	66	Saudi Arabia	46.4	57.0	39.8	36.1	57.6	6.5%	-28.5%
8	67	Kenya	45.8	18.7	58.5	57.4	41.0	4.3%	73.8%
9	70	Nigeria	43.4	20.8	48.3	66.1	25.9	2.0%	65.1%
10	71	Iran	40.8	33.3	44.9	44.9	37.8	2.9%	23.1%
11	72	South Africa	39.4	36.5	30.0	46.4	39.6	4.3%	9.2%

■ Transition leader [75-100[■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Notes: (1) 'ESG gap (% of TPI)' refers to the difference between the sum of the social, environmental, and governance (ESG) pillar weighted scores and the economic pillar score, as a percentage of the TPI score, in 2020. (2) 'Progress 2011-20' refers to the percentage growth of TPI scores from 2011 to 2020.
Source: European Commission, Transitions Performance Index 2021.

As for the remaining countries in the region, Malaysia, the Philippines, Vietnam, China and India are all in moderate transition, with strength in Social transition for Vietnam and China and in Environmental transition for the Philippines, and weakness in Economic transition for the Philippines, Vietnam and India, in Environmental transition for China, and in Governance for the Philippines.

Middle East and Africa

In the Middle East and Africa, Israel tops the group and is the only country in good transition followed by Tunisia, Morocco, the United Arab Emirates, Algeria, Egypt, Saudi Arabia and Kenya, which are in moderate transition (**TABLE 17**). All countries show good progress, except for Algeria (-4.3%). Apart from Israel and Saudi Arabia, top performers in the region suffer from the slow pace of their economic

adaptation to the transition process. Saudi Arabia and Kenya are both among the moderate performers but with rather opposite profiles; while Saudi Arabia performs well in the Economic and Governance transitions, Kenya shows good performance in the Social and Environmental transitions.

Nigeria, Iran and South Africa are among weak performers, with a commendable good performance in environmental performance for Nigeria. These three countries are globally the lowest performers in the TPI.

Non-EU Europe and Central Asia

In non-EU Europe and Central Asia, which includes 15 countries, European countries dominate the scores, with Switzerland in the leaders' group (**TABLE 18**). The proximity to the European Union seems to be decisive in that orientation

TABLE 18: Non-EU Europe and Central Asia TPI ranking and scores

RANK		COUNTRY	2020 TRANSITIONS SCORES					PROGRESS	ESG GAP
REGION	TPI	NAME	TPI	ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE	2011-2020	(% OF TPI)
1	1	Switzerland	78.4	79.8	82.9	71.7	83.0	4.2%	-2.3%
2	5	United Kingdom	73.3	58.2	77.1	78.0	75.7	5.2%	25.6%
3	8	Norway	71.3	67.3	85.8	54.2	86.8	5.0%	7.1%
4	31	Iceland	61.2	67.2	89.7	28.7	79.1	2.6%	-12.2%
5	37	Albania	58.5	28.9	70.2	73.3	52.2	4.9%	63.3%
6	39	North Macedonia	56.7	33.7	61.7	63.3	61.8	9.4%	50.7%
7	44	Armenia	54.2	33.1	66.2	55.6	59.6	7.7%	48.6%
8	49	Georgia	53.2	29.8	61.8	56.0	61.1	5.9%	55.1%
9	53	Turkey	51.9	47.1	53.5	55.6	49.3	5.2%	11.6%
10	56	Moldova	50.6	41.4	65.8	46.8	51.3	7.5%	22.8%
11	57	Bosnia and Herzegovina	50.4	31.4	58.0	52.0	57.3	2.8%	47.2%
12	58	Montenegro	49.9	31.1	60.0	49.9	57.0	6.5%	47.1%
13	61	Serbia	49.4	37.5	63.4	42.8	57.1	6.9%	30.2%
14	64	Ukraine	48.5	40.3	70.5	42.7	45.7	4.6%	21.2%
15	69	Russia	43.7	41.0	66.8	35.5	38.7	7.5%	7.6%

■ Transition leader [75-100[■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Notes: (1) 'ESG gap (% of TPI)' refers to the difference between the sum of the social, environmental, and governance (ESG) pillar weighted scores and the economic pillar score, as a percentage of the TPI score, in 2020. (2) 'Progress 2011-20' refers to the percentage growth of TPI scores from 2011 to 2020.
Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

(see Chapter II for a discussion of the EU performance). It also shows the heterogeneity of this group, with countries from the three income categories. From the governance perspective, these countries also are in different democratic phases.

This regional group includes all EU associated countries, as well as the United Kingdom (formerly EU, ranked 5) and Russia, at the bottom in the region, ranked 69th.

After Norway in position 8, there is a jump of 23 positions to Iceland, Albania and North Macedonia, among good performers, and to Armenia, Georgia and Turkey in moderate transition with scores above the world average.

The remaining countries are all ranked below the world average in moderate or weak transition, showing, however, progress rates above the world average of 4.3% (except for Bosnia-Herzegovina with 2.8%), suggesting catching-up effects. They show weak performances across the board in Economic transition and a pattern of imbalance, as shown by relatively high levels of ESG gap, with Environmental transition as the weakest link. Moldova, Ukraine and Russia show a strong performance in Social transition, and Bosnia and Herzegovina, Montenegro and Serbia show good performance levels in the Social and Governance transitions.

IX. TPI LINKAGES

The TPI is a new metric published for the first time in 2020 in the context of the COVID-19 pandemic. Last year, the linkages of the TPI with other relevant measurable phenomena were succinctly assessed to identify and open potential avenues for future research:

- TPI and GDP per capita (PPP$).

- TPI and Summary Innovation Index scores.

- TPI and Digital Economy and Society Index (DESI) scores.

- TPI indicators and resilience.

- TPI and trade (% of GDP).[109]

This year's TPI refines some of these analyses and explores new linkages with global multidimensional approaches as well as thematic indicators through a series of scatterplots:

- The scatterplot of GDP per capita (PPP$) and TPI scores leaving out GDP per capita (PPP$) allows us to explore the possibility to exclude GDP per capita in future editions of the TPI.

- The scatterplot of the TPI and the Sustainable Development Report SDG index confirms a strong correlation between the two indices.

- TPI and planetary pressures-adjusted Human Development Index (PHDI) scores explore the linkages of the TPI with a global index of HDI capturing ecological and environmental factors.

- TPI and OECD's Better Life Index compare qualitatively the two different frameworks with a macro-level view for the TPI and a micro-level approach for the Better Life Index.

- TPI and the concept of resilience and resilience dashboards.

- TPI and the Global Innovation Index analyse the possible links between innovation and transition performance.

- TPI and International Digital Economy and Society Index (I-DESI) scores explore the effect of digitalisation on transitions.

- TPI and the Gender Equality Index capture to which extent performance in transition goes hand in hand with bridging gaps in gender equality.

- TPI and Multidimensional Poverty Index (MPI) scores focus on the relationship between level of poverty and transition performance for low and middle-income countries.

TABLE 19 shows possible overlaps of the TPI's dimensions with selected composite indicators and dashboards that are not discussed in the report. The correlation between the TPI and the Environmental Performance Index EPI is strong (0.85); it is weaker with the Happy Planet Index HPI (0.46), probably explained by the specificity of the HPI, which includes a measure of subjective life satisfaction, life expectancy at birth and ecological footprint per capita. The Eurostat SDG Dashboard, the recovery dashboard[110], the Recovery and Resilience Scoreboard[111], the Resilience Dashboards[112], the EU Justice Scoreboard, the Environmental Action Programme and the European Green Deal Monitoring dashboard are not composite indicators and therefore not directly comparable with the TPI.

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109 See Step 9, Link to other measures and the Handbook on Constructing Composite Indicators of the Competence Centre on Composite Indicators and Scoreboards of the Joint Research Centre of the European Union.

110 Eurostat, Recovery Dashboard

111 European Commission, *Recovery and Resilience Scoreboard*

112 European Commission, *Resilience Dashboards*

TABLE 19: Selection of composite indicators and scoreboards

Economic	Social	Environmental	Governance
Sustainable Development Goals (SDGs) Index and Indicators, United Nations, 193 countries			
EU SDGs, European Commission, EU-27 countries			
Better Life Index, OECD, 35 countries			
Resilience Dashboards, European Commission, EU-27 countries			
Summary Innovation Index and European Innovation Scoreboard[1], European Commission, EU-27 countries + 11 countries	**Happy Planet Index (HPI)**, The New Economic Foundation, 152 countries		**EU Justice Scoreboard**, European Commission, EU-27 countries
	Environmental Performance Index (EPI), Yale and Columbia Universities, 180 countries		
Planetary pressures-adjusted Human Development Index (PHDI), UNDP, 189 countries			
Recovery and Resilience Scoreboard, European Commission, EU-27 countries			
Recovery Dashboard, European Commission, EU-27 countries		**8th Environmental Action Programme (planned)**	
Multidimensional Poverty Index, UNDP, 79 countries			
Global Innovation Index[1], WIPO, 132 countries	**European Skills Index**, CEDEFOP, 31 countries		
Digital Economy and Society Index (DESI / IDESI)[1], European Commission, EU-27 countries / 45 countries	**Social Scoreboard**, European Commission, EU-27 countries + 3 countries	**European Green Deal Monitoring Dashboard (planned)**	
Gender Equality Index, European Commission, EU-27 countries			

■ Scoreboards and dashboards for which a composite indicator is calculated
■ Scoreboards and dashboards without composite indicator

1) These scoreboards are thematic and focus on innovation or digital but they also cover partly
   other aspects than strictly economic indicators

Source: European Commission, Transitions Performance Index 2021.

TABLE 20 presents the Pearson correlation coefficients of the TPI with each of these indicators. Correlations tend to be positive and strong with the TPI and its pillars except for the Environmental pillar, which tends to show weaker associations. This suggests that the environmental dimension measured by the TPI is not captured by the other indicators considered. Overall, the positive correlations between the TPI and other composite indicators are not surprising as international composite indicators and scoreboards often have the same countries as good performers. This results from their multidimensional nature, as good performances in one dimension tend to reinforce performances in other, related dimensions. In addition, some factors can be common to two different multidimensional phenomena without reducing the specific nature of each composite indicator. In statistical aggregation, the existence of confounding variables not accounted for may not be precluded a priori. This also results, in part, from construction, since correlation analysis is a crucial element of the robustness analysis of rankings (refer to Appendices IV and V). It is noticeable that the Spearman's rank coefficients of correlation allowing for non-linear dependences (not displayed in the report) are close to the Pearson correlation coefficients. It suggests that the relationships between the TPI and other indicators are mostly linear, which is an underlying assumption in the use of Pearson correlation coefficients.

TABLE 20: Correlations between the TPI and other relevant indicators

	TPI	Economic transition	Social transition	Environmental transition	Governance transition	EDUCATION	WEALTH	PRODUCTIVITY & R&D INTENSITY	INDUSTRIAL BASE	HEALTH	WORK & INCLUSION	FREE TIME	EQUALITY	EMISSIONS REDUCTION	BIODIVERSITY	MATERIAL USE	ENERGY PRODUCTIVITY	FUNDAMENTAL RIGHTS	SECURITY	TRANSPARENCY	SOUND PUBLIC FINANCES
Gross domestic product per capita (PPP$) score (0-100)	0.73	0.93	0.66	(0.11)	0.79	0.70	1.00	0.90	0.57	0.70	0.60	0.64	0.28	(0.65)	0.23	(0.26)	0.35	0.77	0.51	0.76	(0.12)
Summary Innovation iferror(iferror(index score (0-1)	0.68	0.87	0.72	0.03	0.76	0.67	0.81	0.86	0.54	0.80	0.69	0.76	0.34	(0.33)	0.14	(0.08)	0.27	0.80	0.37	0.77	(0.14)
International Digital Economy and Society score (0-100)	0.51	0.82	0.61	(0.15)	0.64	0.67	0.83	0.80	0.37	0.51	0.63	0.72	0.36	(0.44)	0.01	(0.11)	0.08	0.65	0.33	0.68	0.07
Trade (% of GDP)	0.39	0.36	0.33	0.11	0.37	0.30	0.46	0.24	0.21	0.31	0.28	0.21	0.22	(0.21)	0.24	(0.11)	0.30	0.29	0.33	0.23	0.10
Planetary pressures-adjusted HDI (PHDI) score (0-100)	0.62	0.46	0.54	0.31	0.50	0.46	0.33	0.40	0.38	0.62	0.42	0.47	0.29	0.06	0.30	0.08	0.34	0.52	0.31	0.50	(0.20)
2021 Sustainable Development Goals Index score (0-100)	0.79	0.74	0.82	0.10	0.78	0.76	0.63	0.64	0.53	0.64	0.66	0.64	0.50	(0.28)	0.43	(0.23)	0.22	0.74	0.54	0.72	(0.12)
Gender Equality Index score (0-100)	0.77	0.80	0.58	(0.02)	0.76	0.66	0.73	0.82	0.44	0.62	0.58	0.66	0.18	(0.16)	(0.31)	0.19	0.17	0.74	0.24	0.72	0.14
Multidimensional Poverty Index score (0-100, log scale)	(0.48)	(0.62)	(0.35)	0.20	(0.53)	(0.60)	(0.67)	(0.21)	(0.21)	(0.76)	(0.10)	(0.02)	(0.06)	0.49	0.24	0.37	(0.21)	(0.27)	(0.39)	(0.52)	0.11
Global Innovation Index score 0-100	0.72	0.90	0.71	(0.11)	0.76	0.69	0.83	0.87	0.69	0.72	0.71	0.70	0.26	(0.46)	0.14	(0.26)	0.24	0.77	0.48	0.73	(0.19)

Note: Negative values in red, between 0 and 0.5 in light green, values above 0.5 in dark green.

Source: European Commission, Transitions Performance Index 2021.

To sum up, the specific nature of each separate composite indicator is enhanced if some countries rank high in multiple multidimensional indicators, whereas variations between composite indicators tend to be substantial for other countries.

IX.1. BEYOND GDP APPROACHES

As described in Appendix I – Conceptual framework, the construction of the TPI as a composite indicator aims to possibly address some key limitations of GDP as a measure of prosperity and contributes to the 'beyond-GDP' paradigm[113]. Other composite indexes with such an approach already exist at the international level.

TPI vs GDP

Currently the TPI includes GDP per capita in the Economic transition pillar. Therefore, comparing both has some caveats.

This year, the comparison has been done with a recalculated TPI without GDP per capita (so-called 'leave-out scores') and the sub-pillar 1.2 score, which corresponds to GDP per capita; the score, and not the value, is used to properly account for the goalpost bounds affecting Ireland, Singapore and Luxembourg, with normalised scores of 100 (**FIGURE 15**). This allows first a check on how this TPI really relates to GDP per capita, and second a way to explore the possibility of excluding GDP per capita in future editions.

A first important result is that the ranking is altered; for instance, Denmark now tops the ranking in the place of Switzerland.

The positive association between the recalculated TPI and the GDP per capita score suggests that a measure of economy's output is already captured by other indicators in the TPI. Except for Luxemburg, and to a minor extent Cyprus, all EU-27 countries outperform the trendline (in red) in their TPI compared to their GDP per capita. Among countries with GDP per capita scores above 50, this is also the case of Japan, Switzerland and the United Kingdom.

Israel, Korea, New Zealand, and Norway are right on the trendline, whereas the remaining wealthy countries perform below expectations (trendline): Australia, Canada, Iceland, Singapore, South Africa, the United States and the United Arab Emirates. This latter result – which is partly driven by their weak performance under the Environmental pillar – indicates that the TPI is not a proxy for GDP per capita, but rather a synthetic measure of multiple important dimensions not captured by a simple GDP per capita indicator.

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113 In particular, limitations such as the non-valorisation of the impact on stocks (environment, debt, etc.) or non-monetary elements (equality, security and governance, free and non-remunerated time); the absence of measures of resilience; the absence of direct measures of impact on well-being (see Appendix I – Conceptual framework).

FIGURE 15: GDP per capita (PPP$) score (sub-pillar 1.2) and TPI score with 1.2 left out
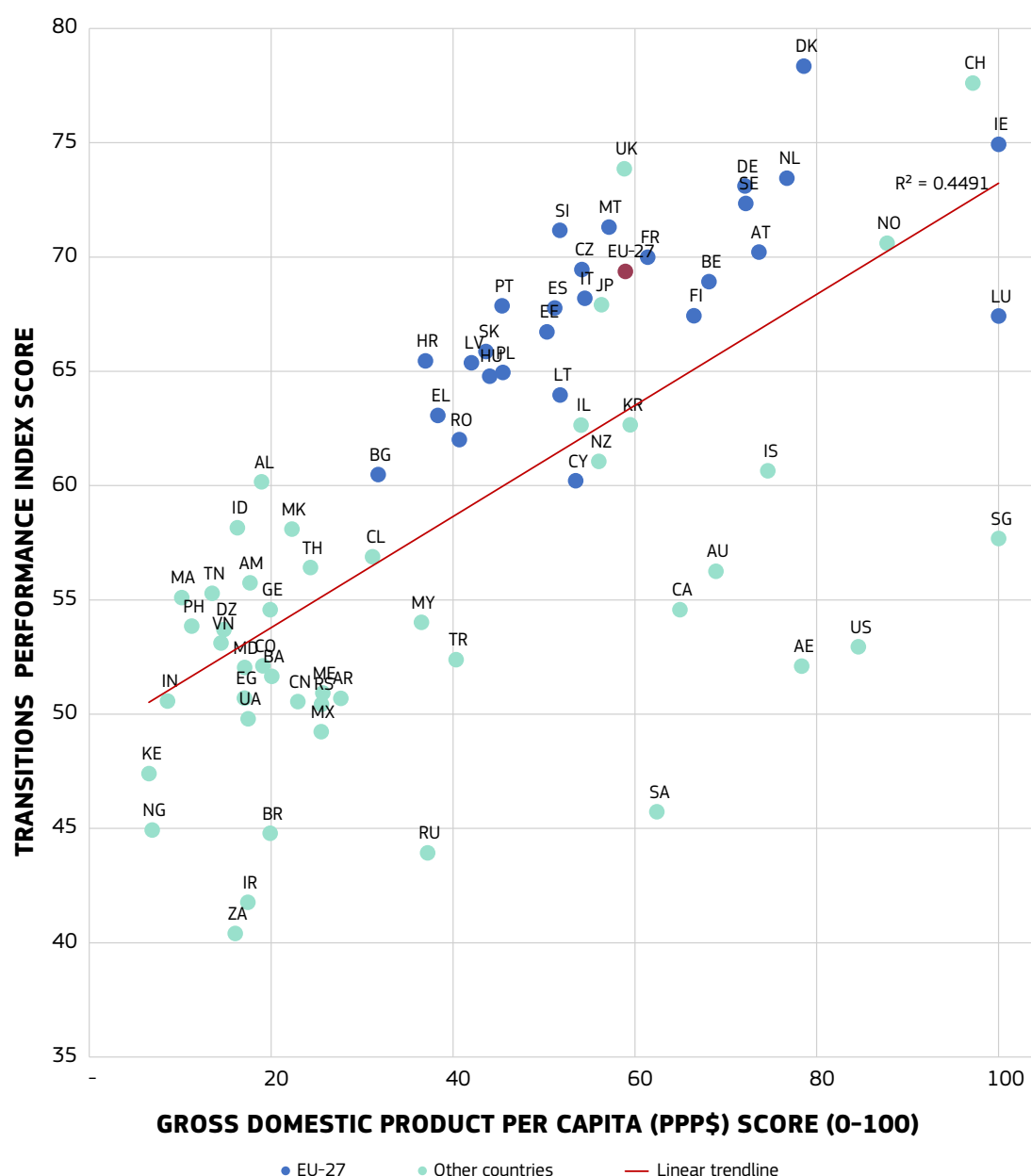
Source: European Commission, Transitions Performance Index 2021.

Sustainable Development report

The Sustainable Development Report[114] (formerly the SDG Index & Dashboards) is a global assessment of countries' progress towards achieving the Sustainable Development Goals. It is a complement to the official SDG indicators and the voluntary national reviews. The SDG index is a measure of a country's performance using the 17 SDGs with an equal weight given to each goal.

FIGURE 16 shows a positive association between the SDG Index and the TPI and a high R2 of 0.63 and correlation coefficient (0.79) that is reassuring in light of the fact that both indicators are conceptually close, the TPI being based on a reduced number of SDGs indicators, in contrast, for example, to the PHDI of the previous section. The EU-27 countries take the lead in the two composite indicators with Denmark at the top. Most of the EU-27 countries are above the linear trendline and in the upper right quadrant suggesting that they achieve higher scores in both the TPI and the SDG, with performances above the level expected from their SDG index scores.

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114 Sachs, J., Kroll, C., Lafortune, G., Fuller, G., & Woelm, F, *Sustainable development report 2021*, Cambridge University Press, 2021.

Where Denmark, Finland and Sweden stand out with relatively high SDG scores, Denmark, Ireland and the Netherlands stand out in the TPI. Most countries, however, stay close to the trendline, which is expected since the TPI is mostly a reduction of SDG indicators to a smaller and tractable number of indicators, even as wealthier countries are generally penalised in the TPI by the relatively high weight assigned to the Environmental transition. Middle income countries tend to lag behind in one index or the other, a reflexion of their policy mixes, and partly due to the lack of infrastructure and policy to make progress in their transitions and achieve the SDGs.

FIGURE 16: TPI and Sustainable Development Goals Index scores
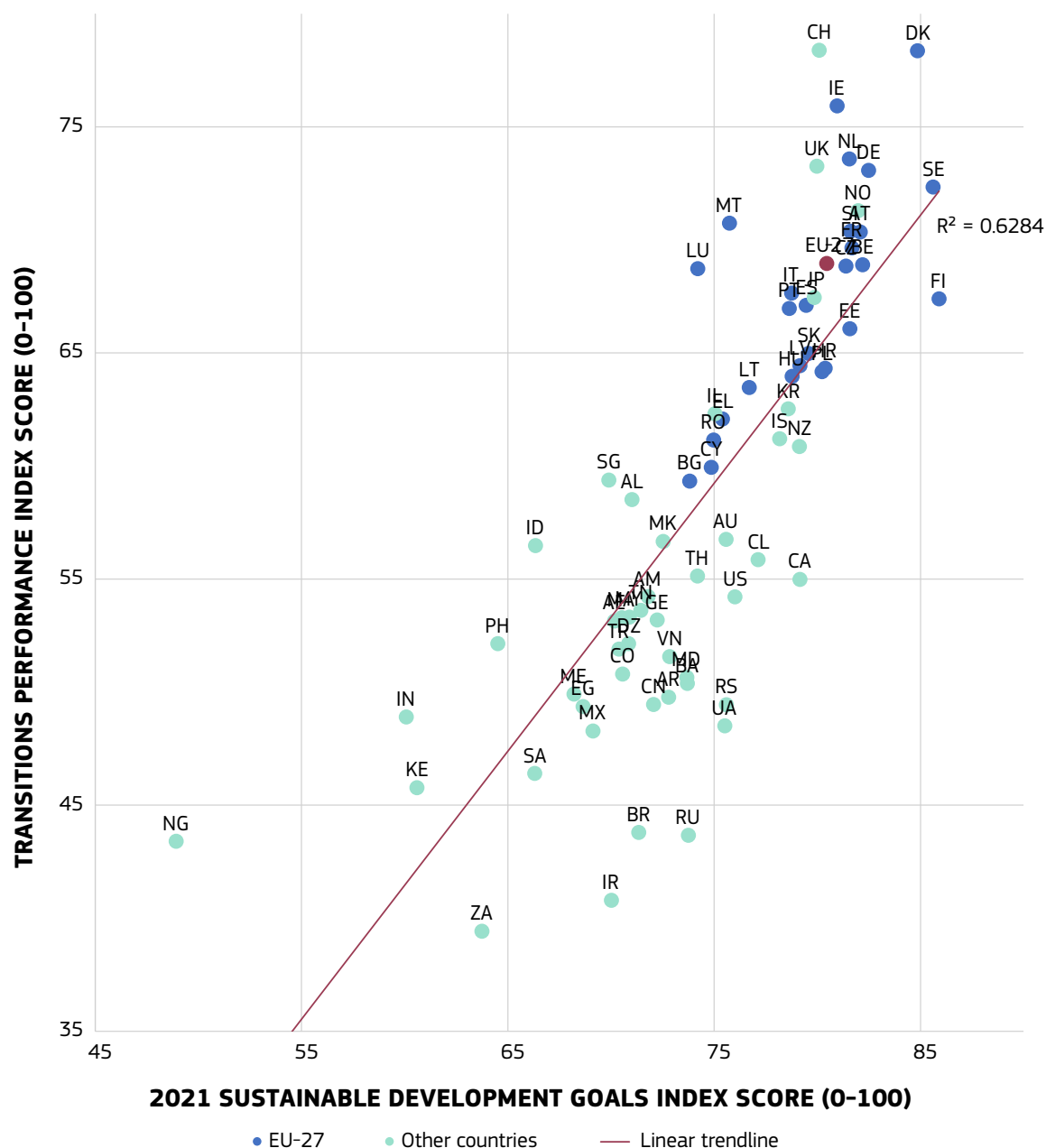
Source: European Commission, Transitions Performance Index 2021.

FIGURE 17: TPI and Planetary-Pressures Adjusted Human Development Index scores
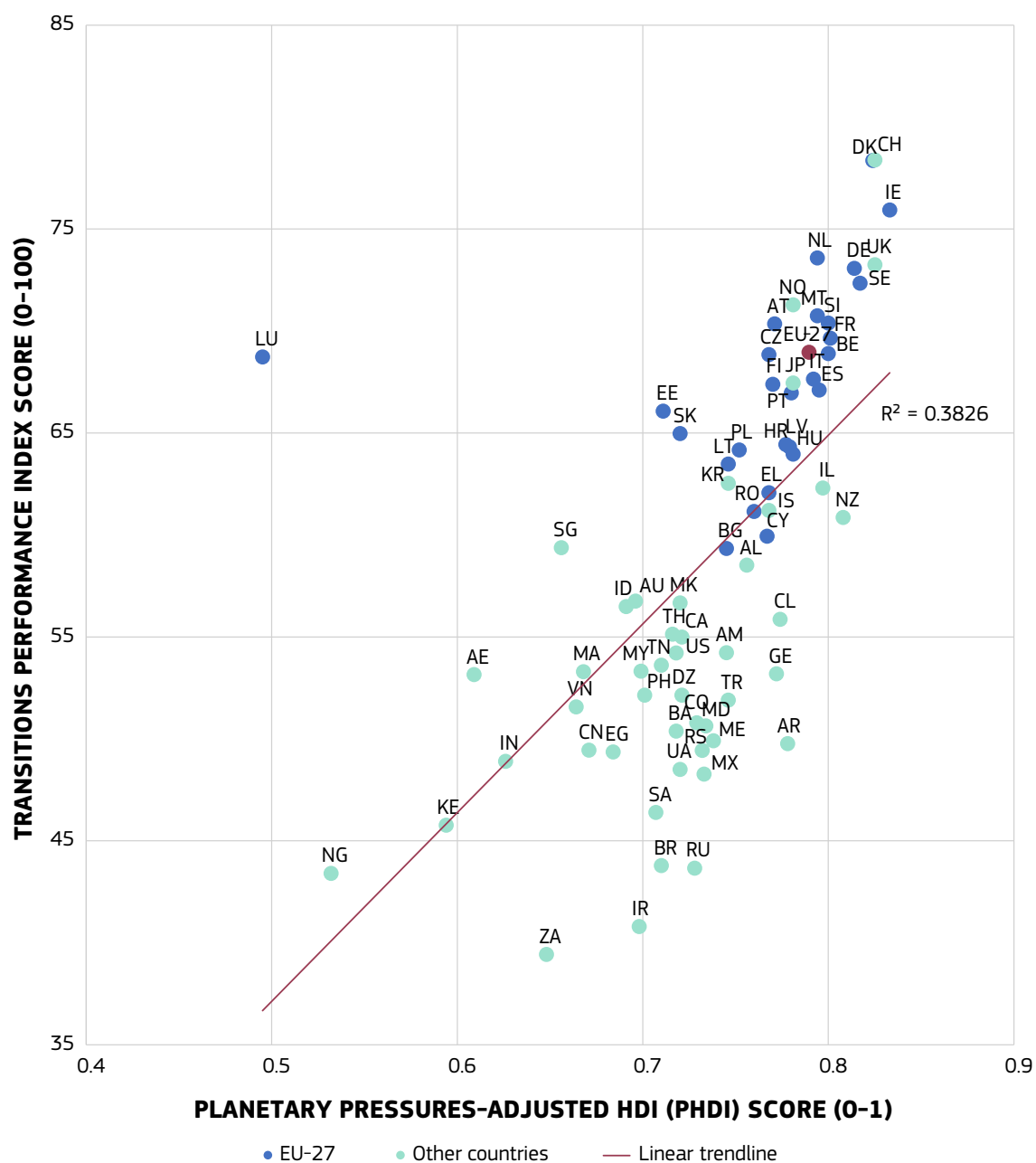
Source: European Commission, Transitions Performance Index 2021.

Planetary pressures-adjusted Human Development Index

The Human Development Index (HDI)[115] is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and having a decent standard of living. The HDI is the geometric mean of normalised indices for each of the three dimensions.

The Planetary pressures-adjusted Human Development Index (PHDI) is an experimental index that adjusts the Human Development Index (HDI) for planetary pressures. The PHDI is the level of human development adjusted by carbon dioxide emissions per person (production-based) and material footprint per capita to account for the excessive human pressure on the planet.

Most EU-27 countries show a strong link between the PHDI and TPI indices (**FIGURE 17**). Denmark, together with Switzerland, are tied at the top. Among other non-EU-27 countries, Japan, Norway and the United Kingdom also perform well in both indices. While Bulgaria, Greece and Romania are right on the trendline, Cyprus is the only EU-27 country below the trendline. Luxembourg is a clear outlier, strongly penalised in the PHDI (score of 0.495 compared to 0.916 in the HDI), as well as in the TPI with a score of merely 52.9/100 in the Environmental pillar (moderate transition).

The graph also highlights some upper middle-income countries, such as Chile, Georgia or Argentina performing better in the PHDI than in the TPI (at the same level than several EU-27 countries). The R2 (0.38) and relatively strong correlation coefficient (0.62) reflect the fact that the TPI is consistent with the PHDI in the inclusion of pressures on planetary resources.

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115 United Nations Development Programme, *Human Development Index (HDI)*

TABLE 21: Better Life Index linkages to TPI

BETTER LIFE INDEX AND LINKAGES TO TPI		
DIMENSIONS	**INDICATORS**	**LINKAGES**
Housing	Housing expenditure, Dwellings with basic facilities, Room per person	TPI does not include a direct measure of housing conditions. It has a global view on wealth with the GDP per capita in PPP$ to reflect the differences in cost of living across countries.
Income	Household net wealth, Household net adjusted disposable income	TPI includes a measure of living standards with the GDP per capita and a more global view of income distribution with the Gini index and the income share held by the poorest quintile
Jobs	Job security, Personal earnings, Long-term unemployment rate, Employment rate	TPI does not measure directly job security but includes a similar aggregate measure of employment rate, as well as the employment-to-population ratio gender. The TPI also includes a measure of net enrolment rate in school, which is related to jobs as childcare facilities have an influence on the return to work.
Community	Quality of support network	BLI uses survey measures on the proportion of people who believe they can rely on their friends in case of need. The TPI has a more global approach on quality of network, partly captured by composite indicators in Transparency and Fundamental rights.
Education	Years in education, Student skills, Educational attainment	Unlike BLI which relies on output measures (PISA scores), the TPI has an input indicator for education with government expenditure in education per student. The TPI also includes measures of digital skills and internet users which is a dimension (digital) not included in the BLI.
Environment	Water quality, Air pollution	TPI has a more comprehensive and global view in the Environmental pillar which includes GHG emissions, measures of biodiversity, material use and energy productivity.
Civic engagement	Stakeholder engagement for developing regulations, voter turnout	TPI does not measure directly civic engagement but some aspects such as confidence in public institutions, democracy and rule of law which are captured in the composite indicators of Transparency and Fundamental rights in Governance transition.
Health	Self-report health, Life expectancy	TPI includes a measure of healthy life expectancy and does not rely on subjective measures for health.
Life satisfaction	Life satisfaction	TPI uses mostly hard data and therefore does not rely on subjective data for personal evaluation of life satisfaction.
Safety	Homicide rate, Feeling safe walking alone at night	TPI also includes the homicide rate as it is a reliable measure of country safety with a large coverage.
Work-Life Balance	Time devoted to leisure and personal care, Employees working very long hours	TPI has a free or non-remunerated time calculated to measure the work-life balance.

Better Life Index

The OECD Better Life Index[116] allows the comparison of well-being across countries, based on 15 topics the OECD has identified as essential, in the areas of material living conditions and quality of life, based on a set of over 80 indicators.

Topics go beyond the TPI scope and are divided into two categories: 11 are related to current well-being (housing, income, jobs, community, education, environment, civil engagement, health, life satisfaction, safety and work-life balance), and four refer to future well-being (natural, economic, human and social capital).

The interactive website makes it possible to create its own index, according to personal preferences, which determine the weights. This also shows the subjectivity involved when designing such an index and also the difference in point of views. On the one hand, the BLI has a more micro approach by focusing on the living conditions of individuals, including qualitative measures from surveys and personal preferences. On the other hand, the TPI has a more macro approach with hard data preferred over soft data and a global view of sustainability and transitions. **TABLE 21** describes in more detail the differences.

Resilience dashboards

The resilience is the capacity not only to prevent, anticipate and cope with challenges but also to adapt and recover. Resilience is defined in this context as the capacity of individuals, firms and society to resist shocks and their ability to work towards a healthy recovery.

The COVID-19 crisis has highlighted the need to improve resilience in many areas such as health care systems. The EU's dependencies on third countries to supply necessary goods to cope with the pandemic has been blatant. The globalised and interconnected world has shown the vulnerabilities to a pandemic and more generally to future crises. The 2021 Strategic Foresight Report[117] mentions global megatrends in the coming decades that could be global threat: environmental challenges, technological transformations and digitalisation, and pressure on democracy and value.

Following the 2020 Strategic Foresight Report, the on-going work at the European Commission has been to develop resilience dashboards[118] to measure vulnerabilities and capacities across four interrelated dimensions: social and economic, geopolitical, green and digital. This approach focuses specifically on Europe's resilience in comparison to other non-EU-27 countries. The first editions of the dashboards are available and complement the TPI's approach in monitoring the progress of the EU policy agenda. Note that the aim of the Resilience Dashboards is different from that of the Recovery and Resilience Scoreboard[119], which provides an overview of how the implementation of the Recovery and Resilience Facility and the national recovery and resilience plans is progressing.

The TPI's ambition is to measure the progress toward a sustainable path in the four dimensions – economic, social, and environmental and governance – but it also gives insights on the capacity of a system to adapt over time to a more harmonious society. As such, it contributes to social cohesion and progress, which are essential factors for the resilience capacity of countries.

Integrating the resilience objective in the TPI's conceptual framework does not make it an index of resilience per se, which would be designed specifically to this end. Nevertheless, some linkages can be made between TPI and resilience and last year, a thorough analysis was undertaken to analyse these linkages.
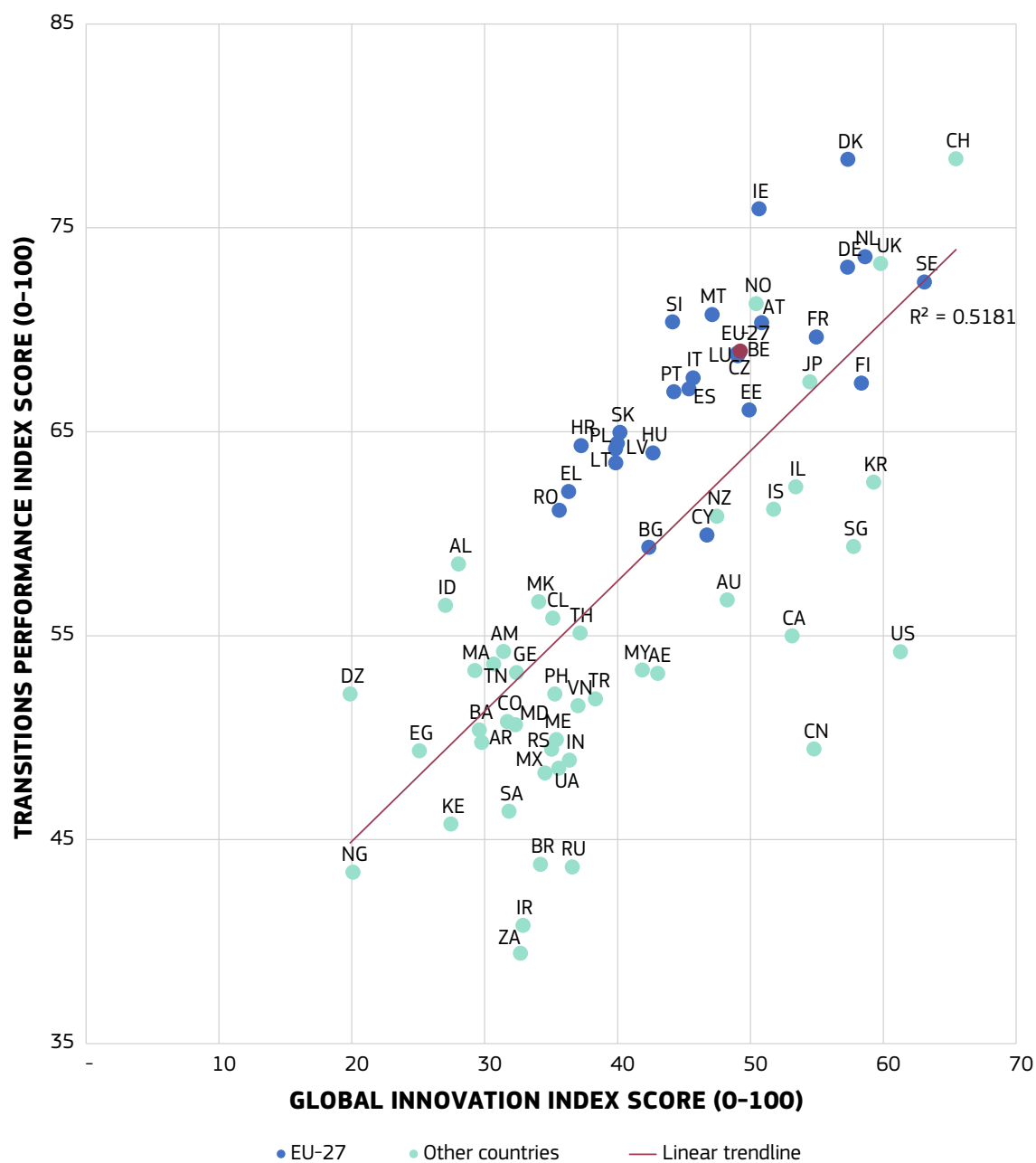
116 OECD, Better Life Index, 2020
117 European Commission, '*2021 Strategic Foresight Report*', 2021
118 European Commission, *Resilience Dashboards*
119 European Commission, *Recovery and Resilience Scoreboard*

FIGURE 18: TPI and Global Innovation Index scores

Source: European Commission, Transitions Performance Index 2021.

IX.2. RESEARCH AND INNOVATION AND TPI

Innovation increases the efficiency and adaptability of economic and social systems and is expected to have a positive impact on transitions. To address the global challenges and the SDGs, the new mode of R&I should contribute to socio-economic transitions in complement with other policies[120]. Transitions and innovation are multidimensional phenomena measured by composite indicators. The Global Innovation Index (GII), developed by WIPO, measures the innovation performance of 132 economies based on around 80 indicators including measures on inputs (institutions, human capital and research, infrastructure, market and business sophistication) and outputs (knowledge and technology outputs and creative outputs).

FIGURE 18 shows a positive association between the GII and TPI scores indicating a complementarity between innovation and transition performances. Almost all EU-27 countries outperform in the TPI (above the trendline) compared to their GII scores. Switzerland is top-ranked in both the GII and the TPI. Few high-income countries such as Canada, Singapore, South Korea and the United States underperform in the TPI considering their good performances in innovation as measured by the GII. This is partly explained by their relatively low scores in the Environmental pillar. A large group of mostly lower-middle and upper-middle countries are lagging behind with lower scores in the TPI than expected based on their GII (below the trendline). It indicates room for improvement to use innovation as a driver of transitions progress. The Summary Innovation Index shows a similar trend with a smaller coverage of countries (refer to the 2020 edition of the TPI).

In conclusion, it seems that in line with the theory, innovation contributes to progress in the TPI, but not all countries seem to make the best of their innovation capacity in this respect.

IX.3. TPI AND DIGITALISATION

The trend of digital transformation has been accelerated by the COVID-19 crisis. In this context, this year's edition of the report includes two new indicators in the Economic pillar: internet users (%) and proportion of people with ICT skills (composite). These capture the digital transformation of society. It is unclear to what extent digitalisation translates automatically into progress towards economic, social, environmental and governance sustainability. For instance, the debate around the implementation of 5G technology stresses the positive impact of facilitating autonomous transport or distance learning and teleworking. However, at the same time, others point to the risk that an exponential use of data storage poses to privacy and energy consumption.

More generally, in theory, digitalisation, by improving the efficiency of the economy, should increase productivity and may reduce the impact of economic activities on the environment. However, accompanying measures are required to avoid a digital gap and a possible negative impact on employment[121], especially for specific categories of the population. In addition, adverse effects on the environment can be addressed through research, mandatory regulations, and voluntary standards.

The digitalisation of countries can be measured by the I-DESI. The International Digital Economy and Society Index (I-DESI)[122] is a composite index that measures the digital performance of 45 countries, including the EU-27 Member States. I-DESI includes 24 indicators to provide insights in five main dimensions: connectivity, human capital, citizen use of internet, integration of digital technology, and digital public services. The R2 of the TPI with the I-DESI (0.26) suggests a weak but positive association between digitalisation measured by I-DESI and transition performance. This positive association may indicate that increasing the digitalisation of the economy and society is likely to be a positive structural element to succeed in the four transitions (**FIGURE 19**). Nonetheless, the figure shows large disparities between countries.

120 Geels, F., '*Transformative innovation and socio-technical transitions to address grand challenges*', European Commission R&I Paper Series, Working Paper, vol. 2, 2020.
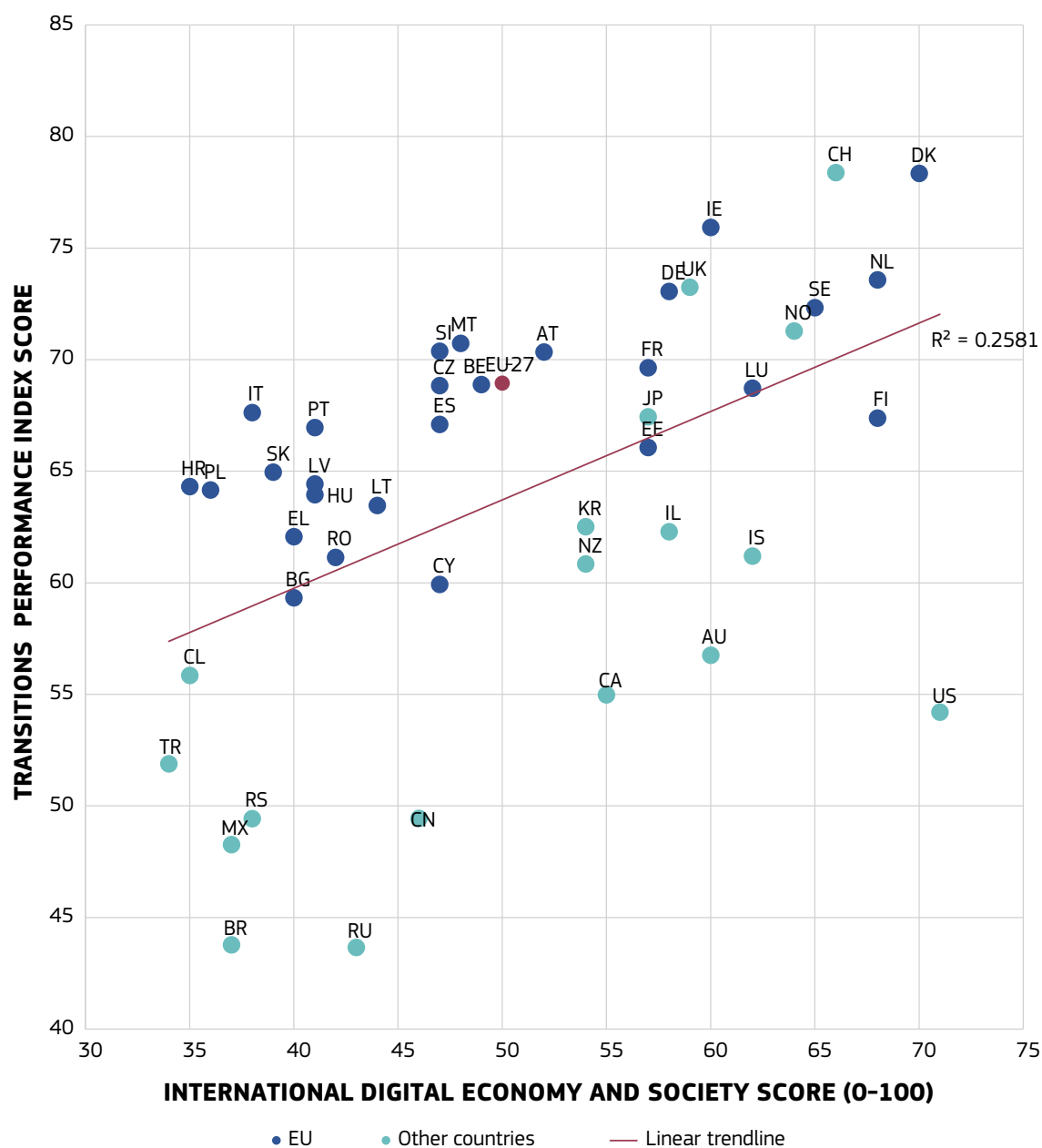121 European Commission, '*Science, research and innovation performance of the EU 2020 (SRIP)*', Chapter 11 The consequences of AI-based technologies for jobs, 2021
122 European Commission, '*The International Digital Economy and Society Index (I-DESI)*', 2021

FIGURE 19: TPI and International Digital Economy and Society Index scores

Source: European Commission, Transitions Performance Index 2021.

Most of the EU-27 Member States are above the linear trendline, indicating that the on-going digitalisation process might have a positive effect on the four transitions measured by the TPI. Conversely, countries below the linear trendline, including four EU-27 countries (Bulgaria, Cyprus, Estonia and Finland), are not leveraging their digital performance into transitions performance as measured by the TPI. The United States is an interesting example as a leading country in the I-DESI index (top-ranking) but with a relatively weak score in the TPI, particularly on the Environmental pillar.

IX.4. TPI AND GENDER EQUALITY

Gender equality is an important dimension of transitions. As noted by 2021 Report on Gender equality in the EU: 'Gender balance in management and leadership functions can boost innovation, competitiveness and productivity, and contribute to the prosperity of the EU'[123]. Additionally, bridging gaps in gender equality is an 'important condition for effective democracy and good governance and it contributes to citizens' trust in democratic institutions'[124]. The linkage between TPI and a measure of gender equality aims to assess to what extent gender equality is positively correlated with transitions.

Gender equality is partly captured in the TPI by indicators employment-to-population ratio gender gap and gross enrolment ratio, both in the Social pillar. The Gender Equality Index[125] is a tool to measure progress in gender equality in the EU-27, developed by the European Institute for Gender Equality (EIGE). It gives visibility to areas that need improvement in the domain of work, money, knowledge, time, power, health and violence. Ultimately, the gender equality index supports policy makers to design more effective gender equality measures.

Despite the positive correlation between both indices (0.77 in **TABLE 20**, and R2 of 0.59 in **FIGURE 20**), achievements in gender equality and transitions vary considerably by member state. Denmark outperforms in both dimensions. With similar and relatively low scores in gender equality, Czechia considerably outperforms Cyprus in the TPI. In turn, with similar TPI scores, Belgium and Luxembourg present better performances in gender equality compared to Czechia. The same can be said of Sweden compared to Germany or of Spain compared to Estonia, Greece, Poland, Portugal and the EU-27 average on the trendline. What is clear is that to be complete, performance and progress in transition should go hand in hand with bridging gaps in gender equality.

IX.5. TPI AND POVERTY

The global multidimensional poverty index (MPI)[126] is produced by the United Nations Development Programme (UNDP) and the Oxford Poverty and Human Development Initiative. The composite index measures poverty in 109 developing countries and contributes to the monitoring of SDG 1 which aims to end poverty. The index measures deprivations at the household and individual level in health, education and standard of living based on data from household survey.

A person is considered multidimensionally poor or non-poor based on the weighted number of deprivations in the household. The index captures both the incidence of deprivation and its intensity.

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123 European Commission, '*2021 report on gender equality in the EU*', 2021
124 ibid.
125 European Insitute for Gender Equality, '*Gender Equality Index*', 2021
126 United Nations Development Programme, '*The 2021 Global Multidimensional Poverty Index (MPI)*', 2021

FIGURE 20: TPI and Gender Equality Index scores
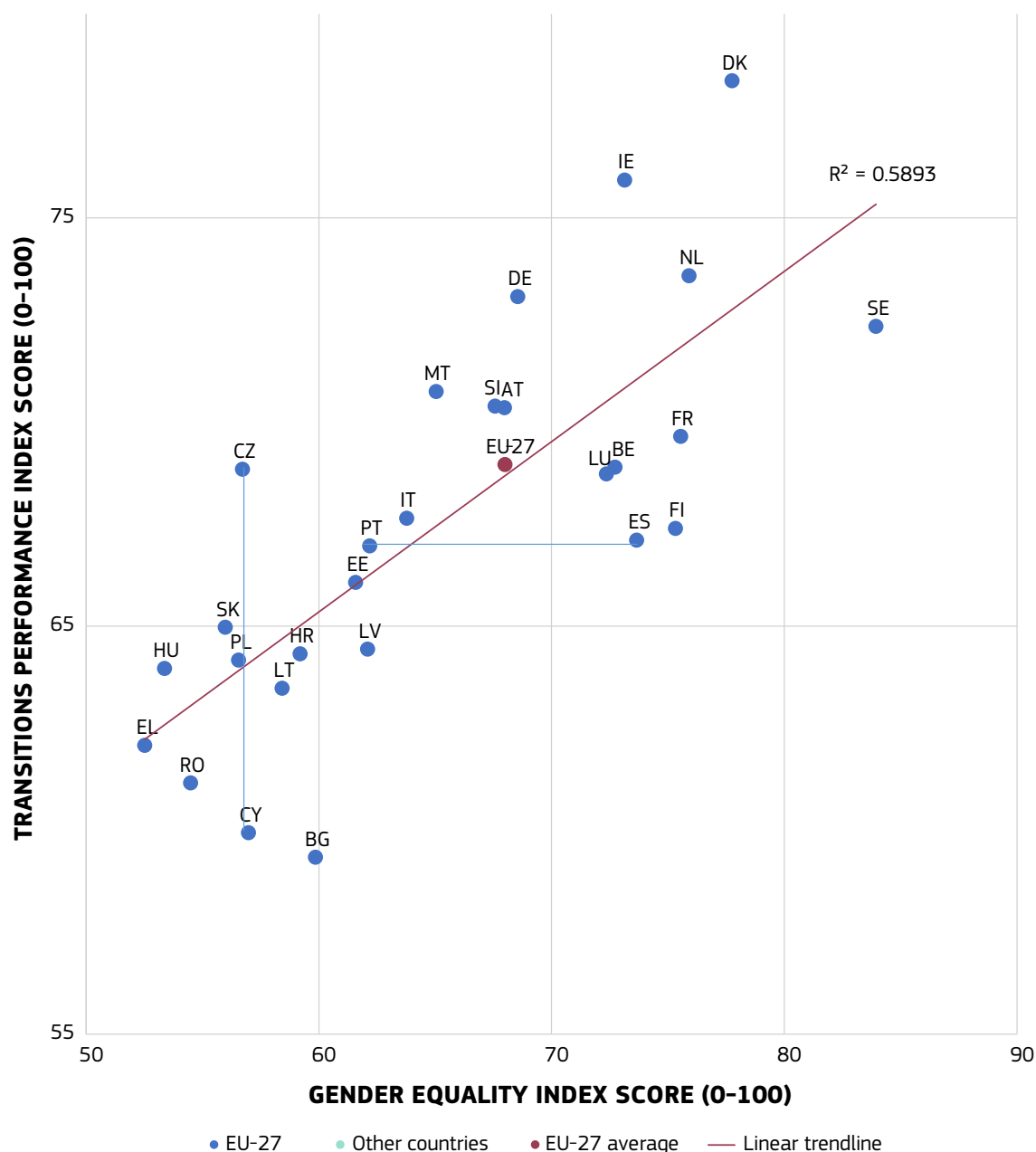
Source: European Commission, Transitions Performance Index 2021.

The MPI focuses essentially on middle-income countries (80) and low-income countries (26). Therefore, the linkages between TPI and MPI does not apply to high-income countries, which are the best performers in the TPI. This linkage analysis is valuable as lower income countries tend to face different challenges than high income countries, such as ending extreme poverty and providing access for all to basic services and infrastructure (SDGs 1-9).

FIGURE 21 shows an association between transition performance measured by the TPI and the level of poverty captured by the MPI. Countries with relatively high levels of poverty (high MPI index scores), such as Kenya or Nigeria, tend to have lower TPI scores. Russia, Ukraine, Brazil and South Africa are outliers with particularly low TPI scores, well below the expectations based on their poverty level. Most of these countries suffer from high levels of inequality based on the Gini index.

FIGURE 21: TPI and Multidimensional Poverty Index scores
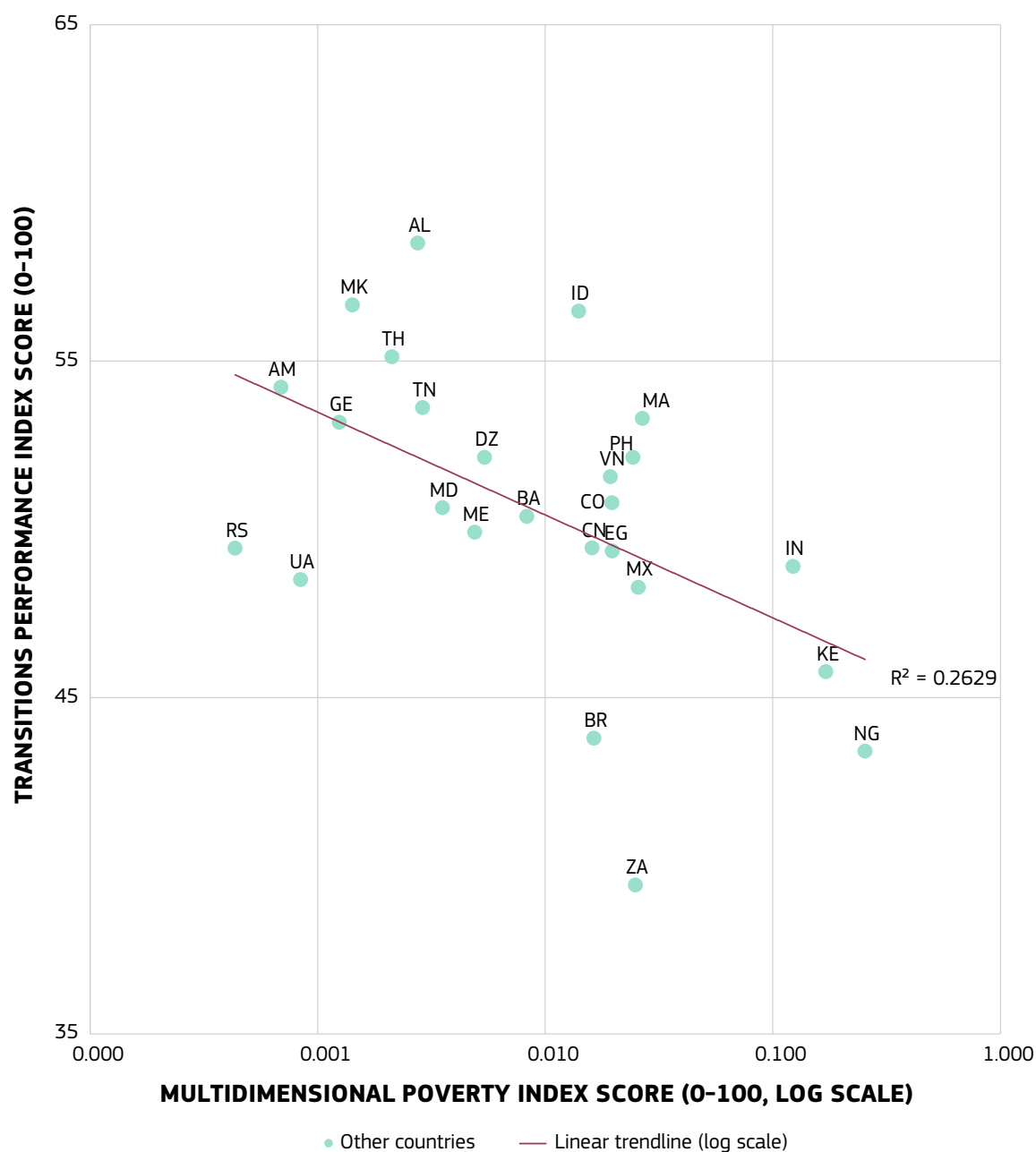
Source: European Commission, Transitions Performance Index 2021.

Conversely, Albania, Indonesia, Morocco and, less so, North Macedonia, Thailand, the Philippines, Vietnam and India achieve relatively high TPI scores considering their MPI scores, a result that is mostly driven by good relative performances in the Environmental pillar, and to a minor extent, in the Social pillar.

The contrast is particularly worrisome between Indonesia and Brazil, or South Africa and Morocco.

CONCLUSION

The Transitions Performance Index (TPI) has been constructed around the four transitions: economic, social, environmental and governance. It is a tool to monitor and support transitions by providing insightful data on performance and progress. It also contributes further to the reflection on measuring transitions with a 'beyond GDP' approach.

Any index reflects policy choices. This is the case for the TPI, which acknowledges that economic progress, traditionally measured by GDP growth, should not be opposed to social inclusion, environmental sustainability, good governance, and overall quality of life. All transitions should go hand in hand and therefore need to be monitored with an integrated framework.

The TPI measures, with a holistic and multi-dimensional approach, the path to a model of fair and sustainable prosperity based on efficiency, resilience, and inter-generational fairness. By including a backcasting of 10 years, it enables the highlighting of the role of trends in the concept of transitions. As a 'beyond GDP' approach, the TPI framework contributes to changing our perception of the performance of different countries and opens the dialogue with society on a measurement of global welfare that takes into account the transitions challenges. The 8[127] Environment Action Programme[127], implementing the European Green Deal on the ground until 2030, enshrines a mechanism to monitor economic, social and environmental progress 'beyond GDP'.

In this new edition, three indicators have been added to the framework, to reflect the increasing role of digitalisation and the environmental spillover effects resulting from consumption. The TPI, like any composite indicator, will benefit from further improvements in the future. For instance, the country coverage could be expanded as data are available for more countries and the conceptual framework is flexible thanks to the goalposts and the backcasting.

This report opens the way to such reflection to complement some indicators with other data. For example, the indicator on education could be enriched by looking at output-based data to reflect, beyond the public expenditure for education, on the performance of the educational system. The indicator on work and inclusion could also be complemented with data on skills. In addition, the framework could be enriched with data on other spillover effects[128], notably social ones.

The TPI has been published as a matter of urgency in the context of the COVID-19 pandemic. As the time of the writing of this report, the pandemic is still ongoing so the impacts of the different crises induced by the pandemic are not yet fully measured in this edition. Nevertheless, the report reflects on the short-term as well as the long-term effects of the pandemic on transitions challenges. The TPI intends to be a useful tool to gauge the performance and progress of countries toward more sustainable and resilient models in the post COVID-19 era.

The TPI framework does not aim to be judgemental on countries' performances. For different reasons (political, economic, geographic, historical, social…), countries are at different stage in their transitions. The TPI illustrates the specific contributions of each transition to the overall performance of a country, indicating strengths and weaknesses, room for progress, unbalance profiles and possible trade-offs.

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127 European Commission, '*Commission welcomes political agreement on the 8th Environment Action Programme*', December 2021
128 A report '*Time to reach the moon*' from SDG Watch Europe and Make Europe sustainable for all, highlights in this respect the "pressing challenges, including our global ecological footprint, homelessness, and human rights violations in European supply chains" To ensure international comparability within the TPI, the same data would need to be made available for all countries covered by the index.

APPENDICES

APPENDIX I

CONCEPTUAL FRAMEWORK

1. CURRENT CHALLENGES AND POLICY RESPONSES

During the last two years, the world has experienced an unprecedented health crisis which has affected every one, socially and economically. This ongoing COVID-19 crisis has revealed the vulnerabilities of globalised economies, which are complex, interdependent, and overly sensitive to potential shocks in any part of the world.

In addition, together with natural resource depletion, habitat degradation, biodiversity loss and increased pollution, climate change continues to be a global threat for the environment, with global temperatures rising as well as the number and intensity of natural disasters like floods, droughts or fires.

Both the COVID-19 pandemic and climate change have highlighted the crucial role of public policies to support the needed transition towards sustainability. In parallel, rising inequalities, unemployment, and the transformation of work are weakening social consensus. Faced with these challenges, it is also essential that core democratic values remain top-rank priorities. On 14 July 2021, the European Commission adopted a package[1] of proposals to make the EU's climate, energy, land-use, transport, and taxation policies fit for reducing net greenhouse gas emissions by at least 55 % by 2030, compared to 1990 levels. Achieving these emission reductions in the next decade is crucial for Europe to become the world's first climate-neutral continent by 2050 and to make the European Green Deal a reality.

Finally, more than ever, digitalisation has become a pre-requisite of an economy's resilience, especially in the context of the ongoing COVID-19 pandemic. On 9 March 2021, the Commission presented a vision and avenues for Europe's digital transformation by 2030[2]. It aims to empower businesses and people in a human-centred, sustainable, and more prosperous digital future.

2. GENERAL OBJECTIVE

In 2015, in order to address global challenges, including climate change, inequality, poverty and justice, 195 nations agreed, under the auspices of the United Nations, to commit to 17 key Sustainable Development Goals (SDGs), each one including a wide range of indicators and targets. These SDG indicators have been included in the country surveillance as part of the European Semester, which aims to coordinate EU Member States' economic and social policies and is structured around four dimensions: environmental sustainability, productivity, fairness, and macroeconomic stability.

In addition, the European Commission set the following priorities for the period 2019-2024:

- a European Green Deal

- a Europe fit for the digital age

- an economy that works for people

- a stronger Europe in the world

- promoting our European way of life

- a new push for European democracy.

The Recovery and Resilience Facility[3] (the Facility) aims to mitigate the economic and social impact of the coronavirus pandemic. It also intends to make European economies and societies more sustainable, resilient, and better prepared for the challenges and opportunities of the green and digital transitions. This model focuses on resilience, inclusiveness and sustainability in line with the EU's 2022 Annual Sustainable Growth Strategy[4], which is part of the European Semester process.

The Transitions Performance Index mirrors the EU policy agenda with four corresponding transitions of sustainable development in the economy, society, environment, and governance, and 28 indicators that build a consistent image of policy goals, embedding many SDGs.

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1   https://ec.europa.eu/commission/presscorner/detail/en/IP_21_3541
2   https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/europes-digital-decade-digital-targets-2030_en
3   https://www.consilium.europa.eu/media/45109/210720-euco-final-conclusions-en.pdf
4   COM(2021) 740 final of 24 November 2021.

3. EXISTING FRAMEWORKS

Since the work by Nordhaus and Tobin (1973) to develop a measure of economic welfare, this issue has become a central theme of research and policy discussion, highlighted by the report of the Stiglitz-Sen-Fitoussi Commission (2008) and subsequent theoretical work. There is now a recognised need to improve GDP as a measure and to go beyond it.

The European Commission has developed an integrated approach[5] to measuring well-being beyond GDP, developing new indicators, in particular in environmental and social aspects. Different scoreboards and indicators have been developed, also by other international organisations. After briefly presenting GDP and its shortcomings, this section presents a selection of scoreboards and indices (**TABLE I.1**).

GDP AND ITS SHORTCOMINGS

GDP is the internationally used standard to measure the capacity of an economic zone to produce wealth and has traditionally been used to define the notion of prosperity. However, GDP has shown limitations when measuring aspects beyond the strict economic sphere: rising levels of inequality; degradation of public health systems; the questioning of democratic values; a worsening climate crisis; the loss of biodiversity; and the unsustainable use of natural resources.

This is highlighted in a recent discussion paper published by DG ECFIN in June 2021 entitled 'Economic Policy-Making Beyond GDP'[6]. Alessio Terzi argues that the current limitations of GDP can prevent policymakers to formulate adequate policy responses and fail to consider the multidimensional aspects of policy choice. Formulating an effective response to the global challenges is indeed complex because the diversity of challenges implies interactions, trade-offs, and the need for prioritisation.

The paper highlights the need to complement GDP, in particular, in the context of the European Semester and the integration of the UN's SDGs within it. Moreover, EU policies, such as the European Pillar of Social Rights or the Green Deal, in addition to the EU response to the COVID-19 pandemic with the Recovery and Resilience Facility, will require a monitoring 'to go beyond simply accounting for the GDP impulse, and rather incorporate a broader set of agreed indicators, given that the objective of the facility is not only to boost (short-term) economic growth, but also resilience, with an eye to social and environmental welfare effects'.

According to Terzi, a 'GDP+' approach would therefore require to look at additional indicators with the following features: limiting modifications of existing metrics; timeliness in publication; easy to understand conceptually; should provide a clear sense of direction; should not always move hand in hand with GDP; geographical coverage.

In addition, the provisional agreement reached on 1 December 2021 between the European Parliament and the Council on the 8th Environment Action Programme[7], implementing the European Green Deal on the ground until 2030, enshrines a mechanism to monitor economic, social, and environmental progress 'beyond GDP'.

TABLE I.1 shows a selection of composite indicators and scoreboards and how they relate to the four dimensions of the TPI. The TPI framework builds on the SDG indicators developed by the United Nations as well as the EU SDG indicator set, published by Eurostat, in the EU context. This latter indicator set comprises 102 indicators and is structured along the 17 SDGs. For each SDG, it focuses on aspects that are relevant from an EU perspective. The monitoring report provides a statistical presentation of trends relating to the SDGs in the EU over the past five years ('short-term') and, when sufficient data are available, over the past 15 years ('long-term'). This report is a very comprehensive analysis of EU progress towards each SDG.

Other scoreboards or composite indicators follow a multidimensional approach such as the Happy Planet Index of the New Economic Foundation, the Resilience Dashboards of the European Commission or the OECD Better Life Index developed by the OECD, to name a few. The latter compares well-being across 35 countries using 11 topics in the areas of material living conditions and quality of life. The index includes 80 variables.

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5   COM(2009) 433 final of 20 August 2009 and SWD(2013) 303 final of 2 August 2013.

6   Terzi, A., 'Economic Policy-Making Beyond GDP: An Introduction', Directorate General Economic and Financial Affairs (DG ECFIN), European Commission, No. 142, 2021

7   https://ec.europa.eu/environment/news/commission-welcomes-political-agreement-8th-environment-action-programme-2021-12-02_en

Some initiatives are more thematic and focus specifically on one or a few aspects of the transitions covered by the TPI. For instance, the Social Scoreboard developed by the European Commission intends to support the key priority of the Commission of delivering on a more social and fair Europe. It is divided into three main dimensions in the field of employment and social policies: equal opportunities, fair working conditions, and social protection and inclusion. These indicators have been put forward by the European Commission at the beginning of 2021 and endorsed by the Ministers of Employment and Social Affairs of the European Union in June 2021. The Digital Economy and Society Index (DESI) is also another thematic scoreboard as well as a composite index that summarises relevant indicators on Europe's digital performance and tracks the evolution of EU Member States, across five main dimensions: Connectivity, Human Capital, Use of Internet, Integration of Digital Technology, and Digital Public Services. Its scope is mostly the EU Member States, although an international version of DESI (with fewer indicators) including 45 countries also exists. New initiatives are also forthcoming such as the 8th Environmental Action Programme or the European Green Monitoring Dashboard.

All these scoreboards and indices have a clear added value for policymaking but have either a limited geographical coverage or cover only one dimension (social, digital, quality of life, etc.). In addition, scoreboards have a slightly different purpose than composite indicators.

TABLE I.1: Selection of composite indicators and scoreboards

Economic	Social	Environmental	Governance
Sustainable Development Goals (SDGs) Index and Indicators, United Nations, 193 countries			
EU SDGs, European Commission, EU-27 countries			
Better Life Index, OECD, 35 countries			
Resilience Dashboards, European Commission, EU-27 countries			
Summary Innovation Index and European Innovation Scoreboard[1], European Commission, EU-27 countries + 11 countries	**Happy Planet Index (HPI)**, The New Economic Foundation, 152 countries		**EU Justice Scoreboard**, European Commission, EU-27 countries
	Environmental Performance Index (EPI), Yale and Columbia Universities, 180 countries		
Planetary pressures-adjusted Human Development Index (PHDI), UNDP, 189 countries			
Recovery and Resilience Scoreboard, European Commission, EU-27 countries			
Recovery Dashboard, European Commission, EU-27 countries		**8th Environmental Action Programme (planned)**	
Multidimensional Poverty Index, UNDP, 79 countries			
Global Innovation Index[1], WIPO, 132 countries	**European Skills Index**, CEDEFOP, 31 countries		
Digital Economy and Society Index (DESI / IDESI)[1], European Commission, EU-27 countries / 45 countries	**Social Scoreboard**, European Commission, EU-27 countries + 3 countries	**European Green Deal Monitoring Dashboard (planned)**	
Gender Equality Index, European Commission, EU-27 countries			

■ Scoreboards and dashboards for which a composite indicator is calculated
■ Scoreboards and dashboards without a composite indicator
1) Thematic scoreboards that cover in part other aspects than strictly economic indicators.
Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

The purpose of the Transitions Performance Index is to:

- complement these more comprehensive monitoring reports on specific dimensions;

- take a multidimensional approach with a four-pillar structure;

- be easy to understand and create confidence through its transparency;

- use a limited number of outcome-oriented indicators and be statistically robust;

- have an international dimension with 72 countries representing 91 % of global GDP;

- give visibility to progress or lack of progress over a 10-year period with fixed goalposts to illustrate and analyse the differing performance of countries and to enable quick updates to be made for monitoring purposes;

- promote communication and dialogue with society and to trigger policy debates – both of which would benefit from all available data and reports.

4. NEW ELEMENTS COMPARED TO THE 2020 EDITION

Three indicators have been added to the TPI model for this new edition.

Rankings, scores and progress rates should not be compared to last year's edition due to the change of the conceptual framework with these inclusions. In fact, updates in metrics and/or sources as well as changes in the conceptual framework (e.g inclusion of new indicators) have effects on rankings and scores calculated for the previous years. Nevertheless, to be able to measure progress across time in a consistent manner, the TPI scores and rankings in this edition are recalculated for ten years using

the current conceptual framework, a procedure called 'backcasting'. The TPI is backcasted ten years every year precisely to depict trends in a manner that is as thorough as possible.

In addition, the scores represent absolute performance and are comparable from one year to the other because goalposts are used, contrary to most composite indicators that use annual min-max normalisation. Last but not least, ranks, which represent relative performance, are also comparable because the index is calculated for the same 72 countries of last year and there are some missing data points (contrary to most composite indicators that have different samples of countries from one year to the other and several missing data points).

DIGITAL DATA

The COVID-19 pandemic has radically changed the role of digitalisation in our societies. Many of our activities, such working, learning, entertaining, socialising or shopping could be preserved during containment and even post-containment periods, thanks to digital technologies.

Digitalisation is part of our world and can contribute to fair and sustainable prosperity. To reflect the place of digitalisation in the transitions, two indicators were added in this edition under the sub-pillar 'Education': internet users and digital skills.

MATERIAL FOOTPRINT

In the first edition of the Transitions Performance Index, resource productivity was a sub-pillar. Resource productivity measures to what extent GDP growth can be decoupled from material consumption on the production side.

Other important aspects of material consumption are derived from our consumption of imported goods. Material footprint is defined as a global allocation of used raw material extraction to the final demand of an economy. It opens a new perspective on global material supply chains and on the shared responsibility for the impacts of extraction, processing, and consumption of environmental resources[8] embedded in international trade. These are essential components of the European Green Deal and the Circular Economy Action Plan. The promotion of a resource-efficient production base and the reduction of the consumption footprint will further encourage a fundamental transition towards a circular economy where resources are not simply extracted, used, and thrown away. Material footprint is often considered to partly capture the environmental spillover effects.

The 2021 edition of the Eurostat monitoring report on progress towards the SDGs in an EU context also considers spillover effects.

LEAVE-OUT RANKS

TABLE I.2 presents the TPI rankings and changes in so-called leave-out ranks, i.e. ranks obtained when each of the added indicators is left out of the rankings, as well as the combined effect of the three added indicators. Changes of 3 or more positions are highlighted in red. The United Arab Emirates falls by nine positions in the ranking (from 41 to 50), with a strong impact of material footprint (seven positions lost); it is followed by Luxembourg and the United States (which fall five positions), Canada and Serbia (four positions), Lithuania, Singapore and Turkey (three positions).

Symptomatically, the World average falls five positions, whereas the EU gains two positions overall, a result driven mostly by the inclusion of material footprint, reflecting and overall diminished performance shown in scores more than in rankings, as well as divergent transition paths in consumption between the EU and most of the rest of the world.

Besides the EU-27 average, countries that perform better under the new framework include Armenia (five positions gained), North Macedonia, Indonesia, Chile and Bosnia and Herzegovina (four positions), and Morocco and Egypt (three positions).

This table conveys three important messages: the framework is flexible and will be adapted over the years as assessing transitions performance is a journey; rankings of this year's edition should not be compared to those of the 2020 edition; backcasted data is computed precisely to allow inference on performance from one year to the other.

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8   Wiedmann, T. O., Schandl, H., Lenzen, M., Moran, D., Suh, S., West, J., & Kanemoto, K., 'The material footprint of nations', *Proceedings of the national academy of sciences*, Vol. 112, No 20, 2015, pp. 6 271-6 276.

TABLE I.2: TPI ranking and leave-out ranks

COUNTRY		TPI RANKS AND GROUPS		LEAVE-OUT RANKS			
RANK	NAME	2021 (new) model	2020 (old) model	Combined effect of the three indicators	Internet users (%)	Proportion of people with ICT skills (composite)	Material footprint (tonnes per capita)
1	Switzerland	1	1	0	0	0	0
2	Denmark	2	2	0	0	0	0
3	Ireland	3	4	1	0	0	0
4	Netherlands	4	3	-1	0	0	0
5	United Kingdom	5	5	0	0	1	1
6	Germany	6	6	0	0	-1	1
7	Sweden	7	7	0	0	0	-2
8	Norway	8	9	1	0	0	0
9	Malta	9	8	-1	0	0	1
10	Slovenia	10	12	2	0	0	2
11	Austria	11	11	0	0	0	-2
12	France	12	13	1	0	0	1
	EU-27	13	15	2	0	0	2
13	Belgium	13	14	1	1	1	0
14	Czechia	14	16	2	-1	-1	1
15	Luxembourg	15	10	-5	0	1	-5
16	Italy	16	15	-1	0	1	2
17	Japan	17	17	0	0	-2	0
18	Finland	18	19	1	0	0	-2
19	Spain	19	18	-1	1	1	0
20	Portugal	20	21	1	-1	-1	1
21	Estonia	21	20	-1	0	0	-1
22	Slovakia	22	22	0	0	0	0
23	Latvia	23	23	0	1	0	1
24	Croatia	24	26	2	-1	0	2
25	Poland	25	25	0	0	0	0
26	Hungary	26	27	1	0	0	2
27	Lithuania	27	24	-3	0	0	-4
28	South Korea	28	29	1	0	1	-1
29	Israel	29	31	2	0	1	2
30	Greece	30	28	-2	0	-2	-1
31	Iceland	31	30	-1	1	1	-1
32	Romania	32	34	2	-1	-1	2
33	New Zealand	33	35	2	0	1	0
34	Cyprus	34	33	-1	0	-1	1
35	Singapore	35	32	-3	1	1	-3
36	Bulgaria	36	36	0	-1	-1	1
37	Albania	37	38	1	0	0	1
38	Australia	38	37	-1	2	2	-2
39	North Macedonia	39	43	4	0	-1	1
40	Indonesia	40	44	4	-2	-1	4
41	Chile	41	45	4	0	1	1
42	Thailand	42	42	0	0	-1	3
43	Canada	43	39	-4	0	0	-4
44	Armenia	44	49	5	0	0	3
45	United States	45	40	-5	0	3	-4
46	Tunisia	46	47	1	0	-1	2
47	Malaysia	47	46	-1	2	2	-1
48	Morocco	48	51	3	0	-1	2
49	Georgia	49	48	-1	-2	-3	0
50	United Arab Emirates	50	41	-9	1	0	-7
51	Philippines	51	52	1	-1	2	4
52	Algeria	52	53	1	0	-1	4
53	Turkey	53	50	-3	0	-1	-2
54	Vietnam	54	55	1	1	1	-1
	World	55	50	-5	-1	-1	-3
55	Colombia	55	54	-1	0	0	1
56	Moldova	56	56	0	0	1	5
57	Bosnia and Herzegovina	57	61	4	0	-1	1
58	Montenegro	58	60	2	0	0	-5
59	Argentina	59	58	-1	0	1	0
60	China	60	59	-1	1	3	-3
61	Serbia	61	57	-4	2	-2	-1
62	Egypt	62	65	3	0	-1	0
63	India	63	64	1	-3	-1	1
64	Ukraine	64	62	-2	0	1	-1
65	Mexico	65	63	-2	0	-1	0
66	Saudi Arabia	66	66	0	1	1	0
67	Kenya	67	67	0	-1	-1	0
68	Brazil	68	68	0	1	0	0
69	Russia	69	69	0	1	0	0
70	Nigeria	70	70	0	-2	0	0
71	Iran	71	71	0	0	0	0
72	South Africa	72	72	0	0	0	0

■ Transition leader ■ Strong transition ■ Good transition ■ Moderate transition ■ Weak transition

Note: In green/red leave-out ranks that improve/fall by three or more positions.
Source: European Commission, Transitions Performance Index 2021.

5. SUMMARY

In the context of the European Semester and the UN SDGs, the index mirrors the policy agenda with four corresponding transitions of fair and sustainable development in the economy, society, environment, and governance, and 28 indicators that build a consistent image of policy goals. Taken together, the four transitions aim to achieve an equitable and sustainable new model of prosperity for Europe and other countries around the world with similar ambitions. Under each pillar, there are four policy objectives. These objectives also reflect the main priorities of the EU and progress towards these objectives is statistically measured as the distance to the goalposts that have been set up based on targets.

The TPI provides an alternative to GDP, which is the standard indicator guiding public policies today. The choice of indicators for the pillars addresses the limitations of GDP as much as possible in a balanced statistical way.

TABLE I.3: TPI conceptual framework and indicators

TRANSITIONS PERFORMANCE INDEX			
ECONOMIC TRANSITION Making the economy work for prosperity	**SOCIAL TRANSITION** Focusing on fairness and inclusion	**ENVIRONMENTAL TRANSITION** Supporting the European Green Deal objectives	**GOVERNANCE TRANSITION** A new push for democracy
Education Government expenditure in education per student (% of GDP per capita) Internet users (%) Proportion of people with ICT skills (composite)	**Health** Healthy life expectancy at birth (years)	**Emissions reduction** Gross greenhouse gas emissions (tonnes per capita)	**Fundamental rights** Voice and accountability index Rule of law index
Wealth Gross domestic product (GDP) per capita, current dollars (PPP$)	**Work and inclusion** Employment rate of population 20-64 (%) Employment-to-population ratio gender gap 25+ (%) Gross enrolment ratio, pre-primary, both sexes (%)	**Biodiversity** Terrestrial key biodiversity areas (KBAs) protected (%) Freshwater KBAs protected (%) Pesticides use per area of cropland (kg/ha)	**Security** Homicide rate (per 100 000 inhabitants)
Labour productivity and R&D intensity Output per worker (2011 constant GDP PPP$) Gross expenditure on R&D (% of GDP)	**Free or non-remunerated time** Free or non-remunerated time (%)	**Material use** Resource productivity (PPP$ per kg) Material footprint (tonnes per capita)	**Transparency** Corruption Perceptions Index Basel Anti-Money Laundering Index
Industrial base Gross value added of manufacturing (% of GDP) Patent families filed in two offices (per billion PPP$ GDP)	**Equality** Gini coefficient of disposable income, after taxes and transfers Income share held by the poorest quintile (%)	**Energy productivity** Energy productivity (PPP$ per koe)	**Sound public finances** General government gross debt (% of GDP)

Source: European Commission, Transitions Performance Index 2021.

6. DETAILED COMPOSITION

PILLAR 1. ECONOMIC TRANSITION

Objective: Making the economy work for a new prosperity.

Rationale: To go beyond GDP measures of prosperity by adding elements on a country's ability to sustain long-term economic growth through investment in human capital (education), innovation and industry.

The first pillar, Economic transition, is the pragmatic part of the transformation agenda. A radical economic transformation is required that provides sufficient funding for the environmental transformation needed, while securing resources for jobs, housing, food, etc. In addition, digital transformation, especially highlighted by the COVID-19 crisis, is a driver for new business models and markets, impacting on the economies' resilience and competitiveness.

At the same time, this transition must ensure that research, innovation, and training help to facilitate progress. This can be achieved by investing in the education of future generations and guaranteeing that value creation is rooted within the regions that are in transformation and not offshored. This is a challenge for the European continent, but not solely. The various elementary indicators in this pillar describe a well-functioning, competitive and smart economy.

The first pillar sets the basic precondition for a prosperous society and a healthy economy. GDP measures the overall production of goods and services, but this growth must be sustainable, i.e. with competitive economies where knowledge and new technologies result from education, training, and innovation. There is no guarantee that growth in GDP and private activity will automatically generate a sufficient level of these public goods[9], and the indicators are chosen to address that risk.

SUB-PILLAR 1.1. EDUCATION AND DIGITAL SKILLS

Objective: Knowledge sustainability.

Indicator: Government expenditure in education per student (% of GDP per capita), proportion of individuals using the internet, proportion of youth and adults with ICT skills, by type of skills[10].

Rationale: Education at all levels (primary, secondary, and tertiary) is a prerequisite for a sustainable transition path. Digital skills and use are becoming a prerequisite for resilience, both at individual and society level. In addition, as observed during the current COVID-19 crisis, digital skills have become an important competence, in a context of increased digitalisation of the economies.

Education is a collective good providing many spillover benefits. Therefore, on top of the legitimate private funding already measured in per capita GDP, public funding of education is a valid measure of the collective effort in favour of education.

For education, the difficulty is to create a simple and objective output indicator that would comprehensively cover the results of the public effort made at primary, secondary and tertiary level. Although output measures do not discriminate between public and private efforts, they do not cover all levels. For instance, objective measures such as the rankings compiled by the OECD's Programme for International Student Assessment do not cover tertiary level. Therefore, for the time being, a proxy input indicator is used that seems appropriate in this context.

In future editions, if an outcome indicator becomes available and is widely supported, it could be considered to complement or replace the current indicator. Moreover, as part of the European Semester, detailed data exist to monitor the various dimensions of education, and the TPI does not aim to duplicate these fundamental reports.

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9   The second pillar addresses the difficulty of GDP to differentiate between types of activities and the risks. It does not adequately reflect variations in individual welfare.

10   These two indicators are included in the Global SDG Indicator Framework. The indicator 'Proportion of youth and adults with ICT skills, by type of skills' is the global indicator for SDG Target 4.4. The indicator 'Proportion of individuals using the Internet' is the global indicator for SDG 17.8. https://www.itu.int/en/ITU-D/Statistics/Pages/SDGs-ITU-ICT-indicators.aspx

The proportion of individuals using internet corresponds to UN SDG indicator 17.8.1, a global indicator for target 17.8: 'Fully operationalise the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology'.

The proportion of youth and adults with ICT skills, by type of skills, corresponds to UN SDG indicator 4.4.1, a global indicator for target 4.4: 'By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship[11]'.

SUB-PILLAR 1.2. WEALTH

Objective: To maintain the economic conditions that provide the resources for collective and individual well-being.

Indicator: Gross domestic product (GDP) per capita, current dollars (PPP$).

Rationale: The inclusion of GDP is not a plea for growth – and certainly not a plea for growth at any cost. However, one cannot avoid the reality that: (i) the Earth faces a growing population; (ii) individual salaries from work (which also go through tax revenues to pay for pensions and social care) depend on a healthy economy; and (iii) public and private investments are needed to face the economic transformation.

SUB-PILLAR 1.3. LABOUR PRODUCTIVITY AND R&D INTENSITY

Objective: To ensure the sustainability of industrial and technological progress.

Indicator: Composite of: (i) output per worker (2011 constant GPD PPP$), and (ii) gross expenditure on R&D (% of GDP).

Rationale: Scientific progress, innovation, and human capital adapted to the digital transformation enable economies to be resilient. They also enable economies to provide better

products and services to respond to individual and social needs, while remaining internationally competitive. Total factor productivity would have been the most appropriate proxy to measure an economy's capacity to sustain progress over time. However, the only available metric is an index with a base year aimed at measuring progress and not absolute levels.

The combination of labour productivity and R&D intensity adequately describes the impact of: (i) physical investment, work organisation, and business models; and (ii) two main intangibles: improvement in skills and investment in science and innovation. Moreover, one of the Europe 2020 targets is to increase combined public and private investment in R&D to 3 % of GDP[12].

SUB-PILLAR 1.4. INDUSTRIAL BASE

Objective: Technology sustainability, providing the basis to produce locally and to deploy innovative solutions across the territory; increased resilience.

Indicator: Composite of: (i) gross value added of manufacturing (% of GDP), and (ii) patent families filed in two offices (per billion PPP$ GDP.

Rationale: An economy that innovates and provides jobs supports the European socioeconomic model. Local production also protects the environment, in particular by minimising transport and greenhouse gas (GHG) emissions. Most of Europe's knowledge and intellectual assets need to be deployed locally to create a critical mass for diffusing this knowledge and these assets across various sectors and disciplines. For this reason, the development of smart, innovative, and sustainable industry in Europe is a key objective. The COVID-19 crisis has shown that the resilience of an economy also depends on its capacity to: (i) respond quickly to local needs; (ii) maintain sufficient capacity of production locally (or within a common market); and (iii) in certain cases have a sufficient degree of technological sovereignty to prioritise emerging needs. Beyond the health domain, such needs may exist in other areas, such as the environment, the digital economy, healthy food, energy, or defence. The COVID-19 crisis has also emphasised the concept of technology sovereignty, in particular to reduce Europe's dependence.

PILLAR 2. SOCIAL TRANSITION

Objective: Focusing on fairness and inclusion.

Rationale: To measure the extent to which people live in a society that provides health, jobs, household income, and free time in a fair and inclusive manner. Even with a well-functioning economy and democracy (measured in pillars 1 and 4), the principle of 'people first' guides the European Commission's action, in line with the SDGs.

The second pillar, Social transition, is the part of the conceptual framework dealing with fairness. It is aimed at assessing whether: (i) the European social model is being improved and protected; and (ii) the resources that are generated (and measured in pillar 1) are being used efficiently to fairly serve the needs of the people. It encompasses major areas that affect everyone's lives such as: (i) health protection; (ii) access to work; (iii) fairness in the income distribution; (iv) fairness in the tax and redistribution systems; and (v) the capacity to have spare time for personal and social activities.

SUB-PILLAR 2.1. HEALTH

Objective: Providing health to the public/citizens.

Indicator: Healthy life expectancy at birth (years).

Rationale: A society and economy that work for people must strive to improve people's health. Health and healthcare are lifelong concerns. For this reason, this sub-pillar focuses more on having a healthy life than merely a long life. The choice of indicator is therefore healthy life expectancy at birth, as opposed to plain life expectancy. This indicator also includes the worrying challenge of mental-health problems, which affect a growing share of the population worldwide, in particular in the context of the COVID-19 pandemic[13].

In addition, the COVID-19 pandemic has had a direct impact on healthy life expectancy, in addition to the uncertain long-term effects on the patients who recovered. The pandemic has also put forward the concept of co-morbidity for many people. It has also emphasised the need to invest massively in healthcare, in particular in its digital transformation and in preparedness.

Lastly, air pollution and the use of pesticide and other chemical products or plastics may have negative long-term effects on health.

SUB-PILLAR 2.2. WORK AND INCLUSION

Objective: Providing access to work in an inclusive manner.

Indicator: Composite of: (i) the employment rate of people aged 20-64; (ii) the employment-to-population ratio gender gap of people aged 25 or more; and (iii) early childhood care and education (%).

Rationale: Having a job is necessary to have a regular income, advance in society, and build achievements with social value. Working should be accessible to everyone, with no discrimination by race, gender, or minority status. The employment rate includes data that reflect discrimination by age, gender, or social/racial origin (the indicator worsens with discrimination).

Two indicators have also been included that increase the weight given to both gender discrimination and the absence of early childhood care and education (which de facto limits access to employment for parents). In the context of the 2030 headline targets set in the Commission's European Pillar of Social Rights Action Plan, the Porto Social Commitment aims that at least 78% of people aged 20 to 64 should be in employment[14].

Early childhood care and education (ECCE) contributes to human resource development, gender equality and social cohesion. ECCE is included in the Education 2030 agenda and in particular in target 4.2 of Sustainable Development Goal 4 which aims to 'by 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education[15].'

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13 In 2020, most EU countries encountered for the first time a decrease of their life expectancy: https://ec.europa.eu/eurostat/web/products-eurostat-news/-/edn-20210407-1
In the United States, the unprecedented decline in life expectancy started in 2014: https://www.cdc.gov/nchs/data/vsrr/vsrr015-508.pdf
14 https://www.2021portugal.eu/en/porto-social-summit/porto-social-commitment
15 https://en.unesco.org/node/265600. In addition, in 2002, the European Council in Barcelona set targets for the provision of formal childcare to be at least 33% of children under the age of three.

SUB-PILLAR 2.3. FREE OR NON-REMUNERATED TIME

Objective: Providing time for personal activities, social networking, and volunteering.

Indicator: Free or non-remunerated time of the active population (%).

Rationale: It is a modern historical trend that progress and productivity can be used to liberate people of the obligation to work long hours for most of their lives, providing free time for creativity, social commitments, family, sports, etc. Free time is not directly measured by GDP nor by most of the existing indicators, even though it has been an essential part of social progress since the abolition of slavery. Similarly, the social contribution of non-remunerated work – within households, charities, or social networks – is also not fully considered in GDP, even though it is growing in importance in our societies. This indicator is therefore essential to arrive at a real understanding of well-being. The indicator has been designed to be independent of the employment rate, measured in the previous sub-pillar.

SUB-PILLAR 2.4. EQUALITY

Objective: Reducing inequality in personal income distribution after taxes and transfers.

Indicator: Composite of: (i) the Gini coefficient of disposable income, after taxes and transfers; and (ii) the income share held by the poorest quintile.

Rationale: Contemporary societies have often sought to reduce inequality of income. Fairness in salaries, redistribution, and progressive taxes contribute to this objective. This drive to reduce inequality is not limited to a charity-type approach, caring only for the poorest. Instead, it is about taking from – and redistributing to – the entire population. The Gini coefficient measures not only the wealth gap between the richest and poorest members of society, but also the distribution of wealth across the board. This is especially relevant today when digital and economic transformation are constantly changing job profiles and affecting the salaries of the middle classes.

In this sub-pillar, the Gini coefficient is complemented with the income share held by the poorest 20% of the population to consider the situation of the people at risk of exclusion, as this part of the population is particularly affected by transformations and at the moment by the COVID-19 crisis.

PILLAR 3. ENVIRONMENTAL TRANSITION

Objective: Supporting the objectives of the European Green Deal.

Rationale: To measure the extent to which countries are protecting biodiversity, tackling climate change, and making productive use of resources and energy.

This pillar deals directly with the insufficiency of GDP to measure the impact of growth on the stock of common environmental goods. The scale of the environmental crisis justifies making the environmental transition a central element of the index at this turning point in our history, corresponding to the political priority set by the European Green Deal.

In addition, both production and consumption may have negative environmental spillover effects in other countries, for instance in terms of deforestation or loss of biodiversity, which increase the likelihood of future pandemics[16], but also in terms of use of natural resources and use of toxic pesticides.

SUB-PILLAR 3.1. EMISSIONS REDUCTION

Objective: Reaching climate neutrality by 2050

Indicator: Gross greenhouse gas emissions, excluding land use, land-use change and forestry (LULUCF), (tonnes per capita).

Rationale: The European Green Deal aims at 'tackling the climate challenge'. The main way to address this challenge is by reducing GHG emissions and improving energy productivity (sub-pillar 3.4). These two objectives require different types of policies and investments, and they have different impacts on the organisation of production and consumption patterns. Sub-pillar 3.1 focuses on changing consumption patterns, while sub-pillar

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16   Brancalion, P. H., Broadbent, E. N., de-Miguel, S., Cardil, A., Rosa, M. R., Almeida, C. T., ... & Almeyda-Zambrano, A. M. (2020). 'Emerging threats linking tropical deforestation and the COVID-19 pandemic', *Perspectives in ecology and conservation*, Vol. 18, Issue 4, 2020, pp. 243-246.

3.4 focuses on improving the model of production. Both actions are fundamental, and political choices must decide on the policy mixes between the two.

In July 2021, the Commission adopted a package of proposals[17] to make the EU's climate, energy, land use, transport and taxation policies fit for reducing net GHG emissions by at least 55% by 2030, compared to 1990 levels.

When targeting climate neutrality by 2050, as in the case of the European Green Deal and the Paris Agreement, the net GHG emissions might be considered to assess the gap between overall GHG emissions and carbon removals from forests, agricultural practices or engineered solutions. However, due to lack of quality data at the worldwide level, gross GHG emissions have been taken into account. In future editions, and as data become more available and reliable, net GHG emissions should be considered.

SUB-PILLAR 3.2. BIODIVERSITY

Objective: Protecting biodiversity.

Indicator: Composite of: (i) terrestrial and (ii) freshwater key biodiversity areas protected (%), and (iii) pesticide use per area of cropland (kg/ha).

Rationale: The loss of biodiversity has accelerated to an unprecedented level in Europe and worldwide. It has been estimated that the current global extinction rate is 100 to 1 000 times higher than the natural rate. In Europe, some 17% of mammals are endangered, together with 13% of birds and 40% of freshwater fish[18]. One out of 10 European bee and butterfly species is threatened with extinction.

The European Green Deal 'aims to conserve and enhance the European Union's natural capital' through the EU's biodiversity strategy by 2030. Protecting biodiversity is the most pressing challenge for the survival of humankind in the medium to long term. Indeed, biodiversity is the key indicator of the health of an ecosystem, as a wide variety of species cope better with threats than a limited variety of species. Even if certain species are affected by

pollution, climate change or human activities, ecosystems may adapt and survive. However, the extinction of a species may have unforeseen impacts, sometimes snowballing into the destruction of entire ecosystems.

For a complete picture, biodiversity is measured in: (i) protected areas on land, (ii) protected areas in freshwater; and (iii) in the much larger non-protected areas such as farmland with the use of pesticides in cropland as a proxy. These indicators complement the GHG emissions indicator, which besides addressing climate change includes emissions by cars and industry (and other pollutants). Other metrics on sulphur oxides and non-methane volatile organic compounds were also considered, but they have been discontinued at the international level. In the future, data on artificialised soils and on other air pollutants could be considered if they become available on a comparable basis at global scale.

The first two indicators correspond to UN SDG indicator 15.1.2: proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type, with the goal of protecting, restoring and promoting the sustainable use of terrestrial ecosystems, sustainably managed forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. The 2020 target was to ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements[19].

The EU's biodiversity strategy by 2030 is the proposal for the EU's contribution to the upcoming international negotiations on the global post-2020 biodiversity framework[20].

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17   https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/delivering-european-green-deal_en
18   https://www.europarl.europa.eu/news/en/headlines/society/20200519ST079424/endangered-species-in-europe-facts-and-figures-infographic
19   https://sdgs.un.org/goals/goal15
20   https://ec.europa.eu/environment/strategy/biodiversity-strategy-2030_en

SUB-PILLAR 3.3. MATERIAL USE

Objective: Using material resources efficiently for both consumption and production and minimising their impact on the environment.

Indicators: Resource productivity (GDP per unit of domestic material consumption of raw materials (PPP$ per kg)) and material footprint per capita[21].

Rationale: Both the consumption and the production based on materials have transboundary effects on the environment[22].

On the production side, resource productivity is a measure of the total amount of materials directly used by an economy, i.e. GDP per unit of domestic material consumption of raw materials. It provides insights into whether decoupling between the use of natural resources and economic growth is taking place. Resource productivity means using the Earth's limited resources in a sustainable manner while minimising impacts on the environment, making it possible to create more value with less input.

On the consumption side, material footprint measures the amount of domestic and foreign extraction of materials (biomass, fossil fuels, metal ores and nonmetal ores) used to meet domestic final demand for goods and services within a country. The metric aims to capture the global allocation of used raw material extraction to the final demand of an economy and provides insights into consumption spillovers. It opens a new perspective on global material supply chains and on the shared responsibility for the impacts of extraction, processing, and consumption of environmental resources[23] embedded in international trade.

Both indicators are essential components of the European Green Deal and the Circular Economy Action Plan. The promotion of a resource-efficient production base and the reduction of the consumption footprint will further encourage a fundamental transition towards a circular economy where resources are not simply extracted, used, and thrown away.

In addition, both indicators are related to UN SDG goals 8 and 12. Goal 8, Decent work and economic growth, includes target 8.4 to improve resource efficiency in consumption and production. Goal 12, Ensure sustainable consumption and production patterns, includes target 12.2 to ensure the sustainable management and use of natural resources[24].

The fundamental question is to what extent GDP growth can be decoupled from material consumption. Innovation, the circular economy, digitalisation, and informed consumer choices all contribute to this objective. For data-availability and comparability reasons, the index uses raw-material data. This choice also means avoiding the risk of double counting with indicator 3.4 (below), which is correlated with the use of energy material (oil, coal, etc.). In addition, this sub-indicator also aims to capture partly environmental spillover effects.

SUB-PILLAR 3.4. ENERGY PRODUCTIVITY

Objective: Protecting the stock of energy resources for future generations and minimising its impact on the environment.

Indicator: GDP per unit of energy use (PPP$ per kg of oil equivalent, koe).

Rationale: The production process – as well as fundamental activities such as housing or transportation – cannot exist without energy. As with resource productivity, the objective in this sub-pillar is to improve the efficiency of the economic system (production, transport, distribution, use and recycling) to make energy use sustainable.

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21 Both indicators are part of UN SDG 12: https://unstats.un.org/sdgs/report/2019/goal-12/
    Material footprint measures the amount of domestic and foreign extraction of materials (biomass, fossil fuels, metal ores, and non-metal ores) used to meet domestic final demand for goods and services within a country.

22 OECD/EC-JRC, Understanding the Spillovers and Transboundary Impacts of Public Policies: Implementing the 2030 Agenda for More Resilient Societies, OECD Publishing, Paris, 2021.

23 Wiedmann, T. O., Schandl, H., Lenzen, M., Moran, D., Suh, S., West, J., & Kanemoto, K., 'The material footprint of nations', *Proceedings of the national academy of sciences*, Vol.112, No 20, 2015, pp. 6 271-6 276.

24 Resource productivity corresponds roughly to the inverse of UN SDG indicator EN_MAT_DOMCMPG, Domestic material consumption per unit of GDP, by type of raw material (kilograms per constant 2010 United States dollars), although GDP is measured in PPP$. Material footprint has been incorporated into the TPI in the present 2021 edition and corresponds to UN SDG indicator EN_MAT_FTPRPC, Material footprint per capita, by type of raw material (tonnes): https://unstats.un.org/sdgs/report/2019/goal-12/

One of the Europe 2020 targets is to improve energy efficiency by moving towards a 20% increase in energy efficiency (equalling a reduction to 1 483 Mtoe of primary energy consumption by 2020), with energy efficiency calculated as the inverse of energy productivity.

PILLAR 4. GOVERNANCE TRANSITION

Objective: Promoting the European model of governance.

Rationale: To measure the extent to which institutions, systems of law, and community commitment ensure democracy, security, a healthy society, and the well-being of future generations (including by not leaving excessive debts to future generations).

EU values such as equality, non-discrimination, inclusion, human dignity, freedom and democracy, are fortified and protected by the rule of law and spelled out in the EU Treaties[25] and the Charter of Fundamental Rights. The increased risks of disinformation, populism, and insufficient social dialogue show that a fair and sustainable prosperity needs to be accompanied by a political governance that promotes fundamental rights, rule of law, security and transparency.

A sustainable path for 'a new growth strategy with a view to transform an economic zone into a fair and prosperous society'[26] requires ensuring that society is based on a common societal model, in which people feel they have a stake and to which they feel they belong.

While the Social pillar measures well-being at the individual level, the fourth pillar on Governance transition takes a broader view, describing key aspects of the institutional and societal framework that ground the social contract between citizens and their government. This pillar reflects the institutional and collective choices to be made to preserve and improve societies. The agenda for transformation will not be acceptable without maintaining and enhancing the guarantees that form the basis of the governance systems.

SUB-PILLAR 4.1. FUNDAMENTAL RIGHTS

Objective: Ensuring fundamental institutional rights for citizens.

Indicator: Composite of: (i) voice and accountability (index), and (ii) rule of law (index).

Rationale: Fundamental rights are a basic prerequisite for the social contract. The World Bank worldwide governance indicators cover six areas, two of which have been retained for the indicators in this sub-pillar: (i) Voice and accountability; and (ii) Rule of law. The two composite indicators measure perceptions of the extent to which citizens can participate in selecting their government (voice and accountability) and have confidence in and abide by the rules of society (rule of law). These are taken as proxies for the fundamental rights firmly established under the Universal Declaration of Human rights[27].

The Fundamental rights sub-pillar complements other monitoring tools in the area of rule of law and Democracy, especially in the context of the COVID-19 crisis. The emergency measures have affected the political process and, in some places, have raised concerns about the impact on democracy[28]. Following these developments, the Commission has established a comprehensive European Rule of Law Mechanism to deepen its monitoring of the situation in Member States. This Mechanism acts as a preventive tool, deepening dialogue and joint awareness of rule of law issues. At its centre is the annual Rule of Law Report[29], established in 2020, which provides a synthesis of significant developments – both positive and negative – in all Member States and the Union as a whole.

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25 OJ C 236, 7.8.2012, p. 17–17 (Article 2 of the Treaty on European Union).
26 COM(2019) 640 final of 11 December 2019 (An EU goal stated in The European Green Deal).
27 Adopted by The United Nations General Assembly in 1948.
28 Council of Europe Venice Commission, Interim Report on the measures taken in the EU member States as a result of the Covid-19 crisis and their impact on democracy, the Rule of Law and Fundamental Rights (Adopted by the Venice Commission on 8 October 2020 at its 124th online Plenary Session). https://www.venice.coe.int/webforms/documents/?pdf=CDL-AD(2020)018-e
29 COM(2021) 700 final of 20 July 2021, https://ec.europa.eu/info/policies/justice-and-fundamental-rights/upholding-rule-law/rule-law/rule-law-mechanism/2021-rule-law-report_en

SUB-PILLAR 4.2. SECURITY

Objective: Providing security to citizens.

Indicator: Homicide rate (per 100 000 inhabitants).

Rationale: Security affects everybody. The most direct measure of security is whether citizens are seriously at risk. High levels of violent crime compromise physical safety and psychological well-being, and the stress they cause also has a negative impact on health. An analysis of the data showed some biases in violent-crime indicators (probably due to the deficient recording of instances of serious assault, robbery, rape, etc.). For this reason, the homicide rate is used as a proxy. Data on imprisonment rates was also considered as a second indicator, but the interpretation and comparability of data unfortunately made it impossible to use.

The COVID-19 pandemic has changed the nature of social interactions. Early research suggests that the containment measures adopted have a significant effect on crimes with variation across countries and type of crimes. Confinements and quarantine measures have had a negative impact on family-related violence, enhanced by economic stress, increased exposure to exploitative relationships and social isolation.

Data on homicide rates for 2020 are not yet available with a large enough coverage. Therefore, the impact of COVID-19 on the security sub-pillar is not captured in this edition of the TPI but should be monitored in future editions.

SUB-PILLAR 4.3. TRANSPARENCY

Objective: Providing a healthy society with limited symptoms of dysfunction.

Indicator: Composite of: (i) the public corruption-perception index, and (ii) the Basel anti-money laundering index.

Rationale: Citizens wish to live in a society whose institutions they can trust. Patricia Moreira, Managing Director of Transparency International says that 'corruption chips away at democracy to produce a vicious cycle, where corruption undermines democratic institutions and, in turn, weak institutions are less able to control corruption'.

The perception of public corruption is a good indicator of whether citizens trust the behaviour of their administration and public authorities. Similarly, the Basel anti-money laundering index measures the degree of trust in a financial system and whether it favours tax avoidance or money laundering that could weaken social consensus and the sense of justice.

COVID-19 has also revealed that corruption is prevalent in many countries including in healthcare systems. By taking emergency measures to respond quickly to the crisis situation, governments have relaxed safeguards, raising the risk of corruption. At a lower level, corruption can take many forms such as favouritism that prioritises treatments to people that have social connections with providers, theft and embezzlement, bribery, manipulation of data, and other forms of corruption. The pandemic is also expected to affect money laundering and fraud risk as user behaviours change and virtual transactions are preferred over in-person transactions[30].

SUB-PILLAR 4.4. SOUND PUBLIC FINANCES

Objective: To avoid financing present consumption and investment at the expense of future generations.

Indicator: General government gross debt (% of GDP).

Rationale: Societies face profound transformations, and the temptation is great to finance these by endangering the stability of public finances. This presents two serious costs, both of which add to the burden faced by future generations. Firstly, by delaying difficult but necessary choices, the proper management of this transformation is compromised. Secondly, the present generation could maintain its advantages by adding to public debt, leaving the bill to future generations.

The management of 'stocks' is essential to the implementation of the 'beyond GDP' perspective. Increasing the stock of debt, destroying natural stocks (biodiversity, resources, etc.), or stopping investment in stocks of human capital and knowledge all endanger the wealth of future generations.

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30   Council of Europe, Committee of experts on the evaluation of anti-money laundering measures and the financing of terrorism, Money laundering and terrorism financing trends in MONEYVAL jurisdictions during the COVID-19 crisis, Strasbourg, 2020. https://rm.coe.int/moneyval-2020-18rev-covid19/16809f66c3

The COVID-19 crisis will have a negative statistical impact on many measures of 'stocks' in the TPI, due to increases in poverty and debt, and lower levels of investment. This will obviously impact the evolution of the TPI score in the coming years, as any major crisis would have. For this reason, the behaviour of the TPI will need to be monitored and if need be adapted, including this ratio. For instance, it is expected that the increase in the value of this ratio could be somewhat counterbalanced by the indicators with GDP in the denominator. In anticipation, however, the decision was to assign a small weight to this indicator.

Furthermore, the target goalposts for this indicator are kept less demanding than the EU target threshold of 60%. Considering the economic crisis stemming from the pandemic, as well as countries' different stages of development, the TPI sets a compromise. On the one hand, the importance of protecting future generations from excessive debt is recognised: prudent prioritisation of public investment (in R&D or environmental investment, for instance) may generate sustainable growth, alleviating the cost of the debt in the future. On the other hand, there

is a need for flexibility and time to adapt to the health and economic crises. The upper and lower 'goalposts' (target ranges), the normalisation method, and the weights (see Appendix IV – Technical notes) are all designed to avoid unduly penalising countries. The independent statistical audit recommends an analysis of the statistical behaviour of this indicator for future editions of the TPI.

The place of this indicator under the Governance pillar is justified, as it is neutral in terms of allocation of resources. Levels and trends in debt-to-GDP depend on the democratic capacity to: (i) make fiscal choices (to reach a consensus on the prioritisation of expenses); and (ii) have a social agreement to contribute to tax (tax evasion and tax avoidance are two of the greatest challenges in all political regimes). Levels and trends of debt-to-GDP also depend on good governance at all levels. Local cronyism may inflate public debt at other governance levels, e.g. at the city or district level. This indicator is therefore part of ensuring the good governance needed to create a consensus for managing the economic, social, and environmental transitions monitored by the three other pillars of the TPI.

APPENDIX II

COUNTRY PROFILES

COUNTRY PROFILES HOW-TO-READ

This appendix provides detailed profiles for each of the 72 countries in the Transitions Performance Index 2021, the European Union (EU) and the world.

Please see Appendix III – Technical notes for details on computations and modelling choices, such as weights, upper and lower goalposts for normalisation, aggregation, etc. And refer to Appendix IV – Sources and definitions for details on indicators.

1. The first box, below the country name, includes four key context indicators for all countries: Population in million inhabitants[1]; Gross Domestic Product (GDP) per capita in current Purchasing Power Parity dollars (PPP$); GDP in billion PPP$ [2]; and trade as a percentage of GDP[3].

EU countries and a few other countries include the International Digital Economy and Society Index score [0-100] as well as the European Skills Index [0-100] and the Gender Equality Index Score [0-100][4].

2. The **'Ranks and scores'** table includes, for the TPI and each of the four transitions (economic, social, environmental and governance), each country's 2021 ranks and scores, the weighted average arithmetic score for the 72 countries (the 'World' score), the simple arithmetic average scores for the income group and geographical region to which the country pertains, and the EU score.

Income group is defined according to the World Bank Income Group Classification (July 2020): lower-middle income; upper-middle income; and high income (the 2021 TPI does not include low-income countries)[5].

Geographical regions include the Americas; Europe and Central Asia; Middle East and Africa; and South-East Asia and Pacific. The EU is a distinct category included in all country profiles.

Scores are normalised in the [0-100] range; rankings range from 1 to 72; the EU and World scores are not ranked.

Scores are colour-coded into five '**transition groups**' based on fixed values: 'transition leader', in dark green ■, for scores greater than or equal to 75, and less than or equal to 100 ([75-100]); 'strong transition', in blue ■, for scores greater than or equal to 65, and less than 75 ([65-75[); 'good transition', in purple ■, for scores greater than or equal to 55, and less than 65 ([55-65[); 'moderate transition', in pink ■, for scores greater than or equal to 45, and less than 55 ([45-55[); and 'weak transition', in beige ■, for scores greater than or equal to 0, and less than 45 ([0-45[).

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3. The '**TPI Scores 2020**' radar chart presents the scores from the previous table. The country score is represented by the shaded area, while lines represent the income, region, World and EU scores.

Note that the world and EU TPI and transition score plain lines (green and blue) represent roughly mid-way and three-quarters of the way towards the upper goalpost score of 100.

4. The '**TRANSITIONS PROGRESS 2011-2020**' chart presents country scores over the 2011-2020 period. The shaded area represents the TPI score, while lines represent each of the four transitions: economic, social, environmental and governance. For the EU profile, only the 27 current Members States are included in the computation of scores for the entire period (i.e. the United Kingdom is not included).

5. The second page of the profile includes detailed information for each country, the EU, and the world. Rows present the TPI (in purple), the four pillars, transitions (in dark green, name in bold, single-digit code), the 16 sub-pillars (four for each pillar, in light green, name in capital letters, two-digit code), and the 28 indicators (in white, three-digit code, unless a sub-pillar includes a single indicator, in which case it appears in light green, as a sub-pillar, with a two-digit code).

For example, the indicator 1.3.2 Gross expenditure on R&D (% of GDP) appears under sub-pillar 1.3 LABOUR PRODUCTIVITY & R&D INTENSITY, which, in turn, appears under **pillar 1. Economic transition**. Similarly, the single indicator 2.1 Healthy life expectancy at birth (years) appears under sub-pillar 2.1 (same code), HEALTH, which, in turn, appears under **pillar 2. Social transition**.

Regarding columns, for each indicator, 'value' is the value in the unit provided in parenthesis in the name of the indicator. Then, for each dimension (indicator, sub-pillar, pillar, or TPI), 'rank' is the rank of each 'score' among the scores of the 72 countries. Each 'score' is the normalised score of the indicator 'value' in the [0-100] range. Where data are not available, 'N/A' is used.

Each dimension 'score' and corresponding 'rank' (TPI, pillar, sub-pillar) is calculated as the weighted average of the scores in the sub-dimension (pillar, sub-pillar and indicator respectively). Please see Appendix III for details and modelling choices.

To the right of the table, two columns categorise the scores over the 2011-2020 period. Colour coding of scores into transition groups help to interpret score *levels*;[6] arrows and lines are a guide to interpret *progress* since 2011.

Arrows are used to compare the growth of 2020 scores over 2011 scores: ↓ indicates a decline of 10% or more; ↘ indicates a decline between 0% and 10%, '–' indicates growth within expected ranges, between 0% and below 6.5% ↗ indicates growth from 6.5% but less than 13%; and ↑ indicates growth above 13% .

Lines represent the evolution in scores. All scores use the same [0-100] range, and normalisation is based on the indicator's upper and lower goalposts which are fixed for the entire 2011-2020 period. Progress lines are not drawn in the [0-100] scale, however, they are drawn using automatic scaling, thereby depicting trends and evolution but not levels.

EUROPEAN UNION COUNTRY PROFILES

REST OF THE WORLD COUNTRY PROFILES

AUSTRIA

POPULATION (million inhabitants)	**8.9**	**GDP PER CAPITA** (current PPP$)	**55 218.5**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**493.6**	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	**52.0**
EUROPEAN SKILLS INDEX (0-100)	**64.5**	**GENDER EQUALITY INDEX SCORE** (0-100)	**68.0**

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Austria ranks	**11**	**8**	**15**	**34**	**14**
Austria score	70.4	70.2	80.6	59.1	78.0
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Austria score
- High income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Austria
- Economic transition
- Social transition
- Environmental transition
- Governance transition
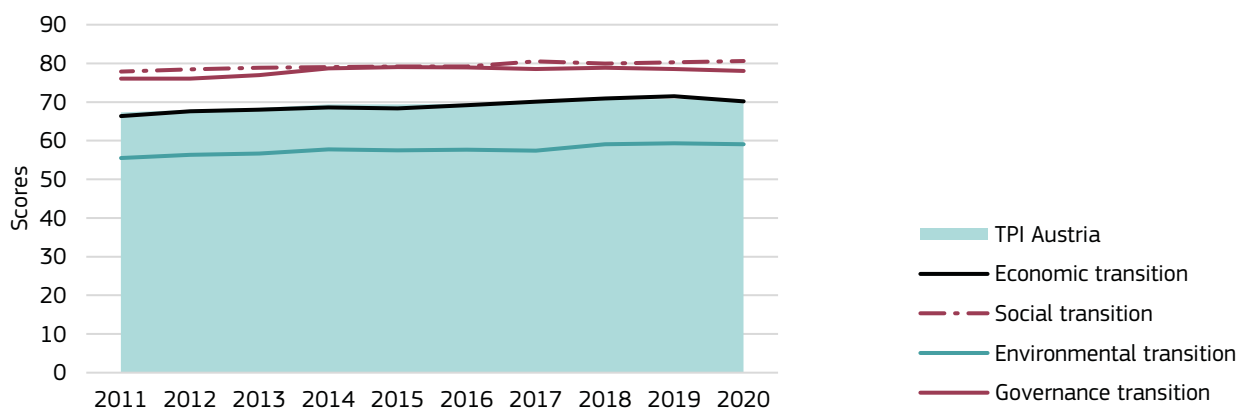
AUSTRIA

Index	Transitions Performance Index	VALUE	RANK	SCORE	Progress
	Transitions Performance Index		**11**	**70.4**	–
1.	**Economic transition**		**8**	**70.2**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	74.1	16	**74.1**	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	19.1	15	**76.3**	–
1.1.2	Internet users (%)	87.5	26	**87.5**	↗
1.1.3	Proportion of people with ICT skills (composite)	58.6	12	**58.6**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	55 218.5	11	**73.6**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	69.4	7	**69.4**	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	112 370.6	10	**74.9**	–
1.3.2	Gross expenditure on R&D (% of GDP)	3.2	5	**63.8**	↑
1.4	INDUSTRIAL BASE	64.5	10	**64.5**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	16.0	22	**53.3**	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	4.0	11	**81.2**	↘
2.	**Social transition**		**15**	**80.6**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	70.9	21	**86.5**	–
2.2	WORK AND INCLUSION	81.8	14	**81.8**	–
2.2.1	Employment rate of the population aged 20-64 (%)	75.5	24	**71.0**	–
2.2.2	Employment-to-population ratio gender gap 25+ (%)	11.6	19	**83.4**	–
2.2.3	Gross enrolment ratio, pre-primary (%)	103.3	1	**100.0**	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	59.7	13	**81.3**	↗
2.4	EQUALITY	75.4	23	**75.4**	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	30.8	21	**76.0**	–
2.4.2	Income share held by the poorest quintile (%)	7.9	24	**73.8**	–
3.	**Environmental transition**		**34**	**59.1**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	9.3	47	**61.3**	–
3.2	BIODIVERSITY	70.3	26	**70.3**	↘
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	67.4	28	**67.4**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	71.2	26	**71.2**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	3.6	42	**74.6**	↘
3.3	MATERIAL USE	33.8	57	**33.8**	↑
3.3.1	Resource productivity (PPP$ per kg)	2.9	18	**49.1**	↑
3.3.2	Material footprint (tonnes per capita)	32.6	62	**18.5**	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	14.2	19	**70.9**	↗
4.	**Governance transition**		**14**	**78.0**	–
4.1	FUNDAMENTAL RIGHTS	94.2	9	**94.2**	↘
4.1.1	Voice and accountability index (z-score)	1.4	10	**91.9**	↘
4.1.2	Rule of law Index (z-score)	1.8	7	**96.5**	–
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.0	24	**81.3**	↘
4.3	TRANSPARENCY	63.9	16	**63.9**	↑
4.3.1	Corruption perceptions index (0-100)	76.0	14	**76.0**	↗
4.3.2	Basel anti-money laundering index (0-10)	4.4	26	**55.8**	↑
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	83.2	53	**62.5**	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

BELGIUM

POPULATION (million inhabitants)	11.5	GDP PER CAPITA (current PPP$)	51 096.1
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	589.7	INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	49.0
EUROPEAN SKILLS INDEX (0-100)	55.2	GENDER EQUALITY INDEX SCORE (0-100)	72.7

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Belgium ranks	**13**	**12**	**11**	**33**	**20**
Belgium score	68.9	67.9	81.6	59.1	73.3
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

TRANSITIONS PROGRESS 2011-2020
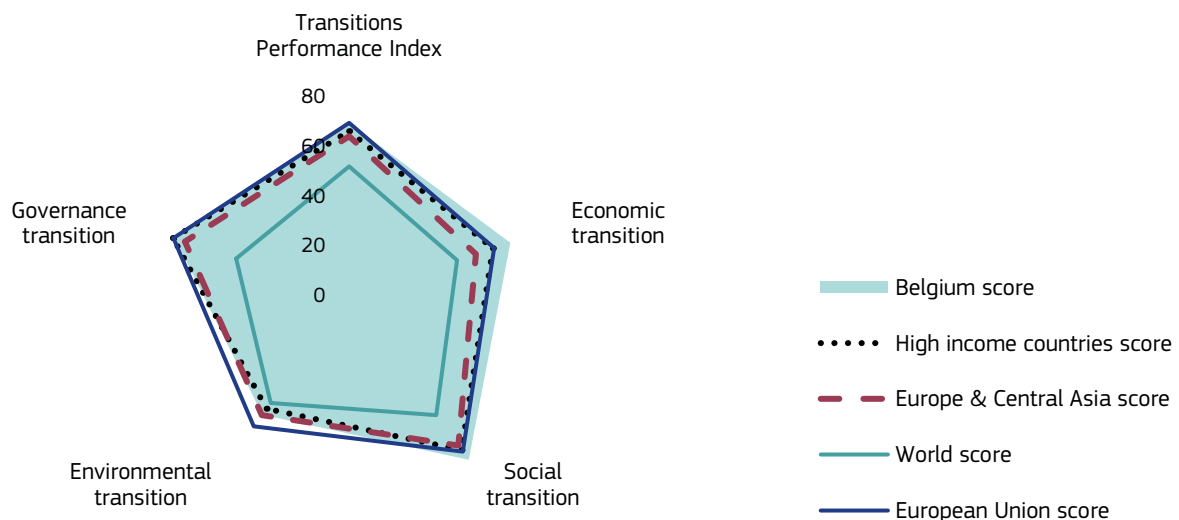
TRANSITIONS PERFORMANCE INDEX 2021
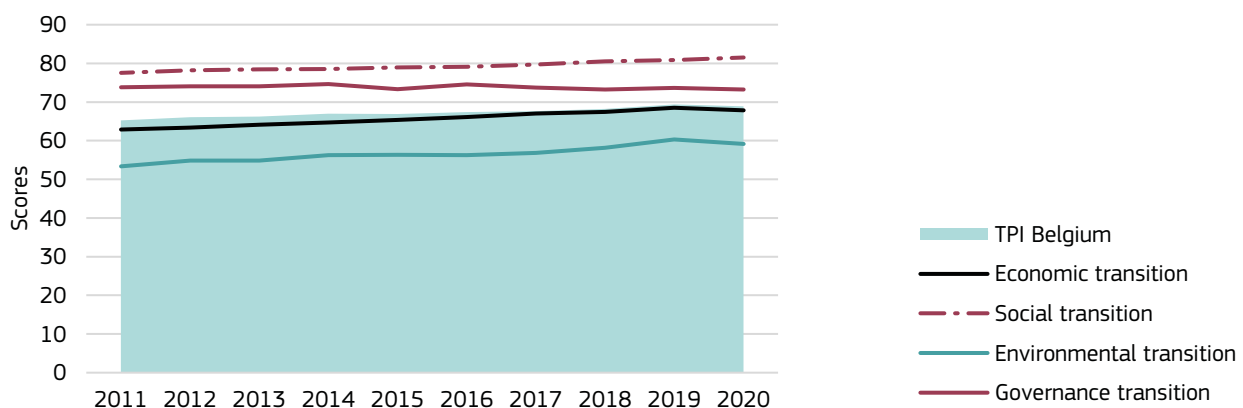
BELGIUM

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**13**	**68.9**	–
1.	**Economic transition**		**12**	**67.9**	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	79.5	9	**79.5**	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	21.9	6	**87.6**	–
1.1.2	Internet users (%)	91.5	16	**91.5**	↗
1.1.3	Proportion of people with ICT skills (composite)	59.5	11	**59.5**	↘
1.2	WEALTH: GDP per capita, current dollars (PPP$)	51 096.1	15	**68.1**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	69.4	6	**69.4**	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	121 606.1	7	**81.1**	–
1.3.2	Gross expenditure on R&D (% of GDP)	2.9	9	**57.8**	↑
1.4	INDUSTRIAL BASE	55.0	21	**55.0**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	12.3	42	**41.0**	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	2.7	15	**75.9**	↘
2.	**Social transition**		**11**	**81.6**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	70.6	26	**85.2**	–
2.2	WORK AND INCLUSION	77.9	23	**77.9**	–
2.2.1	Employment rate of the population aged 20-64 (%)	70.0	38	**60.0**	↗
2.2.2	Employment-to-population ratio gender gap 25+ (%)	10.7	13	**84.7**	–
2.2.3	Gross enrolment ratio, pre-primary (%)	114.0	1	**100.0**	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	56.5	30	**75.4**	↗
2.4	EQUALITY	84.6	10	**84.6**	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	27.2	8	**84.0**	–
2.4.2	Income share held by the poorest quintile (%)	8.9	12	**86.3**	–
3.	**Environmental transition**		**33**	**59.1**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	10.6	56	**55.8**	↗
3.2	BIODIVERSITY	74.6	21	**74.6**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	75.6	22	**75.6**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	85.6	16	**85.6**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	7.0	59	**50.3**	↘
3.3	MATERIAL USE	55.9	12	**55.9**	↑
3.3.1	Resource productivity (PPP$ per kg)	4.3	9	**72.1**	↑
3.3.2	Material footprint (tonnes per capita)	24.1	46	**39.7**	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	10.0	47	**50.2**	↑
4.	**Governance transition**		**20**	**73.3**	↘
4.1	FUNDAMENTAL RIGHTS	90.7	16	**90.7**	↘
4.1.1	Voice and accountability index (z-score)	1.3	15	**90.0**	↘
4.1.2	Rule of law Index (z-score)	1.4	19	**91.4**	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.7	43	**72.6**	–
4.3	TRANSPARENCY	66.8	8	**66.8**	↘
4.3.1	Corruption perceptions index (0-100)	76.0	14	**76.0**	–
4.3.2	Basel anti-money laundering index (0-10)	3.9	16	**60.6**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	114.1	62	**42.5**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

BULGARIA

POPULATION (million inhabitants)	**6.9**	**GDP PER CAPITA** (current PPP$)	**23 817.5**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**164.1**	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	**40.0**
EUROPEAN SKILLS INDEX (0-100)	**43.5**	**GENDER EQUALITY INDEX SCORE** (0-100)	**59.9**

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Bulgaria ranks	**36**	**47**	**46**	**28**	**33**
Bulgaria score	59.3	40.8	65.3	61.2	66.7
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Bulgaria score
- Upper middle income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Bulgaria
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021

BULGARIA

Index	Transitions Performance Index	2020 VALUE	RANK	SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		**36**	**59.3**	–
1.	**Economic transition**		**47**	**40.8**	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	53.1	54	**53.1**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	16.5	31	**66.0**	↑
1.1.2	Internet users (%)	70.2	61	**70.2**	↑
1.1.3	Proportion of people with ICT skills (composite)	23.1	50	**23.1**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	23 817.5	44	**31.8**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	24.9	45	**24.9**	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	49 625.5	47	**33.1**	↗
1.3.2	Gross expenditure on R&D (% of GDP)	0.8	42	**16.8**	↑
1.4	INDUSTRIAL BASE	45.0	35	**45.0**	↗
1.4.1	Gross value added of manufacturing (% of GDP)	13.8	32	**46.0**	–
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.2	40	**43.4**	↗
2.	**Social transition**		**46**	**65.3**	↘
2.1	HEALTH: Healthy life expectancy at birth (years)	66.3	50	**70.9**	–
2.2	WORK AND INCLUSION	72.8	33	**72.8**	↗
2.2.1	Employment rate of the population aged 20-64 (%)	73.4	30	**66.8**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	13.5	28	**80.7**	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	79.4	43	**69.0**	↘
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	56.7	29	**75.9**	↑
2.4	EQUALITY	51.1	60	**51.1**	↓
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	41.3	60	**52.7**	↓
2.4.2	Income share held by the poorest quintile (%)	5.7	59	**46.3**	↓
3.	**Environmental transition**		**28**	**61.2**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	8.1	39	**66.3**	–
3.2	BIODIVERSITY	95.5	2	**95.5**	↘
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	96.6	2	**96.6**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	98.7	3	**98.7**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	1.8	29	**86.9**	↓
3.3	MATERIAL USE	43.9	39	**43.9**	–
3.3.1	Resource productivity (PPP$ per kg)	1.2	59	**19.8**	↑
3.3.2	Material footprint (tonnes per capita)	12.8	22	**68.0**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	7.9	58	**39.3**	↑
4.	**Governance transition**		**33**	**66.7**	–
4.1	FUNDAMENTAL RIGHTS	53.4	44	**53.4**	↘
4.1.1	Voice and accountability index (z-score)	0.3	43	**60.3**	↓
4.1.2	Rule of law Index (z-score)	(0.1)	51	**46.5**	–
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.3	36	**76.9**	↗
4.3	TRANSPARENCY	58.9	28	**58.9**	↑
4.3.1	Corruption perceptions index (0-100)	44.0	44	**44.0**	↗
4.3.2	Basel anti-money laundering index (0-10)	3.1	3	**68.8**	↑
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	23.6	1	**100.0**	–

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

CROATIA

POPULATION (million inhabitants)	**4.1**	
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**113.3**	
EUROPEAN SKILLS INDEX (0-100)	**61.8**	

GDP PER CAPITA (current PPP$)	**27 717.4**
INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	**35.0**
GENDER EQUALITY INDEX SCORE (0-100)	**59.2**

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Croatia ranks	**24**	**41**	**33**	**11**	**31**
Croatia score	64.3	45.6	72.0	67.6	68.7
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

TRANSITIONS PROGRESS 2011-2020

TRANSITIONS PERFORMANCE INDEX 2021

CROATIA
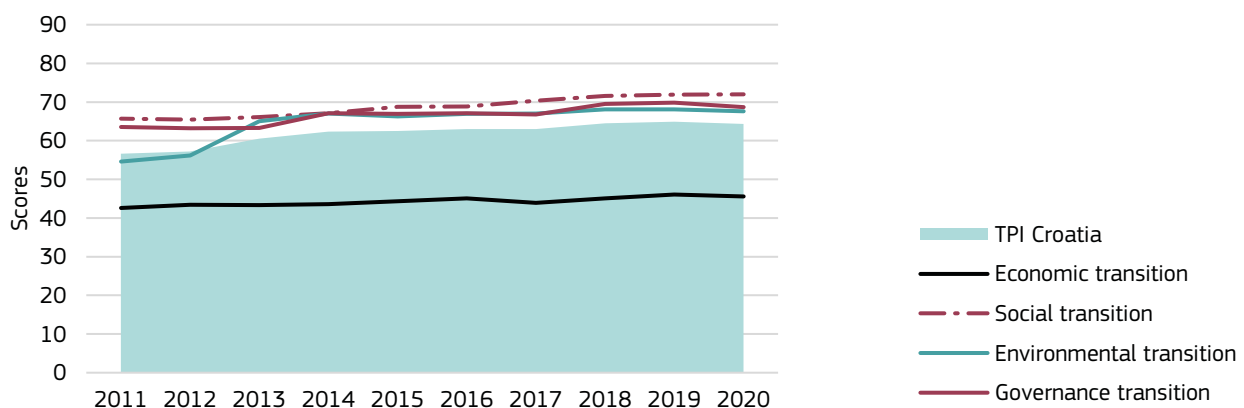
Index	Transitions Performance Index	VALUE	2020 RANK	SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		24	**64.3**	↑
1.	**Economic transition**		41	**45.6**	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	65.0	36	**65.0**	↗
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	19.0	16	**75.9**	↗
1.1.2	Internet users (%)	78.3	44	**78.3**	↑
1.1.3	Proportion of people with ICT skills (composite)	40.8	33	**40.8**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	27 717.4	42	**37.0**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	33.9	37	**33.9**	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	68 354.7	38	**45.6**	↗
1.3.2	Gross expenditure on R&D (% of GDP)	1.1	34	**22.2**	↑
1.4	INDUSTRIAL BASE	39.6	47	**39.6**	↓
1.4.1	Gross value added of manufacturing (% of GDP)	12.2	43	**40.7**	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.2	48	**38.0**	↓
2.	**Social transition**		33	**72.0**	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	68.6	35	**78.7**	–
2.2	WORK AND INCLUSION	64.8	45	**64.8**	↑
2.2.1	Employment rate of the population aged 20-64 (%)	66.9	42	**53.8**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	13.2	27	**81.2**	–
2.2.3	Gross enrolment ratio, pre-primary (%)	69.2	56	**53.8**	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	49.1	52	**61.9**	↗
2.4	EQUALITY	77.0	19	**77.0**	↗
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	29.7	16	**78.4**	↗
2.4.2	Income share held by the poorest quintile (%)	7.8	25	**72.5**	↑
3.	**Environmental transition**		11	**67.6**	↑
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	6.0	23	**75.0**	–
3.2	BIODIVERSITY	82.2	13	**82.2**	↑
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	76.9	19	**76.9**	↑
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	84.9	18	**84.9**	↑
3.2.3	Pesticide use per area of cropland (kg/ha)	1.7	27	**87.6**	↘
3.3	MATERIAL USE	50.8	25	**50.8**	–
3.3.1	Resource productivity (PPP$ per kg)	2.5	23	**41.6**	↑
3.3.2	Material footprint (tonnes per capita)	16.0	28	**59.9**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	12.5	28	**62.3**	↑
4.	**Governance transition**		31	**68.7**	↗
4.1	FUNDAMENTAL RIGHTS	66.7	39	**66.7**	–
4.1.1	Voice and accountability index (z-score)	0.6	39	**71.9**	–
4.1.2	Rule of law Index (z-score)	0.3	40	**61.6**	–
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.6	10	**87.4**	↗
4.3	TRANSPARENCY	55.2	33	**55.2**	↑
4.3.1	Corruption perceptions index (0-100)	47.0	42	**47.0**	–
4.3.2	Basel anti-money laundering index (0-10)	3.9	16	**60.6**	↑
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	88.7	54	**58.9**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

*Source: European Commission, Transitions Performance Index 2021.*

CYPRUS

POPULATION (million inhabitants)	**0.9**	**GDP PER CAPITA** (current PPP$)	**40 107.1**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**35.5**	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	**47.0**
EUROPEAN SKILLS INDEX (0-100)	**41.0**	**GENDER EQUALITY INDEX SCORE** (0-100)	**57.0**

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Cyprus ranks	**34**	**39**	**18**	**50**	**35**
Cyprus score	59.9	47.6	79.2	51.6	66.1
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

TRANSITIONS PROGRESS 2011-2020

II-13

CYPRUS
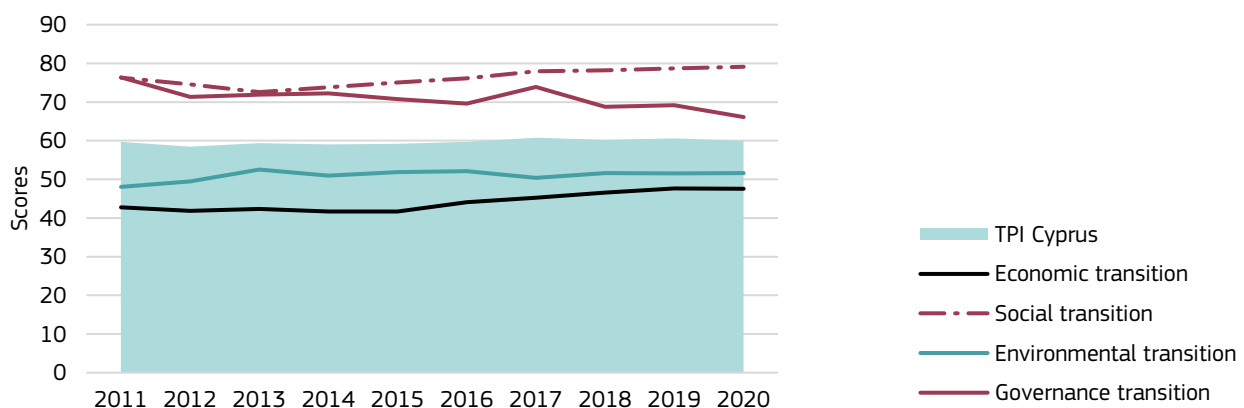
Index	Transitions Performance Index	VALUE	2020 RANK	SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		**34**	**59.9**	–
1.	**Economic transition**		**39**	**47.6**	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	66.8	30	**66.8**	↗
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	17.5	24	**69.9**	↘
1.1.2	Internet users (%)	90.8	19	**90.8**	↑
1.1.3	Proportion of people with ICT skills (composite)	39.8	35	**39.8**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	40 107.1	28	**53.5**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	25.9	44	**25.9**	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	58 932.5	42	**39.3**	↘
1.3.2	Gross expenditure on R&D (% of GDP)	0.6	52	**12.6**	↑
1.4	INDUSTRIAL BASE	38.8	51	**38.8**	–
1.4.1	Gross value added of manufacturing (% of GDP)	5.4	70	**18.0**	↑
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	1.7	24	**69.9**	–
2.	**Social transition**		**18**	**79.2**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	72.4	5	**91.4**	–
2.2	WORK AND INCLUSION	74.8	31	**74.8**	–
2.2.1	Employment rate of the population aged 20-64 (%)	74.9	26	**69.8**	–
2.2.2	Employment-to-population ratio gender gap 25+ (%)	15.2	32	**78.2**	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	85.3	39	**78.0**	↗
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	57.6	23	**77.5**	↗
2.4	EQUALITY	73.8	24	**73.8**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	32.7	27	**71.8**	↘
2.4.2	Income share held by the poorest quintile (%)	8.4	17	**80.0**	–
3.	**Environmental transition**		**50**	**51.6**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	11.2	58	**53.3**	–
3.2	BIODIVERSITY	49.3	44	**49.3**	↘
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	72.3	25	**72.3**	↑
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	36.6	52	**36.6**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	10.0	63	**28.7**	↓
3.3	MATERIAL USE	34.3	54	**34.3**	↑
3.3.1	Resource productivity (PPP$ per kg)	2.2	28	**37.4**	↑
3.3.2	Material footprint (tonnes per capita)	27.5	55	**31.2**	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	13.9	20	**69.5**	↗
4.	**Governance transition**		**35**	**66.1**	↓
4.1	FUNDAMENTAL RIGHTS	76.9	32	**76.9**	↓
4.1.1	Voice and accountability index (z-score)	0.9	29	**81.8**	↘
4.1.2	Rule of law Index (z-score)	0.6	35	**71.9**	↓
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.3	33	**77.4**	↘
4.3	TRANSPARENCY	53.1	39	**53.1**	↓
4.3.1	Corruption perceptions index (0-100)	57.0	30	**57.0**	↓
4.3.2	Basel anti-money laundering index (0-10)	5.0	44	**50.5**	↓
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	119.1	65	**39.3**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

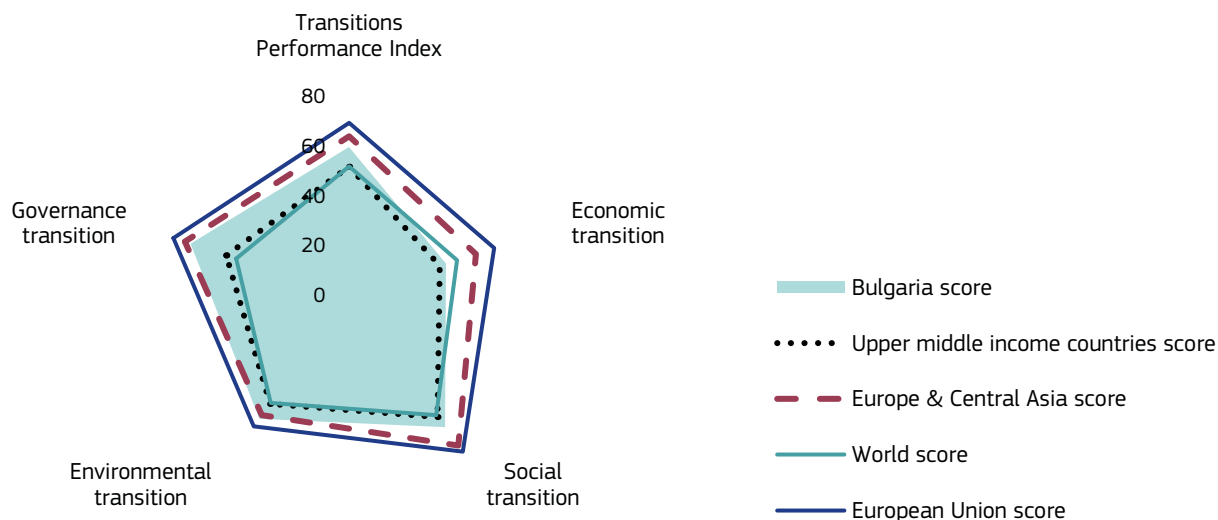*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

CZECHIA

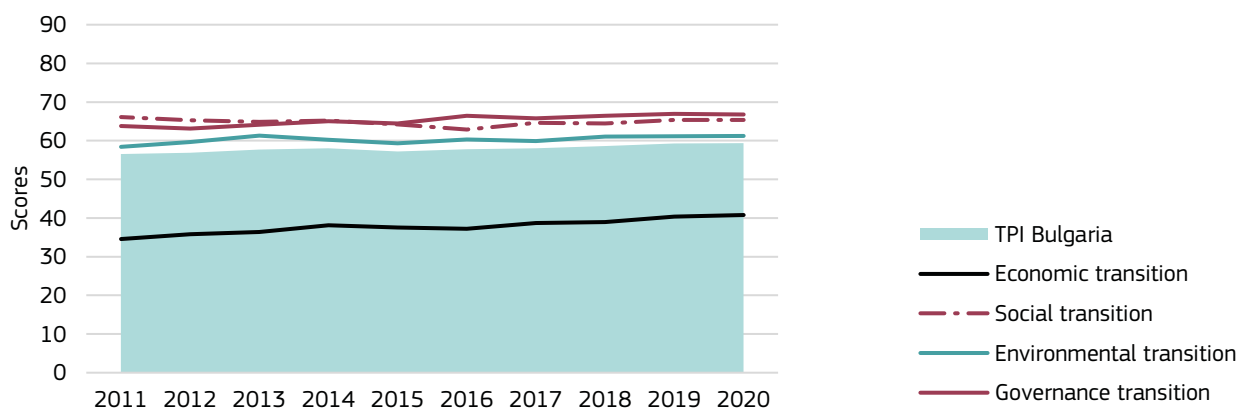|			
POPULATION (million inhabitants)	10.7	GDP PER CAPITA (current PPP$)	40 618.1
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	436.2	INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	47.0
EUROPEAN SKILLS INDEX (0-100)	76.9	GENDER EQUALITY INDEX SCORE (0-100)	56.7

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Czechia ranks	14	20	8	35	16
Czechia score	68.8	60.4	83.9	59.0	77.3
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

TRANSITIONS PROGRESS 2011-2020
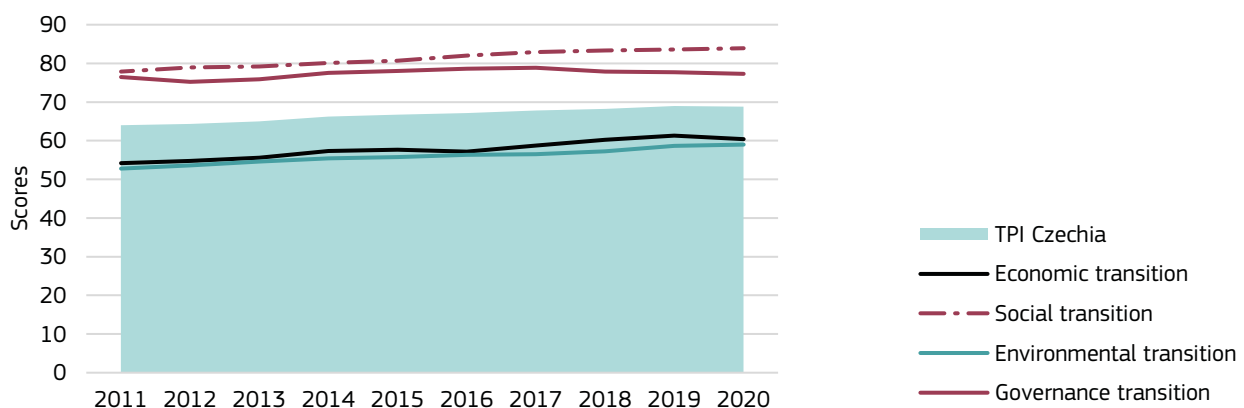
CZECHIA

Index	Transitions Performance Index	VALUE	RANK	SCORE	SCORE PROGRESS	
	Transitions Performance Index		**14**	**68.8**	↗	
1.	**Economic transition**		**20**	**60.4**	↗	
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	68.0	26	**68.0**	↗	
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	19.8	13	**79.0**	↗	
1.1.2	Internet users (%)	81.3	41	**81.3**	↑	
1.1.3	Proportion of people with ICT skills (composite)	43.7	28	**43.7**	↘	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	40 618.1	26	**54.2**	↑	
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	46.2	25	**46.2**	↑	
1.3.1	Output per worker (2011 constant GDP PPP$)	80 539.5	30	**53.7**	↗	
1.3.2	Gross expenditure on R&D (% of GDP)	1.9	18	**38.8**	↑	
1.4	INDUSTRIAL BASE	66.4	9	**66.4**	↘	
1.4.1	Gross value added of manufacturing (% of GDP)	21.9	7	**73.0**	↘	
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.6	29	**56.6**	–	
2.	**Social transition**		**8**	**83.9**	↗	
2.1	HEALTH: Healthy life expectancy at birth (years)	68.8	33	**79.3**	–	
2.2	WORK AND INCLUSION	81.9	12	**81.9**	↗	
2.2.1	Employment rate of the population aged 20-64 (%)	79.7	9	**79.4**	↑	
2.2.2	Employment-to-population ratio gender gap 25+ (%)	17.3	42	**75.3**	–	
2.2.3	Gross enrolment ratio, pre-primary (%)	109.7	1	**100.0**	–	
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	58.0	19	**78.2**	↑	
2.4	EQUALITY	91.7	2	**91.7**	–	
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	25.0	2	**88.9**	–	
2.4.2	Income share held by the poorest quintile (%)	10.2	1	**100.0**	↗	
3.	**Environmental transition**		**35**	**59.0**	↗	
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	11.7	61	**51.3**	↑	
3.2	BIODIVERSITY	92.5	6	**92.5**	–	
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	94.7	4	**94.7**	–	
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	92.1	10	**92.1**	–	
3.2.3	Pesticide use per area of cropland (kg/ha)	1.5	24	**89.0**	–	
3.3	MATERIAL USE	45.0	37	**45.0**	↑	
3.3.1	Resource productivity (PPP$ per kg)	2.9	20	**47.5**	↑	
3.3.2	Material footprint (tonnes per capita)	23.0	41	**42.5**	↘	
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	9.4	49	**47.1**	↑	
4.	**Governance transition**		**16**	**77.3**	–	
4.1	FUNDAMENTAL RIGHTS	84.6	23	**84.6**	↘	
4.1.1	Voice and accountability index (z-score)	1.0	26	**83.7**	↘	
4.1.2	Rule of law Index (z-score)	1.1	26	**85.5**	–	
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.6	14	**86.6**	–	
4.3	TRANSPARENCY	55.9	32	**55.9**	↘	
4.3.1	Corruption perceptions index (0-100)	54.0	34	**54.0**	↗	
4.3.2	Basel anti-money laundering index (0-10)	4.3	23	**57.2**	↘	
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	37.8	12	**91.7**	–	

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

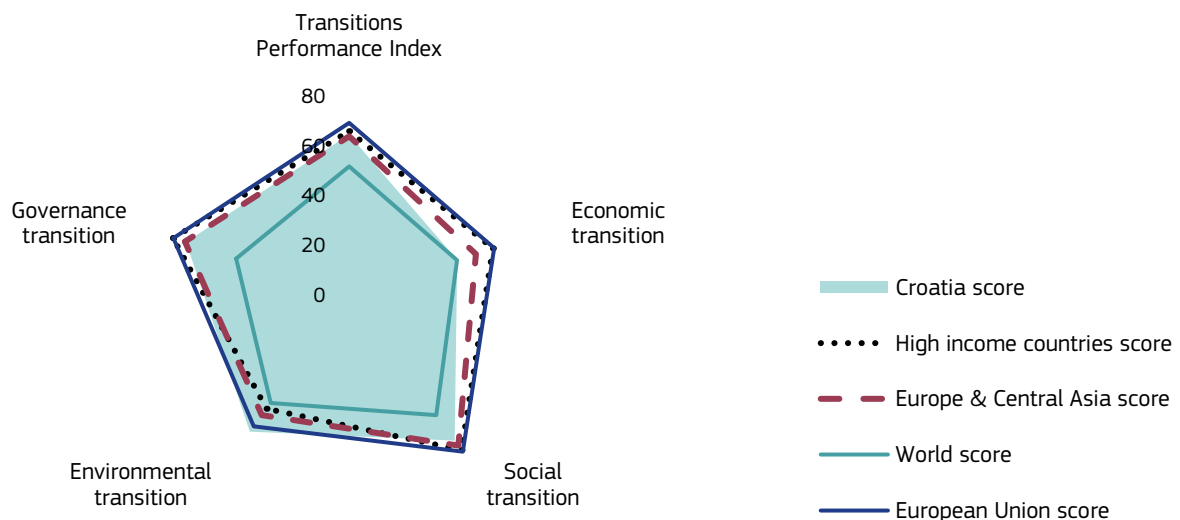*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

DENMARK

POPULATION (million inhabitants)	**5.8**	**GDP PER CAPITA** (current PPP$)	**58 932.8**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**344.3**	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	**70.0**
EUROPEAN SKILLS INDEX (0-100)	**69.0**	**GENDER EQUALITY INDEX SCORE** (0-100)	**77.8**

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Denmark ranks	**2**	**4**	**4**	**5**	**4**
Denmark score	78.4	73.4	85.5	73.1	84.0
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Denmark score
- High income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Denmark
- Economic transition
- Social transition
- Environmental transition
- Governance transition
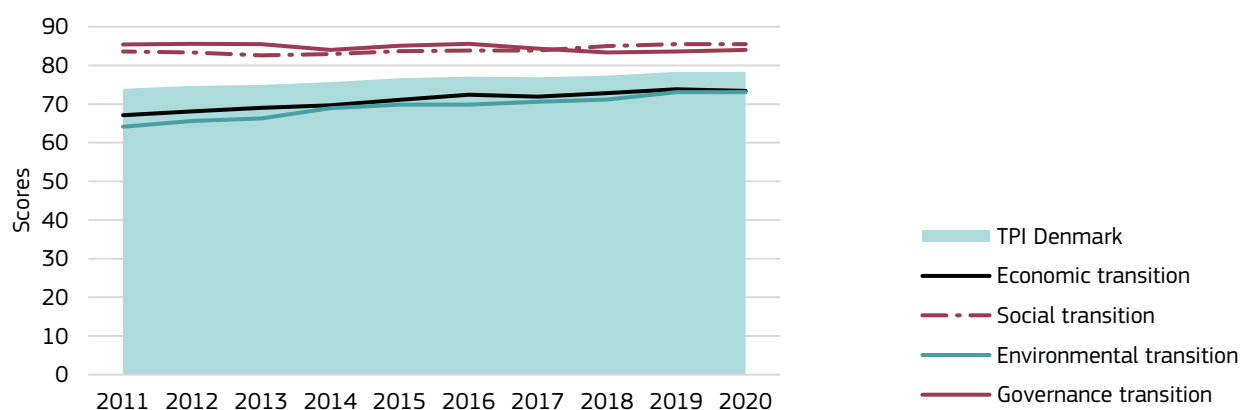
DENMARK

Index	Transitions Performance Index	VALUE	RANK	SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		2	78.4	–
1.	**Economic transition**		4	73.4	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	85.2	3	85.2	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	21.8	7	87.3	↘
1.1.2	Internet users (%)	96.5	6	96.5	↗
1.1.3	Proportion of people with ICT skills (composite)	71.8	5	71.8	↘
1.2	WEALTH: GDP per capita, current dollars (PPP$)	58 932.8	7	78.6	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	68.0	9	68.0	–
1.3.1	Output per worker (2011 constant GDP PPP$)	116 691.5	9	77.8	↗
1.3.2	Gross expenditure on R&D (% of GDP)	2.9	8	58.2	↘
1.4	INDUSTRIAL BASE	61.8	13	61.8	↗
1.4.1	Gross value added of manufacturing (% of GDP)	14.0	30	46.7	↑
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	5.1	10	84.6	↘
2.	**Social transition**		4	85.5	–
2.1	HEALTH: Healthy life expectancy at birth (years)	71.0	18	86.8	–
2.2	WORK AND INCLUSION	84.2	8	84.2	–
2.2.1	Employment rate of the population aged 20-64 (%)	77.8	14	75.6	↗
2.2.2	Employment-to-population ratio gender gap 25+ (%)	10.5	11	85.1	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	99.6	12	99.5	↘
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	63.3	5	87.8	–
2.4	EQUALITY	84.1	11	84.1	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	28.2	13	81.8	↘
2.4.2	Income share held by the poorest quintile (%)	9.3	7	91.3	↘
3.	**Environmental transition**		5	73.1	↑
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	8.1	39	66.3	↑
3.2	BIODIVERSITY	93.8	4	93.8	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	88.8	6	88.8	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	99.5	2	99.5	–
3.2.3	Pesticide use per area of cropland (kg/ha)	1.1	19	92.2	–
3.3	MATERIAL USE	39.1	48	39.1	↗
3.3.1	Resource productivity (PPP$ per kg)	2.4	25	39.6	↑
3.3.2	Material footprint (tonnes per capita)	24.6	49	38.5	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	18.6	4	93.1	↑
4.	**Governance transition**		4	84.0	↘
4.1	FUNDAMENTAL RIGHTS	95.2	5	95.2	↘
4.1.1	Voice and accountability index (z-score)	1.5	6	93.6	↘
4.1.2	Rule of law Index (z-score)	1.9	5	96.8	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.0	25	80.7	↘
4.3	TRANSPARENCY	74.4	3	74.4	↘
4.3.1	Corruption perceptions index (0-100)	88.0	1	88.0	↘
4.3.2	Basel anti-money laundering index (0-10)	3.5	7	65.4	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	42.1	17	89.0	–

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

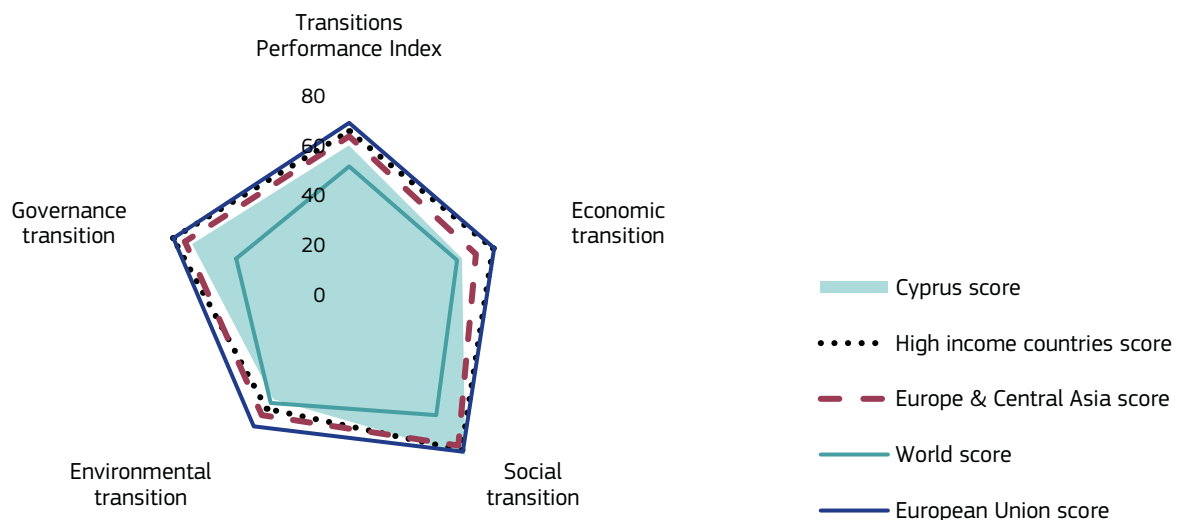*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

ESTONIA

POPULATION (million inhabitants)	1.3	**GDP PER CAPITA** (current PPP$)	37 745.1
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	49.6	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	57.0
EUROPEAN SKILLS INDEX (0-100)	72.7	**GENDER EQUALITY INDEX SCORE** (0-100)	61.6

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Estonia ranks	**21**	**25**	**17**	**45**	**10**
Estonia score	66.1	56.4	79.2	53.9	80.3
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Estonia score
- High income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Estonia
- Economic transition
- Social transition
- Environmental transition
- Governance transition

ESTONIA

Index	Transitions Performance Index	2020 VALUE	RANK	SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		**21**	**66.1**	↗
1.	**Economic transition**		**25**	**56.4**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	78.0	10	**78.0**	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	23.3	2	**93.4**	↗
1.1.2	Internet users (%)	89.1	24	**89.1**	↑
1.1.3	Proportion of people with ICT skills (composite)	51.6	21	**51.6**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	37 745.1	32	**50.3**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	40.3	31	**40.3**	↘
1.3.1	Output per worker (2011 constant GDP PPP$)	72 479.2	34	**48.3**	↑
1.3.2	Gross expenditure on R&D (% of GDP)	1.6	22	**32.2**	↓
1.4	INDUSTRIAL BASE	49.7	27	**49.7**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	12.9	37	**43.0**	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.8	28	**59.6**	↘
2.	**Social transition**		**17**	**79.2**	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	69.2	30	**80.8**	↗
2.2	WORK AND INCLUSION	80.5	17	**80.5**	↗
2.2.1	Employment rate of the population aged 20-64 (%)	78.8	10	**77.6**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	14.7	31	**79.0**	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	92.7	25	**89.1**	↗
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	59.0	16	**80.1**	↗
2.4	EQUALITY	76.9	20	**76.9**	↗
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	30.3	20	**77.1**	↗
2.4.2	Income share held by the poorest quintile (%)	8.1	21	**76.3**	↑
3.	**Environmental transition**		**45**	**53.9**	↑
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	11.2	58	**53.3**	↑
3.2	BIODIVERSITY	93.8	3	**93.8**	↘
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	94.8	3	**94.8**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	92.9	9	**92.9**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	0.9	15	**93.5**	↘
3.3	MATERIAL USE	24.5	65	**24.5**	↘
3.3.1	Resource productivity (PPP$ per kg)	1.3	53	**22.5**	↑
3.3.2	Material footprint (tonnes per capita)	29.4	58	**26.6**	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	8.8	54	**44.1**	↑
4.	**Governance transition**		**10**	**80.3**	↗
4.1	FUNDAMENTAL RIGHTS	89.8	17	**89.8**	–
4.1.1	Voice and accountability index (z-score)	1.2	18	**87.9**	–
4.1.2	Rule of law Index (z-score)	1.4	18	**91.7**	–
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	2.1	46	**68.5**	↑
4.3	TRANSPARENCY	76.0	1	**76.0**	–
4.3.1	Corruption perceptions index (0-100)	75.0	16	**75.0**	↑
4.3.2	Basel anti-money laundering index (0-10)	2.3	1	**76.6**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	18.5	1	**100.0**	–

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[▨ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below −10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
Source: European Commission, Transitions Performance Index 2021.

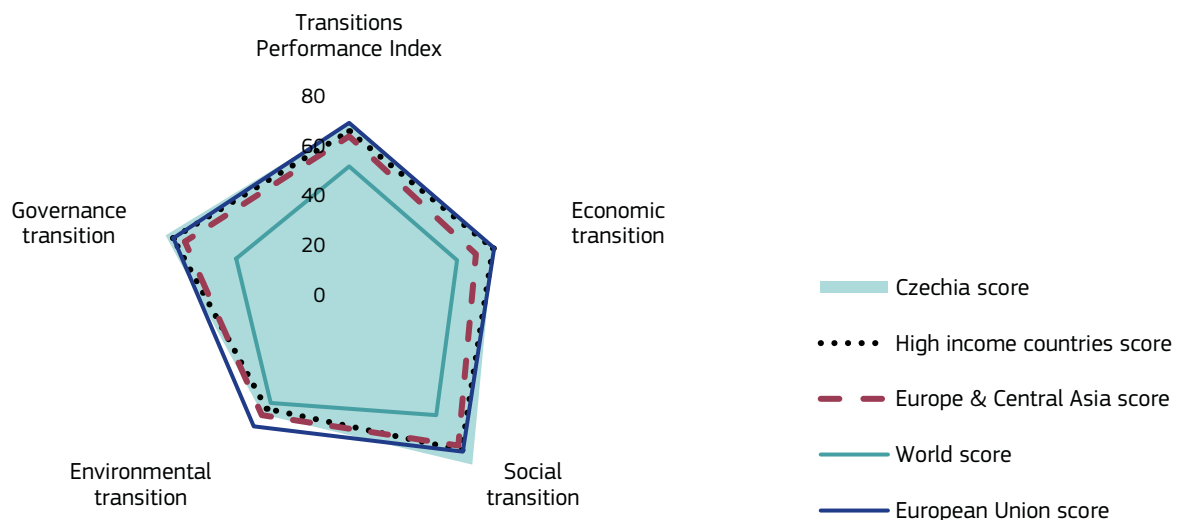**TRANSITIONS PERFORMANCE INDEX 2021**

FINLAND

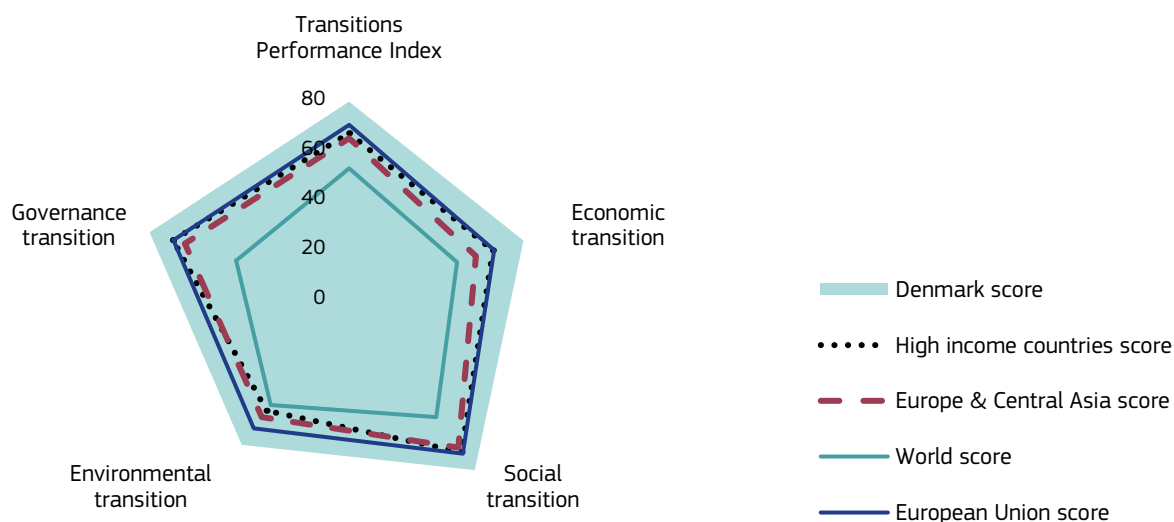| POPULATION (million inhabitants) | 5.5 | GDP PER CAPITA (current PPP$) | 49 853.3 |
| GROSS DOMESTIC PRODUCT (GDP) (billion PPP$) | 275.2 | INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100) | 68.0 |
| EUROPEAN SKILLS INDEX (0-100) | 75.1 | GENDER EQUALITY INDEX SCORE (0-100) | 75.3 |

RANKS AND SCORES

| 2020 | TPI | TRANSITIONS | | | |
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Finland ranks	**18**	**10**	**7**	**55**	**9**
Finland score	67.4	68.2	84.1	47.9	80.7
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Finland score
- High income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Finland
- Economic transition
- Social transition
- Environmental transition
- Governance transition

FINLAND

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		**18**	**67.4**	–
1.	**Economic transition**		**10**	**68.2**	↘
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	77.6	11	**77.6**	↓
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	20.6	12	**82.6**	↘
1.1.2	Internet users (%)	92.2	14	**92.2**	–
1.1.3	Proportion of people with ICT skills (composite)	58.0	13	**58.0**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	49 853.3	16	**66.5**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	62.7	12	**62.7**	↓
1.3.1	Output per worker (2011 constant GDP PPP$)	104 439.3	16	**69.6**	–
1.3.2	Gross expenditure on R&D (% of GDP)	2.8	11	**55.8**	↓
1.4	INDUSTRIAL BASE	63.8	11	**63.8**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	14.5	29	**48.3**	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	6.1	6	**86.9**	↘
2.	**Social transition**		**7**	**84.1**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	71.0	19	**86.7**	–
2.2	WORK AND INCLUSION	80.5	16	**80.5**	↗
2.2.1	Employment rate of the population aged 20-64 (%)	76.5	22	**73.0**	↗
2.2.2	Employment-to-population ratio gender gap 25+ (%)	7.6	4	**89.2**	–
2.2.3	Gross enrolment ratio, pre-primary (%)	85.3	40	**77.9**	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	60.0	12	**81.8**	↗
2.4	EQUALITY	85.6	8	**85.6**	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	27.3	9	**83.8**	–
2.4.2	Income share held by the poorest quintile (%)	9.3	7	**91.3**	–
3.	**Environmental transition**		**55**	**47.9**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	10.1	51	**57.9**	↑
3.2	BIODIVERSITY	78.1	14	**78.1**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	71.7	26	**71.7**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	75.8	24	**75.8**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	0.6	9	**95.7**	–
3.3	MATERIAL USE	18.0	71	**18.0**	↑
3.3.1	Resource productivity (PPP$ per kg)	1.6	44	**26.5**	↑
3.3.2	Material footprint (tonnes per capita)	36.2	66	**9.5**	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	7.5	62	**37.4**	↗
4.	**Governance transition**		**9**	**80.7**	↘
4.1	FUNDAMENTAL RIGHTS	96.4	2	**96.4**	–
4.1.1	Voice and accountability index (z-score)	1.6	2	**94.7**	–
4.1.2	Rule of law Index (z-score)	2.1	1	**98.1**	–
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.6	42	**73.2**	–
4.3	TRANSPARENCY	75.6	2	**75.6**	↘
4.3.1	Corruption perceptions index (0-100)	85.0	3	**85.0**	↘
4.3.2	Basel anti-money laundering index (0-10)	3.1	2	**69.4**	↓
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	69.5	46	**71.3**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[▫ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
Source: European Commission, Transitions Performance Index 2021.

FRANCE

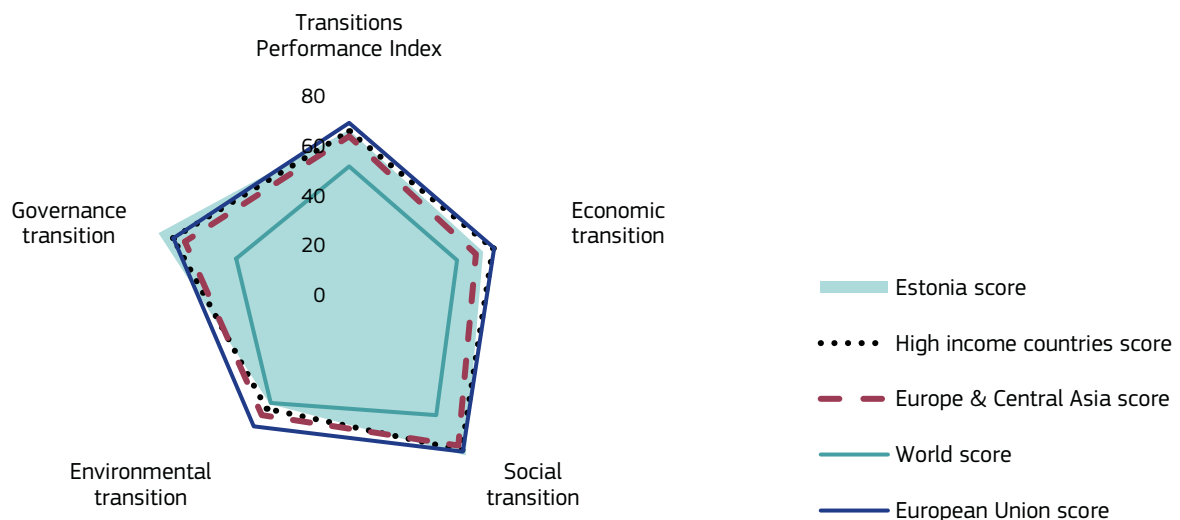|			
POPULATION (million inhabitants)	**65.5**	**GDP PER CAPITA** (current PPP$)	**46 062.0**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**3.016.9**	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	**57.0**
EUROPEAN SKILLS INDEX (0-100)	**50.6**	**GENDER EQUALITY INDEX SCORE** (0-100)	**75.5**

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
France ranks	**12**	**21**	**13**	**13**	**21**
France score	69.6	58.9	81.0	66.8	73.2
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- France score
- High income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI France
- Economic transition
- Social transition
- Environmental transition
- Governance transition

II-23

TRANSITIONS PERFORMANCE INDEX 2021

FRANCE

Index	Transitions Performance Index	VALUE	RANK	SCORE	SCORE PROGRESS
Index	**Transitions Performance Index**		12	**69.6**	–
1.	**Economic transition**		21	**58.9**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	65.7	35	**65.7**	↘
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	18.0	21	**72.1**	–
1.1.2	Internet users (%)	83.3	36	**83.3**	↗
1.1.3	Proportion of people with ICT skills (composite)	41.6	32	**41.6**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	46 062.0	19	**61.4**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	59.2	14	**59.2**	–
1.3.1	Output per worker (2011 constant GDP PPP$)	111 771.9	11	**74.5**	↗
1.3.2	Gross expenditure on R&D (% of GDP)	2.2	13	**43.8**	–
1.4	INDUSTRIAL BASE	50.3	25	**50.3**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	9.4	60	**31.3**	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	3.3	14	**78.7**	↘
2.	**Social transition**		13	**81.0**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	72.1	8	**90.3**	–
2.2	WORK AND INCLUSION	80.3	18	**80.3**	–
2.2.1	Employment rate of the population aged 20-64 (%)	72.1	34	**64.2**	↗
2.2.2	Employment-to-population ratio gender gap 25+ (%)	9.4	7	**86.6**	–
2.2.3	Gross enrolment ratio, pre-primary (%)	106.2	1	**100.0**	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	61.1	8	**83.8**	↗
2.4	EQUALITY	73.1	26	**73.1**	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	32.4	26	**72.4**	–
2.4.2	Income share held by the poorest quintile (%)	8.0	23	**75.0**	–
3.	**Environmental transition**		13	**66.8**	↑
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	6.8	32	**71.7**	–
3.2	BIODIVERSITY	77.2	17	**77.2**	↑
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	80.9	13	**80.9**	↑
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	78.0	22	**78.0**	↑
3.2.3	Pesticide use per area of cropland (kg/ha)	4.5	47	**68.1**	↓
3.3	MATERIAL USE	58.0	9	**58.0**	↑
3.3.1	Resource productivity (PPP$ per kg)	4.3	8	**72.3**	↑
3.3.2	Material footprint (tonnes per capita)	22.5	38	**43.7**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	12.0	31	**60.2**	↑
4.	**Governance transition**		21	**73.2**	↘
4.1	FUNDAMENTAL RIGHTS	88.3	20	**88.3**	↘
4.1.1	Voice and accountability index (z-score)	1.1	20	**85.8**	↘
4.1.2	Rule of law Index (z-score)	1.3	21	**90.8**	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.2	29	**78.2**	–
4.3	TRANSPARENCY	63.7	17	**63.7**	↘
4.3.1	Corruption perceptions index (0-100)	69.0	21	**69.0**	↘
4.3.2	Basel anti-money laundering index (0-10)	4.0	20	**60.1**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	115.1	63	**41.9**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

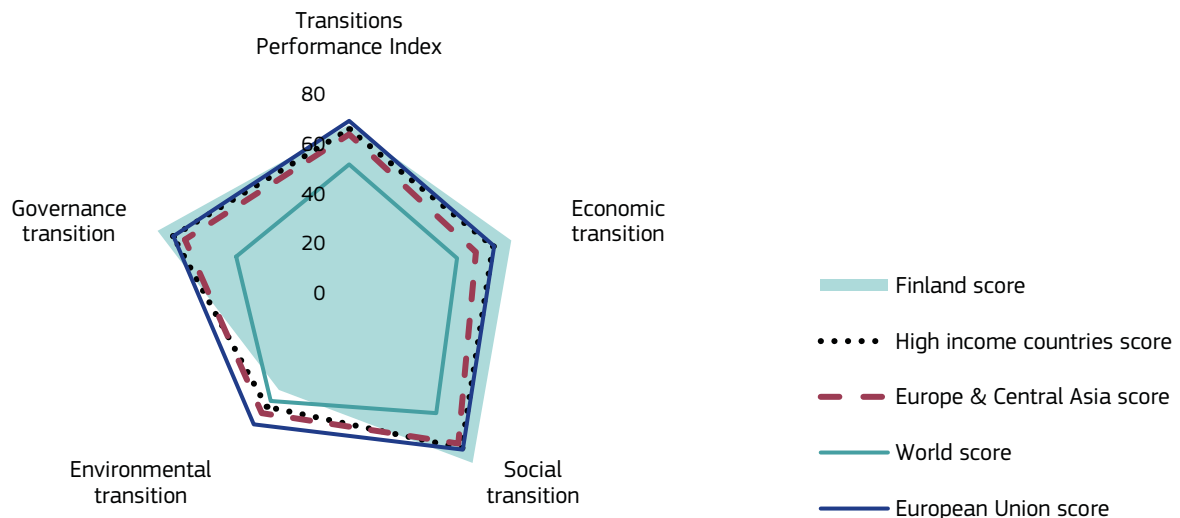*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

GERMANY

POPULATION (million inhabitants)	**83.9**	**GDP PER CAPITA** (current PPP$)	**54 075.7**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**4.536.5**	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	**58.0**
EUROPEAN SKILLS INDEX (0-100)	**64.5**	**GENDER EQUALITY INDEX SCORE** (0-100)	**68.6**

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Germany ranks	**6**	**7**	**10**	**20**	**12**
Germany score	73.1	70.7	82.0	65.0	79.1
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Germany score
- High income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Germany
- Economic transition
- Social transition
- Environmental transition
- Governance transition

II-25

GERMANY
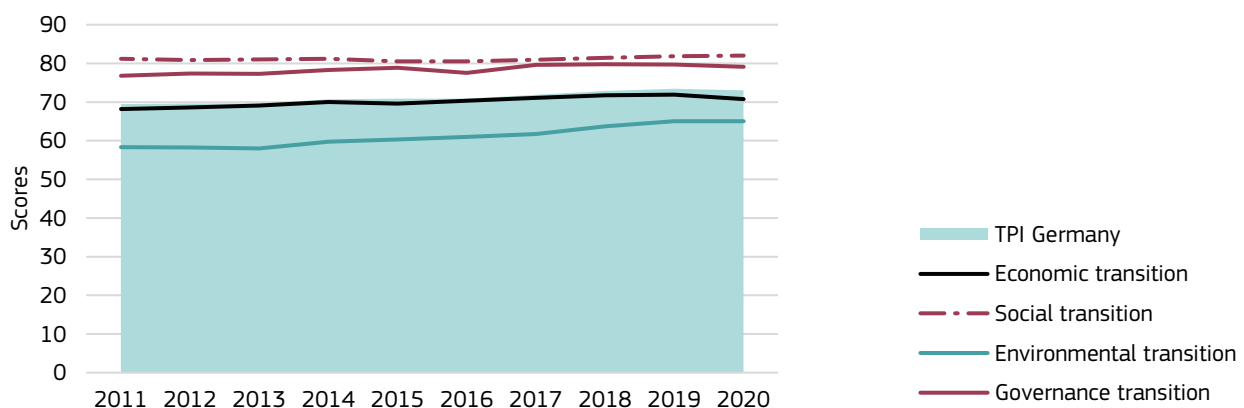
Index	Transitions Performance Index	2020 VALUE	2020 RANK	SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**6**	**73.1**	–
1.	**Economic transition**		**7**	**70.7**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	72.5	22	**72.5**	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	17.8	23	**71.2**	–
1.1.2	Internet users (%)	89.8	21	**89.8**	↗
1.1.3	Proportion of people with ICT skills (composite)	56.5	14	**56.5**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	54 075.7	13	**72.1**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	66.7	10	**66.7**	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	104 752.0	15	**69.8**	–
1.3.2	Gross expenditure on R&D (% of GDP)	3.2	6	**63.6**	↑
1.4	INDUSTRIAL BASE	70.7	6	**70.7**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	18.1	13	**60.3**	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	5.8	7	**86.2**	↘
2.	**Social transition**		**10**	**82.0**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	70.9	23	**86.3**	–
2.2	WORK AND INCLUSION	85.3	6	**85.3**	–
2.2.1	Employment rate of the population aged 20-64 (%)	80.0	7	**80.0**	↗
2.2.2	Employment-to-population ratio gender gap 25+ (%)	11.7	20	**83.3**	–
2.2.3	Gross enrolment ratio, pre-primary (%)	108.5	1	**100.0**	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	64.4	2	**89.8**	–
2.4	EQUALITY	72.7	27	**72.7**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	31.9	25	**73.6**	↘
2.4.2	Income share held by the poorest quintile (%)	7.6	30	**70.0**	↓
3.	**Environmental transition**		**20**	**65.0**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	10.1	51	**57.9**	↑
3.2	BIODIVERSITY	77.6	15	**77.6**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	78.7	18	**78.7**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	78.8	21	**78.8**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	3.8	44	**72.9**	↘
3.3	MATERIAL USE	55.3	15	**55.3**	↑
3.3.1	Resource productivity (PPP$ per kg)	4.1	11	**67.7**	↑
3.3.2	Material footprint (tonnes per capita)	22.8	40	**42.9**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	13.8	22	**69.2**	↑
4.	**Governance transition**		**12**	**79.1**	–
4.1	FUNDAMENTAL RIGHTS	92.8	12	**92.8**	↘
4.1.1	Voice and accountability index (z-score)	1.4	13	**91.6**	–
4.1.2	Rule of law Index (z-score)	1.6	14	**94.0**	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.9	23	**81.5**	↘
4.3	TRANSPARENCY	65.4	12	**65.4**	↗
4.3.1	Corruption perceptions index (0-100)	80.0	9	**80.0**	–
4.3.2	Basel anti-money laundering index (0-10)	4.4	27	**55.7**	↑
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	69.1	44	**71.6**	↗

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

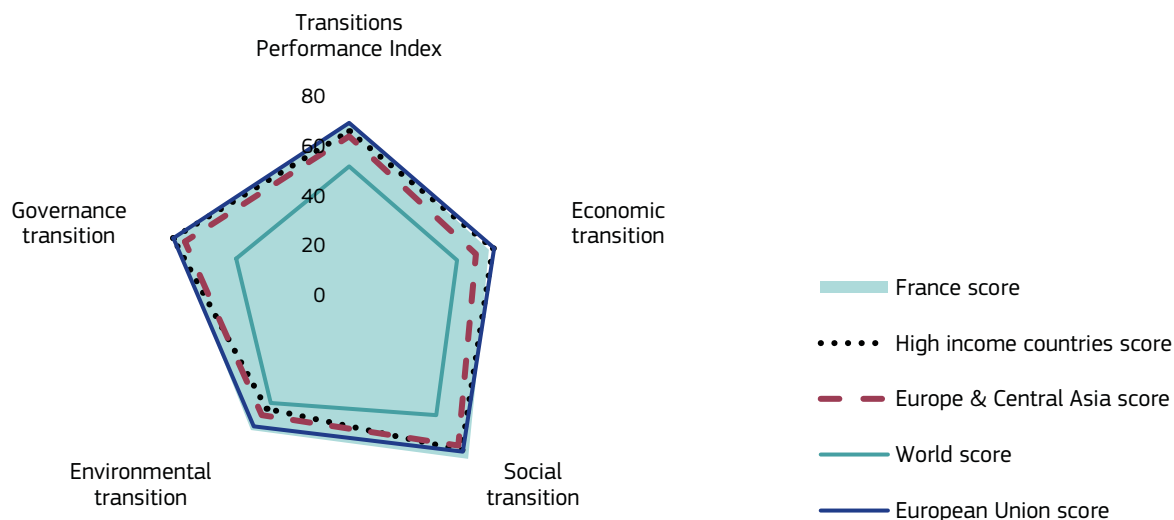*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

GREECE

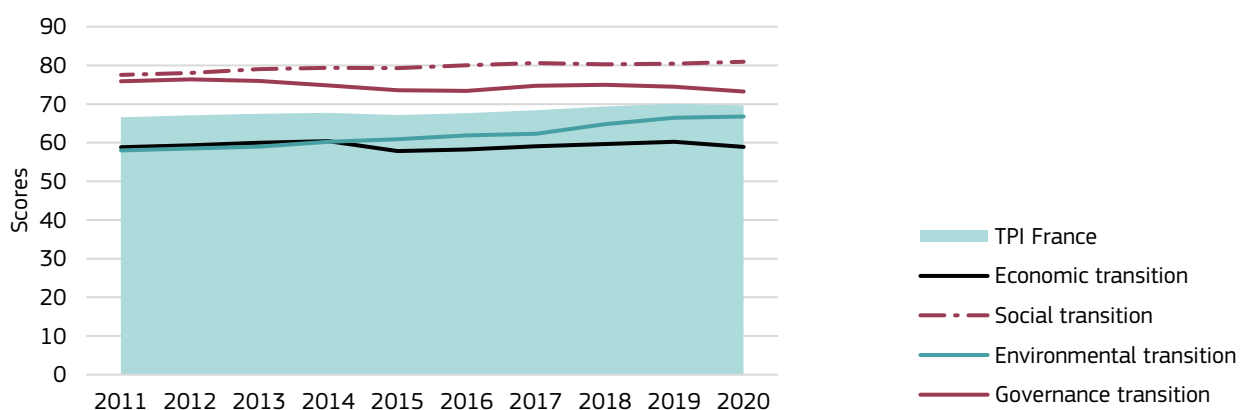|			
POPULATION (million inhabitants)	10.7	GDP PER CAPITA (current PPP$)	28 748.2
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	307.9	INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	40.0
EUROPEAN SKILLS INDEX (0-100)	29.8	GENDER EQUALITY INDEX SCORE (0-100)	52.5

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Greece ranks	**30**	**42**	**37**	**17**	**40**
Greece score	62.1	45.2	70.9	65.5	63.8
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

Greece score
High income countries score
Europe & Central Asia score
World score
European Union score

TRANSITIONS PROGRESS 2011-2020

TPI Greece
Economic transition
Social transition
Environmental transition
Governance transition

Index	Transitions Performance Index	VALUE	RANK	SCORE	SCORE PROGRESS
Index	**Transitions Performance Index**		**30**	**62.1**	↗
1.	**Economic transition**		**42**	**45.2**	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	63.3	38	63.3	↗
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	16.7	29	66.7	↘
1.1.2	Internet users (%)	78.1	46	78.1	↑
1.1.3	Proportion of people with ICT skills (composite)	45.2	26	45.2	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	28 748.2	40	38.3	↗
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	40.5	29	40.5	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	83 401.3	25	55.6	↘
1.3.2	Gross expenditure on R&D (% of GDP)	1.3	30	25.4	↑
1.4	INDUSTRIAL BASE	34.7	62	34.7	–
1.4.1	Gross value added of manufacturing (% of GDP)	8.3	64	27.7	–
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.3	36	45.4	–
2.	**Social transition**		**37**	**70.9**	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	70.9	24	86.2	–
2.2	WORK AND INCLUSION	59.1	47	59.1	–
2.2.1	Employment rate of the population aged 20-64 (%)	61.1	48	42.2	↗
2.2.2	Employment-to-population ratio gender gap 25+ (%)	19.3	48	72.4	–
2.2.3	Gross enrolment ratio, pre-primary (%)	77.6	48	66.4	↘
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	51.0	45	65.5	↗
2.4	EQUALITY	69.8	33	69.8	↗
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	32.9	29	71.3	–
2.4.2	Income share held by the poorest quintile (%)	7.2	37	65.0	↑
3.	**Environmental transition**		**17**	**65.5**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	8.4	44	65.0	↑
3.2	BIODIVERSITY	84.8	10	84.8	↘
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	86.0	9	86.0	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	90.4	13	90.4	–
3.2.3	Pesticide use per area of cropland (kg/ha)	4.1	45	70.9	↓
3.3	MATERIAL USE	42.9	42	42.9	↑
3.3.1	Resource productivity (PPP$ per kg)	3.2	13	53.9	↑
3.3.2	Material footprint (tonnes per capita)	27.2	54	31.9	↑
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	13.8	23	69.2	↑
4.	**Governance transition**		**40**	**63.8**	↗
4.1	FUNDAMENTAL RIGHTS	72.9	33	72.9	↘
4.1.1	Voice and accountability index (z-score)	1.0	27	83.3	–
4.1.2	Rule of law Index (z-score)	0.3	39	62.6	↓
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.9	22	81.6	↗
4.3	TRANSPARENCY	58.0	29	58.0	↑
4.3.1	Corruption perceptions index (0-100)	50.0	39	50.0	↑
4.3.2	Basel anti-money laundering index (0-10)	3.7	11	63.3	↑
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	211.2	71	–	↗

2020 — VALUE | RANK | SCORE
2011-2020 — SCORE PROGRESS

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
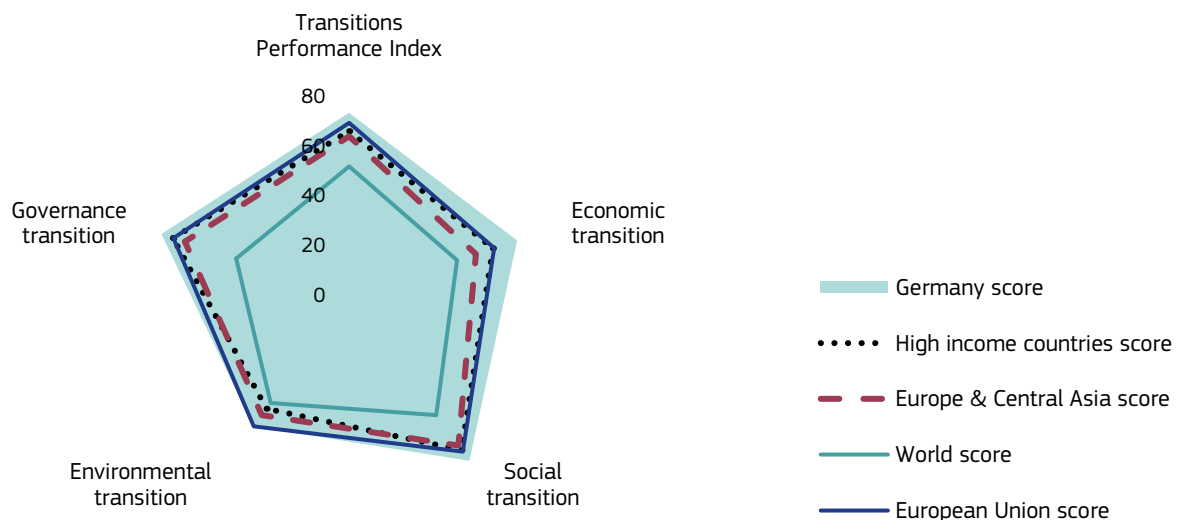*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

HUNGARY

POPULATION (million inhabitants)	**9.8**	**GDP PER CAPITA** (current PPP$)	**33 029.5**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**322.8**	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	**41.0**
EUROPEAN SKILLS INDEX (0-100)	**57.0**	**GENDER EQUALITY INDEX SCORE** (0-100)	**53.4**

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Hungary ranks	**26**	**31**	**27**	**15**	**44**
Hungary score	64.0	53.0	75.3	66.2	60.5
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020
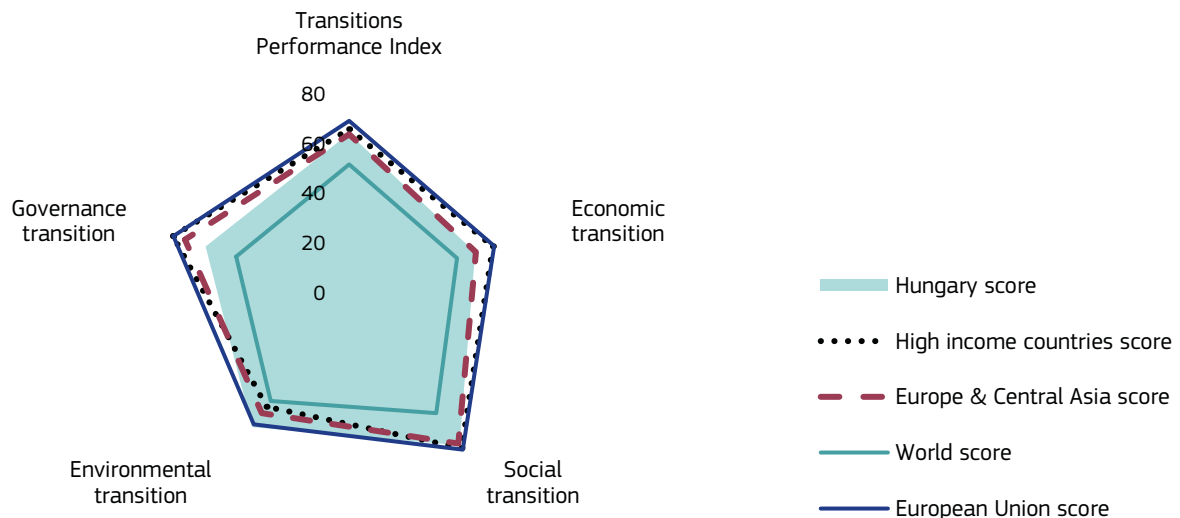
TRANSITIONS PROGRESS 2011-2020
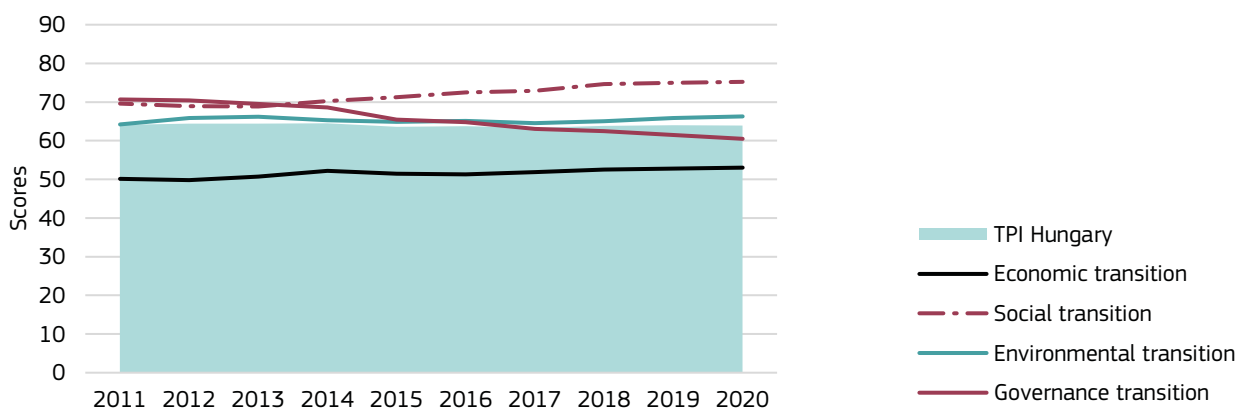
HUNGARY

Index	Transitions Performance Index	VALUE	RANK	SCORE	SCORE PROGRESS
Index	**Transitions Performance Index**		**26**	**64.0**	↘
1.	**Economic transition**		**31**	**53.0**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	66.4	32	**66.4**	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	18.8	17	**75.0**	↘
1.1.2	Internet users (%)	84.8	33	**84.8**	↑
1.1.3	Proportion of people with ICT skills (composite)	39.6	36	**39.6**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	33 029.5	35	**44.0**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	38.2	33	**38.2**	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	70 088.0	36	**46.7**	↗
1.3.2	Gross expenditure on R&D (% of GDP)	1.5	24	**29.6**	↑
1.4	INDUSTRIAL BASE	55.5	20	**55.5**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	18.0	15	**60.0**	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.4	33	**48.8**	↓
2.	**Social transition**		**27**	**75.3**	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	67.2	40	**74.0**	–
2.2	WORK AND INCLUSION	72.7	34	**72.7**	↑
2.2.1	Employment rate of the population aged 20-64 (%)	75.0	25	**70.0**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	19.3	47	**72.4**	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	85.8	37	**78.7**	↘
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	55.7	31	**74.0**	↑
2.4	EQUALITY	78.4	16	**78.4**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	29.6	15	**78.7**	↘
2.4.2	Income share held by the poorest quintile (%)	8.2	19	**77.5**	–
3.	**Environmental transition**		**15**	**66.2**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	6.7	31	**72.1**	↘
3.2	BIODIVERSITY	84.6	11	**84.6**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	82.8	11	**82.8**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	84.8	19	**84.8**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	1.7	27	**87.6**	–
3.3	MATERIAL USE	50.6	26	**50.6**	↘
3.3.1	Resource productivity (PPP$ per kg)	2.3	27	**38.2**	↘
3.3.2	Material footprint (tonnes per capita)	14.8	26	**62.9**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	11.6	35	**57.8**	↑
4.	**Governance transition**		**44**	**60.5**	↓
4.1	FUNDAMENTAL RIGHTS	67.4	38	**67.4**	↓
4.1.1	Voice and accountability index (z-score)	0.4	40	**65.2**	↓
4.1.2	Rule of law Index (z-score)	0.5	37	**69.6**	↓
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	2.5	51	**65.4**	↓
4.3	TRANSPARENCY	47.4	49	**47.4**	↓
4.3.1	Corruption perceptions index (0-100)	44.0	44	**44.0**	↓
4.3.2	Basel anti-money laundering index (0-10)	5.0	51	**49.6**	↓
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	80.4	52	**64.2**	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below −10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

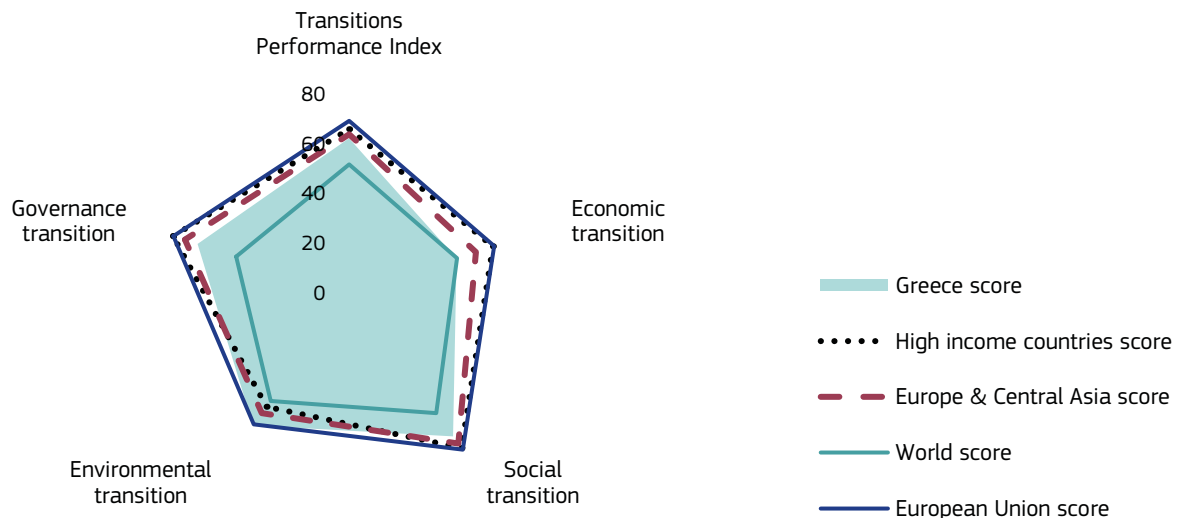*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

IRELAND

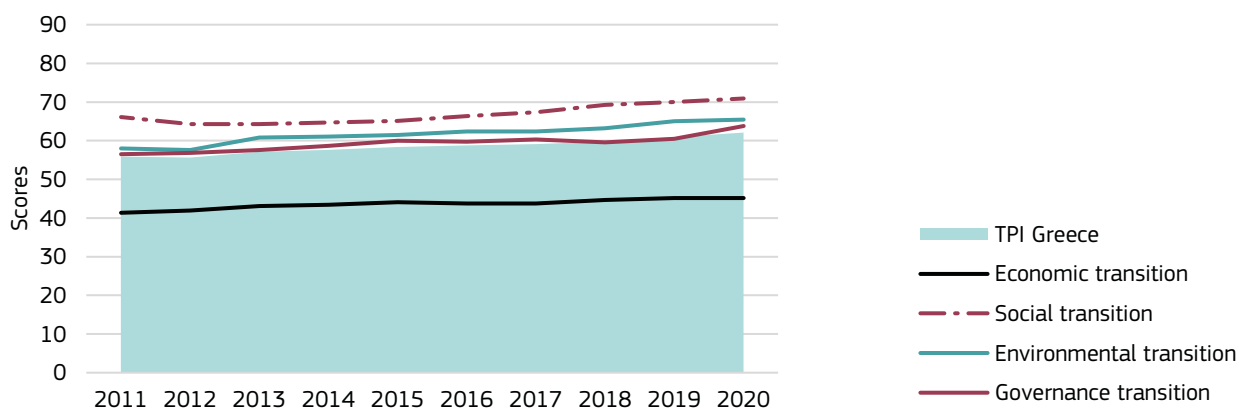|		
POPULATION (million inhabitants)	5.1	GDP PER CAPITA (current PPP$) 94 391.5
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	479.4	INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100) 60.0
EUROPEAN SKILLS INDEX (0-100)	43.9	GENDER EQUALITY INDEX SCORE (0-100) 73.1

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Ireland ranks	3	2	19	6	13
Ireland score	75.9	76.1	78.3	72.3	79.0
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Ireland score
- High income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Ireland
- Economic transition
- Social transition
- Environmental transition
- Governance transition

IRELAND

Index	Transitions Performance Index	VALUE	RANK	SCORE	SCORE PROGRESS
	Transitions Performance Index		**3**	**75.9**	↗
1.	**Economic transition**		**2**	**76.1**	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	60.3	43	**60.3**	↘
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	9.4	59	**37.5**	↓
1.1.2	Internet users (%)	92.0	15	**92.0**	↑
1.1.3	Proportion of people with ICT skills (composite)	51.5	22	**51.5**	–
1.2	WEALTH: GDP per capita, current dollars (PPP$)	94 391.5	1	**100.0**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	57.8	18	**57.8**	↘
1.3.1	Output per worker (2011 constant GDP PPP$)	187 658.3	1	**100.0**	↑
1.3.2	Gross expenditure on R&D (% of GDP)	0.8	48	**15.6**	↓
1.4	INDUSTRIAL BASE	88.2	2	**88.2**	↑
1.4.1	Gross value added of manufacturing (% of GDP)	34.5	1	**100.0**	↑
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	1.8	21	**70.5**	↘
2.	**Social transition**		**19**	**78.3**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	71.1	17	**86.9**	–
2.2	WORK AND INCLUSION	76.8	27	**76.8**	–
2.2.1	Employment rate of the population aged 20-64 (%)	73.4	30	**66.8**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	13.9	30	**80.1**	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	93.5	23	**90.2**	↘
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	55.2	32	**73.2**	–
2.4	EQUALITY	76.0	22	**76.0**	↗
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	31.4	22	**74.7**	–
2.4.2	Income share held by the poorest quintile (%)	8.4	17	**80.0**	↑
3.	**Environmental transition**		**6**	**72.3**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	12.8	62	**46.7**	–
3.2	BIODIVERSITY	83.2	12	**83.2**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	80.7	14	**80.7**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	98.6	4	**98.6**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	6.0	54	**57.4**	↑
3.3	MATERIAL USE	59.2	7	**59.2**	↑
3.3.1	Resource productivity (PPP$ per kg)	4.3	10	**72.1**	↑
3.3.2	Material footprint (tonnes per capita)	21.5	37	**46.3**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	30.8	1	**100.0**	↗
4.	**Governance transition**		**13**	**79.0**	–
4.1	FUNDAMENTAL RIGHTS	92.6	14	**92.6**	↘
4.1.1	Voice and accountability index (z-score)	1.4	11	**91.8**	–
4.1.2	Rule of law Index (z-score)	1.5	16	**93.3**	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.9	19	**82.6**	–
4.3	TRANSPARENCY	62.1	23	**62.1**	↘
4.3.1	Corruption perceptions index (0-100)	72.0	19	**72.0**	–
4.3.2	Basel anti-money laundering index (0-10)	4.5	28	**55.5**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	58.5	34	**78.4**	↑

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

ITALY

POPULATION (million inhabitants)	**60.2**	**GDP PER CAPITA** (current PPP$)	**40 861.3**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**2 461.3**	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	**38.0**
EUROPEAN SKILLS INDEX (0-100)	**23.9**	**GENDER EQUALITY INDEX SCORE** (0-100)	**63.8**

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Italy ranks	**16**	**24**	**40**	**3**	**38**
Italy score	67.6	56.7	70.2	73.8	65.7
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Italy score
- High income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Italy
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021

ITALY

Index	Transitions Performance Index	VALUE	RANK	SCORE	SCORE PROGRESS
Index	**Transitions Performance Index**		**16**	**67.6**	↗
1.	**Economic transition**		**24**	**56.7**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	60.9	42	**60.9**	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	17.1	25	**68.6**	–
1.1.2	Internet users (%)	76.1	50	**76.1**	↑
1.1.3	Proportion of people with ICT skills (composite)	38.1	39	**38.1**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	40 861.3	25	**54.5**	↗
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	50.7	20	**50.7**	–
1.3.1	Output per worker (2011 constant GDP PPP$)	108 643.0	14	**72.4**	↘
1.3.2	Gross expenditure on R&D (% of GDP)	1.5	25	**29.0**	↑
1.4	INDUSTRIAL BASE	57.9	16	**57.9**	–
1.4.1	Gross value added of manufacturing (% of GDP)	14.9	25	**49.7**	–
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	1.8	22	**70.3**	–
2.	**Social transition**		**40**	**70.2**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	71.9	10	**89.7**	–
2.2	WORK AND INCLUSION	65.1	44	**65.1**	–
2.2.1	Employment rate of the population aged 20-64 (%)	62.6	46	**45.2**	↗
2.2.2	Employment-to-population ratio gender gap 25+ (%)	19.2	46	**72.6**	–
2.2.3	Gross enrolment ratio, pre-primary (%)	93.2	24	**89.9**	↓
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	51.7	42	**66.8**	↑
2.4	EQUALITY	61.0	50	**61.0**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	35.9	49	**64.7**	↘
2.4.2	Income share held by the poorest quintile (%)	6.0	55	**50.0**	↘
3.	**Environmental transition**		**3**	**73.8**	↑
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	7.2	35	**70.0**	↗
3.2	BIODIVERSITY	76.9	20	**76.9**	↗
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	75.7	21	**75.7**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	85.2	17	**85.2**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	5.2	50	**62.8**	↑
3.3	MATERIAL USE	69.4	2	**69.4**	↑
3.3.1	Resource productivity (PPP$ per kg)	5.5	5	**92.4**	↑
3.3.2	Material footprint (tonnes per capita)	21.4	36	**46.5**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	15.8	9	**79.1**	↑
4.	**Governance transition**		**38**	**65.7**	–
4.1	FUNDAMENTAL RIGHTS	72.5	34	**72.5**	↘
4.1.1	Voice and accountability index (z-score)	1.1	21	**85.5**	–
4.1.2	Rule of law Index (z-score)	0.2	42	**59.5**	↓
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.6	9	**87.5**	↗
4.3	TRANSPARENCY	53.8	36	**53.8**	↗
4.3.1	Corruption perceptions index (0-100)	53.0	35	**53.0**	↑
4.3.2	Basel anti-money laundering index (0-10)	4.6	30	**54.3**	–
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	155.8	70	**15.6**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
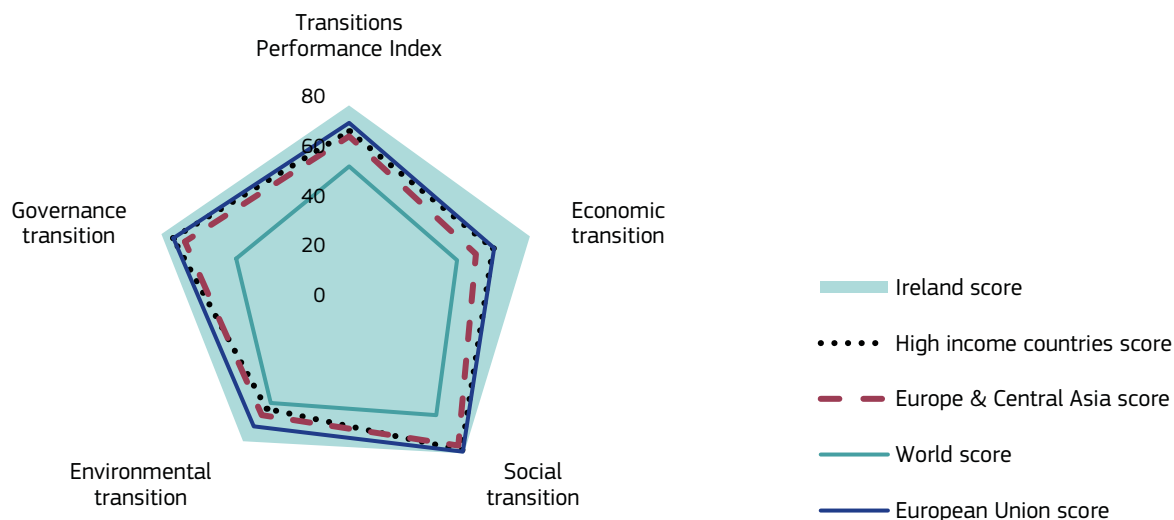*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

LATVIA

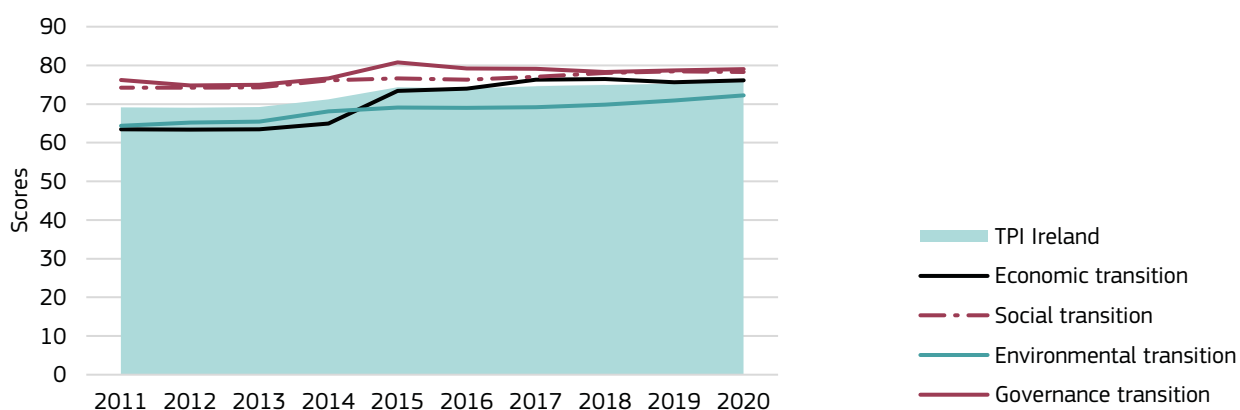|			
POPULATION (million inhabitants)	1.9	GDP PER CAPITA (current PPP$)	31 509.1
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	60.1	INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	41.0
EUROPEAN SKILLS INDEX (0-100)	65.7	GENDER EQUALITY INDEX SCORE (0-100)	62.1

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Latvia ranks	**23**	**38**	**32**	**10**	**36**
Latvia score	64.4	47.9	72.2	68.4	66.0
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Latvia score
- High income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Latvia
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021

LATVIA

Index	Transitions Performance Index	VALUE	RANK (2020)	SCORE	SCORE PROGRESS (2011–2020)
	Transitions Performance Index		**23**	**64.4**	–
1.	**Economic transition**		**38**	**47.9**	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	73.9	17	**73.9**	↗
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	23.3	3	**93.0**	↗
1.1.2	Internet users (%)	88.9	25	**88.9**	↑
1.1.3	Proportion of people with ICT skills (composite)	39.9	34	**39.9**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	31 509.1	37	**42.0**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	27.8	42	**27.8**	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	64 221.2	40	**42.8**	↑
1.3.2	Gross expenditure on R&D (% of GDP)	0.6	51	**12.8**	↘
1.4	INDUSTRIAL BASE	39.0	50	**39.0**	↓
1.4.1	Gross value added of manufacturing (% of GDP)	10.6	53	**35.3**	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.3	38	**44.6**	↓
2.	**Social transition**		**32**	**72.2**	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	66.3	52	**70.8**	↗
2.2	WORK AND INCLUSION	81.2	15	**81.2**	↗
2.2.1	Employment rate of the population aged 20-64 (%)	77.0	18	**74.0**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	12.2	25	**82.6**	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	95.0	20	**92.6**	↗
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	57.3	25	**76.8**	↗
2.4	EQUALITY	65.5	41	**65.5**	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	35.1	41	**66.4**	–
2.4.2	Income share held by the poorest quintile (%)	7.0	41	**62.5**	↑
3.	**Environmental transition**		**10**	**68.4**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	6.1	26	**74.6**	↘
3.2	BIODIVERSITY	96.2	1	**96.2**	↘
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	97.2	1	**97.2**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	97.5	5	**97.5**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	1.2	20	**91.6**	↘
3.3	MATERIAL USE	40.8	45	**40.8**	↘
3.3.1	Resource productivity (PPP$ per kg)	2.4	26	**39.4**	↑
3.3.2	Material footprint (tonnes per capita)	23.1	42	**42.2**	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	12.4	29	**61.8**	↑
4.	**Governance transition**		**36**	**66.0**	–
4.1	FUNDAMENTAL RIGHTS	82.0	29	**82.0**	–
4.1.1	Voice and accountability index (z-score)	0.9	31	**80.8**	–
4.1.2	Rule of law Index (z-score)	1.0	29	**83.1**	↗
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	4.4	59	**53.5**	↓
4.3	TRANSPARENCY	55.1	34	**55.1**	–
4.3.1	Corruption perceptions index (0-100)	57.0	30	**57.0**	↑
4.3.2	Basel anti-money laundering index (0-10)	4.6	32	**53.9**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	43.5	19	**88.1**	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

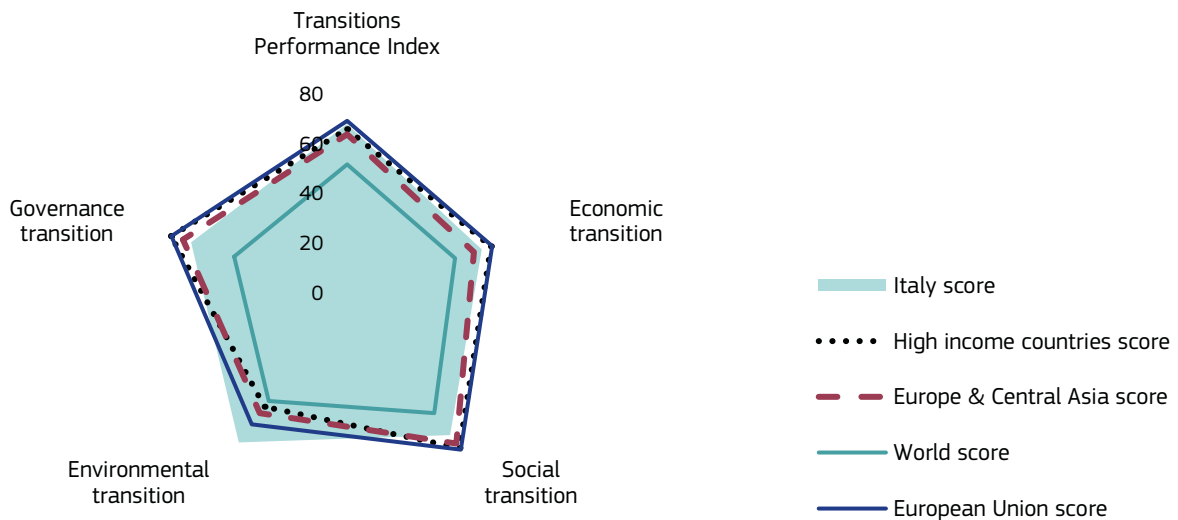*Source: European Commission, Transitions Performance Index 2021.*

LITHUANIA

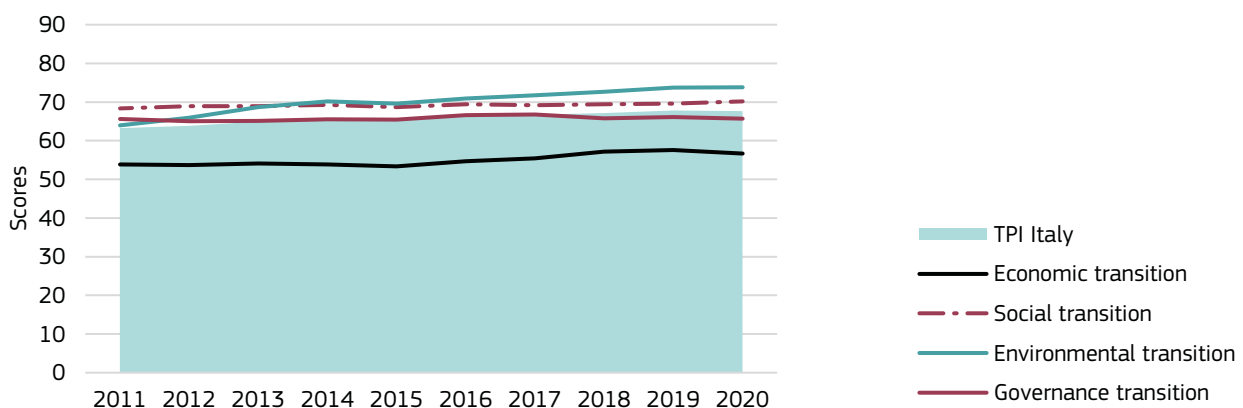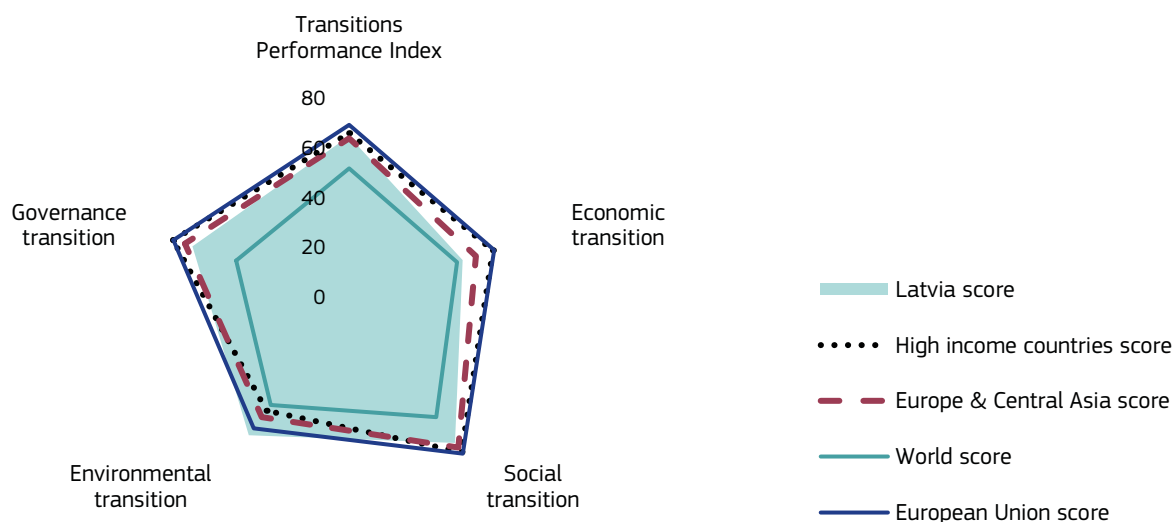|			
POPULATION (million inhabitants)	2.8	GDP PER CAPITA (current PPP$)	38 824.1
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	108.5	INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	44.0
EUROPEAN SKILLS INDEX (0-100)	63.9	GENDER EQUALITY INDEX SCORE (0-100)	58.4

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Lithuania ranks	**27**	**33**	**34**	**27**	**32**
Lithuania score	63.5	52.3	71.7	61.6	68.4
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Lithuania score
- ····· High income countries score
- – – Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Lithuania
- Economic transition
- Social transition
- Environmental transition
- Governance transition

LITHUANIA

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		27	**63.5**	–
1.	**Economic transition**		33	**52.3**	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	66.7	31	**66.7**	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	18.1	20	**72.3**	↘
1.1.2	Internet users (%)	83.1	37	**83.1**	↑
1.1.3	Proportion of people with ICT skills (composite)	44.6	27	**44.6**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	38 824.1	29	**51.8**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	35.2	36	**35.2**	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	75 717.0	32	**50.5**	↑
1.3.2	Gross expenditure on R&D (% of GDP)	1.0	39	**20.0**	↗
1.4	INDUSTRIAL BASE	49.8	26	**49.8**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	15.6	23	**52.0**	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.3	35	**46.4**	–
2.	**Social transition**		34	**71.7**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	66.7	48	**72.3**	↗
2.2	WORK AND INCLUSION	79.7	20	**79.7**	↗
2.2.1	Employment rate of the population aged 20-64 (%)	76.7	21	**73.4**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	10.8	14	**84.6**	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	88.3	32	**82.5**	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	57.9	21	**78.1**	↗
2.4	EQUALITY	63.2	48	**63.2**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	35.7	45	**65.1**	↘
2.4.2	Income share held by the poorest quintile (%)	6.6	48	**57.5**	↘
3.	**Environmental transition**		27	**61.6**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	7.4	37	**69.2**	↘
3.2	BIODIVERSITY	93.0	5	**93.0**	↘
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	90.9	5	**90.9**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	95.2	7	**95.2**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	1.0	16	**92.6**	↘
3.3	MATERIAL USE	21.3	68	**21.3**	↓
3.3.1	Resource productivity (PPP$ per kg)	2.1	32	**34.9**	↑
3.3.2	Material footprint (tonnes per capita)	36.9	67	**7.8**	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	12.6	27	**62.9**	↑
4.	**Governance transition**		32	**68.4**	↗
4.1	FUNDAMENTAL RIGHTS	84.1	25	**84.1**	–
4.1.1	Voice and accountability index (z-score)	1.0	24	**84.3**	–
4.1.2	Rule of law Index (z-score)	1.0	28	**84.0**	↗
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	4.6	61	**52.4**	↑
4.3	TRANSPARENCY	62.9	20	**62.9**	↗
4.3.1	Corruption perceptions index (0-100)	60.0	27	**60.0**	↗
4.3.2	Basel anti-money laundering index (0-10)	3.5	8	**64.9**	↗
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	47.1	22	**85.7**	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[▢ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

LUXEMBOURG

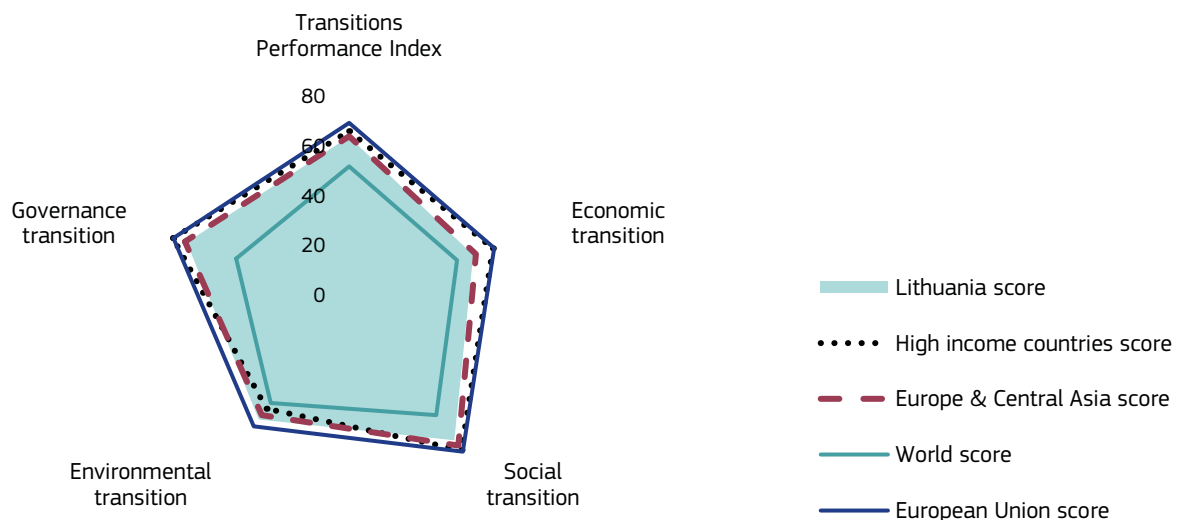|			
POPULATION (million inhabitants)	0.6	**GDP PER CAPITA** (current PPP$)	118 001.6
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	73.9	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	62.0
EUROPEAN SKILLS INDEX (0-100)	72.7	**GENDER EQUALITY INDEX SCORE** (0-100)	72.4

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Luxembourg ranks	**15**	**9**	**25**	**47**	**3**
Luxembourg score	68.7	69.3	75.5	52.9	85.0
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Luxembourg score
- High income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Luxembourg
- Economic transition
- Social transition
- Environmental transition
- Governance transition
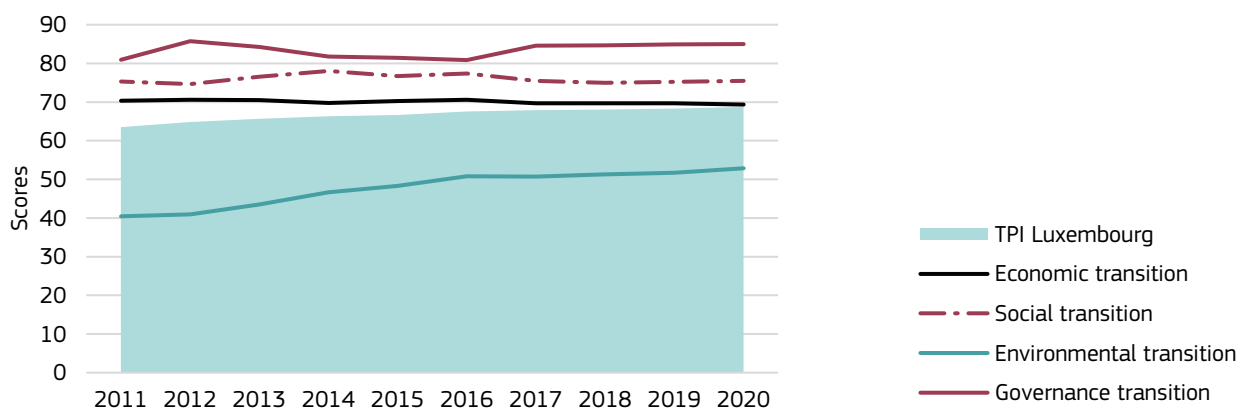
LUXEMBOURG

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**15**	**68.7**	↗
1.	**Economic transition**		**9**	**69.3**	↘
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	80.3	6	80.3	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	17.0	26	68.1	↘
1.1.2	Internet users (%)	98.8	3	98.8	↗
1.1.3	Proportion of people with ICT skills (composite)	74.0	2	74.0	↘
1.2	WEALTH: GDP per capita, current dollars (PPP$)	118 001.6	1	100.0	–
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	61.9	13	61.9	↘
1.3.1	Output per worker (2011 constant GDP PPP$)	241 728.6	1	100.0	–
1.3.2	Gross expenditure on R&D (% of GDP)	1.2	32	23.8	↓
1.4	INDUSTRIAL BASE	42.9	38	42.9	↘
1.4.1	Gross value added of manufacturing (% of GDP)	3.8	71	12.7	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	6.7	5	88.3	–
2.	**Social transition**		**25**	**75.5**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	71.6	12	88.5	–
2.2	WORK AND INCLUSION	77.0	26	77.0	↗
2.2.1	Employment rate of the population aged 20-64 (%)	72.1	34	64.2	↗
2.2.2	Employment-to-population ratio gender gap 25+ (%)	10.9	15	84.4	↑
2.2.3	Gross enrolment ratio, pre-primary (%)	91.7	27	87.6	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	58.1	18	78.3	↗
2.4	EQUALITY	63.7	44	63.7	↓
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	35.4	44	65.8	↓
2.4.2	Income share held by the poorest quintile (%)	6.6	48	57.5	↓
3.	**Environmental transition**		**47**	**52.9**	↑
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	20.3	70	15.4	↗
3.2	BIODIVERSITY	64.5	30	64.5	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	82.4	12	82.4	↗
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	37.1	48	37.1	–
3.2.3	Pesticide use per area of cropland (kg/ha)	2.3	37	83.4	–
3.3	MATERIAL USE	47.7	34	47.7	↑
3.3.1	Resource productivity (PPP$ per kg)	5.7	4	95.4	↑
3.3.2	Material footprint (tonnes per capita)	104.1	69	–	↗
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	16.8	7	83.8	↑
4.	**Governance transition**		**3**	**85.0**	–
4.1	FUNDAMENTAL RIGHTS	94.9	8	94.9	↘
4.1.1	Voice and accountability index (z-score)	1.5	8	93.4	↘
4.1.2	Rule of law Index (z-score)	1.8	10	96.4	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.3	3	91.9	↗
4.3	TRANSPARENCY	63.3	18	63.3	↗
4.3.1	Corruption perceptions index (0-100)	80.0	9	80.0	–
4.3.2	Basel anti-money laundering index (0-10)	4.8	39	52.2	↑
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	24.8	1	100.0	–

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
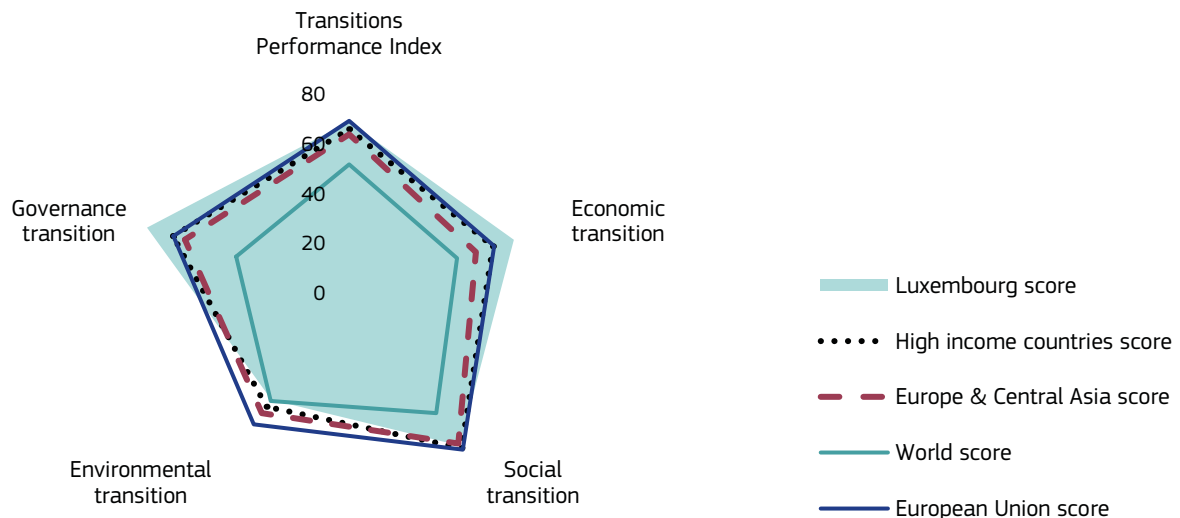*Source: European Commission, Transitions Performance Index 2021.*

MALTA

POPULATION (million inhabitants)	**0.5**	**GDP PER CAPITA** (current PPP$)	**42 856.4**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**22.5**	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	**48.0**
EUROPEAN SKILLS INDEX (0-100)	**64.6**	**GENDER EQUALITY INDEX SCORE** (0-100)	**65.0**

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Malta ranks	**9**	**27**	**16**	**2**	**29**
Malta score	70.7	55.7	80.1	74.4	70.1
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Middle East & North Africa score	53.5	44.4	58.3	54.4	55.9
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Malta score
- ····· High income countries score
- – – – Middle East & North Africa score
- —— World score
- —— European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Malta
- Economic transition
- Social transition
- Environmental transition
- Governance transition

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MALTA

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		9	70.7	↗
1.	**Economic transition**		27	55.7	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	73.4	21	73.4	↗
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	21.2	9	84.6	↗
1.1.2	Internet users (%)	86.9	27	86.9	↑
1.1.3	Proportion of people with ICT skills (composite)	48.6	23	48.6	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	42 856.4	22	57.1	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	40.3	30	40.3	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	103 312.9	17	68.9	↑
1.3.2	Gross expenditure on R&D (% of GDP)	0.6	54	11.8	↓
1.4	INDUSTRIAL BASE	47.4	31	47.4	↘
1.4.1	Gross value added of manufacturing (% of GDP)	7.5	66	25.0	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	4.0	12	81.1	↑
2.	**Social transition**		16	80.1	↑
2.1	HEALTH: Healthy life expectancy at birth (years)	71.5	13	88.2	–
2.2	WORK AND INCLUSION	77.7	24	77.7	↑
2.2.1	Employment rate of the population aged 20-64 (%)	77.4	15	74.8	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	21.4	52	69.4	↑
2.2.3	Gross enrolment ratio, pre-primary (%)	109.3	1	100.0	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	53.8	36	70.6	↑
2.4	EQUALITY	81.1	14	81.1	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	28.7	14	80.7	–
2.4.2	Income share held by the poorest quintile (%)	8.6	16	82.5	–
3.	**Environmental transition**		2	74.4	↑
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	5.3	19	77.9	↑
3.2	BIODIVERSITY	71.3	24	71.3	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	79.5	17	79.5	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	N/A	N/A	N/A	
3.2.3	Pesticide use per area of cropland (kg/ha)	6.3	58	55.0	–
3.3	MATERIAL USE	48.4	32	48.4	↗
3.3.1	Resource productivity (PPP$ per kg)	3.7	12	62.0	↑
3.3.2	Material footprint (tonnes per capita)	26.1	52	34.8	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	28.7	1	100.0	↑
4.	**Governance transition**		29	70.1	↘
4.1	FUNDAMENTAL RIGHTS	84.5	24	84.5	↘
4.1.1	Voice and accountability index (z-score)	1.1	19	86.9	↘
4.1.2	Rule of law Index (z-score)	0.9	31	82.0	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.6	41	73.6	↓
4.3	TRANSPARENCY	48.5	45	48.5	↓
4.3.1	Corruption perceptions index (0-100)	53.0	35	53.0	↘
4.3.2	Basel anti-money laundering index (0-10)	5.5	58	45.5	↓
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	53.3	29	81.7	↑

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

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Source: European Commission, Transitions Performance Index 2021.
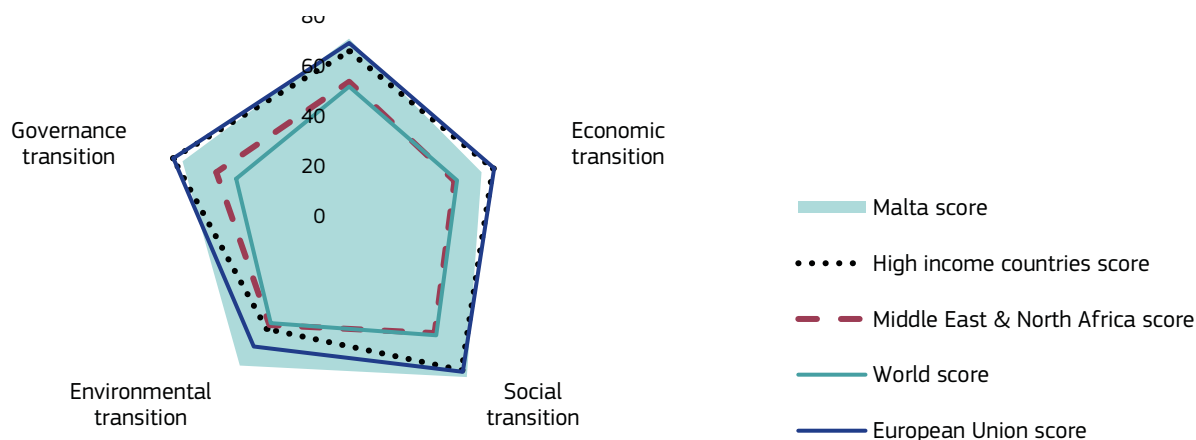
NETHERLANDS

POPULATION (million inhabitants)	17.4	**GDP PER CAPITA** (current PPP$) 57 534.2
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	1 003.8	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)** 68.0
EUROPEAN SKILLS INDEX (0-100)	63.5	**GENDER EQUALITY INDEX SCORE** (0-100) 75.9

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Netherlands ranks	**4**	**15**	**5**	**21**	**7**
Netherlands score	73.6	66.7	84.8	64.7	82.5
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Netherlands score
- ⋯⋯ High income countries score
- – – Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Netherlands
- Economic transition
- Social transition
- Environmental transition
- Governance transition

NETHERLANDS

Index	Transitions Performance Index	2020 VALUE	2020 RANK	SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**4**	**73.6**	↗
1.	**Economic transition**		**15**	**66.7**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	76.4	13	**76.4**	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	17.9	22	**71.8**	↘
1.1.2	Internet users (%)	91.3	17	**91.3**	↘
1.1.3	Proportion of people with ICT skills (composite)	66.2	9	**66.2**	↗
1.2	WEALTH: GDP per capita, current dollars (PPP$)	57 534.2	9	**76.7**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	58.6	16	**58.6**	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	110 932.4	12	**74.0**	–
1.3.2	Gross expenditure on R&D (% of GDP)	2.2	14	**43.2**	↑
1.4	INDUSTRIAL BASE	55.6	19	**55.6**	–
1.4.1	Gross value added of manufacturing (% of GDP)	10.8	51	**36.0**	–
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	5.3	9	**85.0**	–
2.	**Social transition**		**5**	**84.8**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	71.4	14	**88.1**	–
2.2	WORK AND INCLUSION	81.8	13	**81.8**	–
2.2.1	Employment rate of the population aged 20-64 (%)	80.0	7	**80.0**	↗
2.2.2	Employment-to-population ratio gender gap 25+ (%)	12.1	24	**82.7**	–
2.2.3	Gross enrolment ratio, pre-primary (%)	89.0	31	**83.5**	↘
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	62.8	7	**86.8**	–
2.4	EQUALITY	83.1	13	**83.1**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	28.1	12	**82.0**	↘
2.4.2	Income share held by the poorest quintile (%)	8.9	12	**86.3**	↘
3.	**Environmental transition**		**21**	**64.7**	↑
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	11.1	57	**53.8**	↗
3.2	BIODIVERSITY	74.1	22	**74.1**	↗
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	79.6	16	**79.6**	↗
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	87.3	14	**87.3**	↗
3.2.3	Pesticide use per area of cropland (kg/ha)	8.9	62	**36.6**	↑
3.3	MATERIAL USE	65.4	3	**65.4**	↑
3.3.1	Resource productivity (PPP$ per kg)	6.8	1	**100.0**	↑
3.3.2	Material footprint (tonnes per capita)	27.7	56	**30.8**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	13.2	24	**65.8**	↑
4.	**Governance transition**		**7**	**82.5**	–
4.1	FUNDAMENTAL RIGHTS	94.9	7	**94.9**	↘
4.1.1	Voice and accountability index (z-score)	1.5	5	**93.7**	↘
4.1.2	Rule of law Index (z-score)	1.8	11	**96.1**	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.6	11	**87.2**	–
4.3	TRANSPARENCY	65.5	11	**65.5**	↘
4.3.1	Corruption perceptions index (0-100)	82.0	8	**82.0**	↘
4.3.2	Basel anti-money laundering index (0-10)	4.6	29	**54.5**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	52.5	28	**82.3**	↗

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

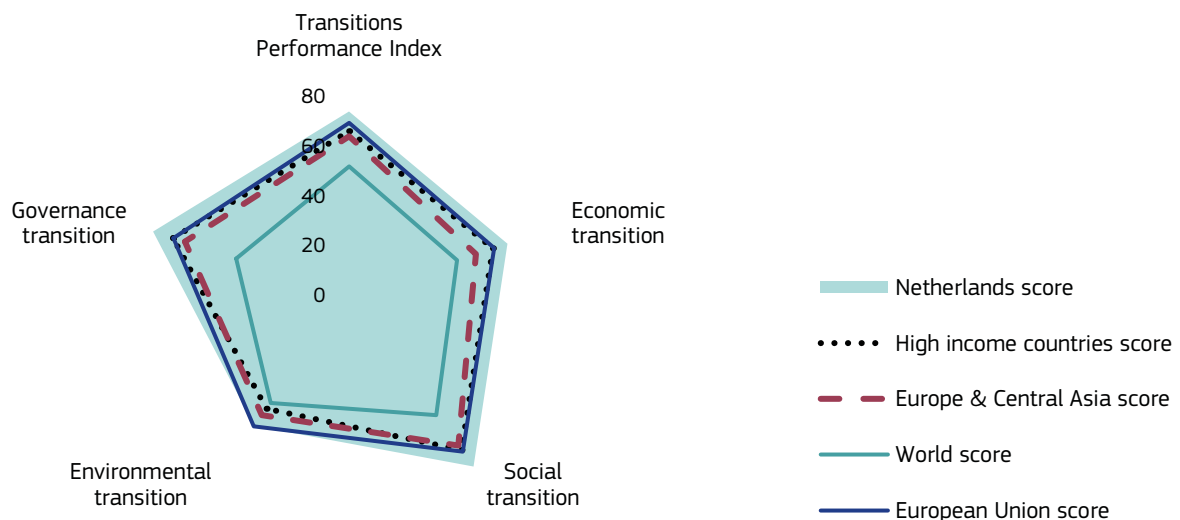*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

POLAND

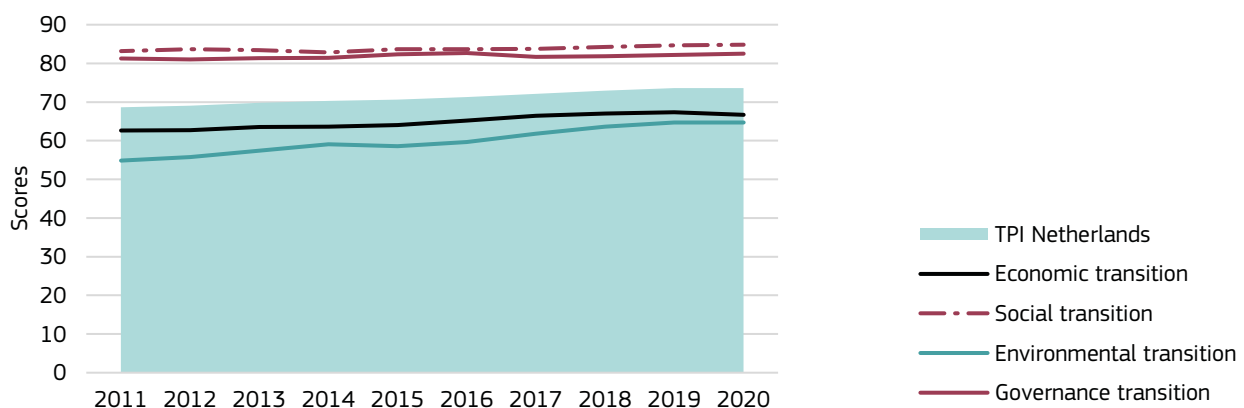|			
POPULATION (million inhabitants)	38.0	GDP PER CAPITA (current PPP$)	34 102.8
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	1 296.9	INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	36.0
EUROPEAN SKILLS INDEX (0-100)	65.9	GENDER EQUALITY INDEX SCORE (0-100)	56.6

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Poland ranks	25	32	29	32	25
Poland score	64.2	52.5	74.1	59.7	71.8
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

TRANSITIONS PROGRESS 2011-2020

II-45

POLAND
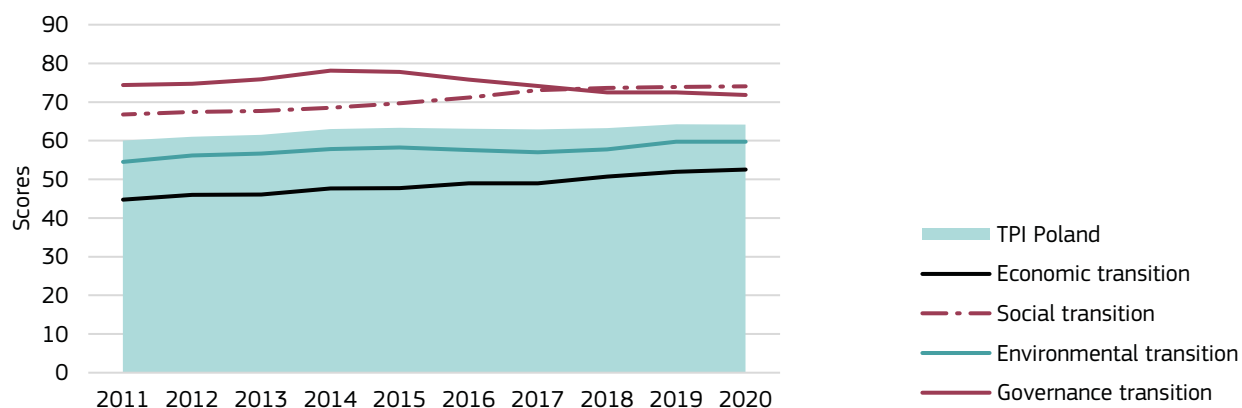
Index	Transitions Performance Index	VALUE (2020)	RANK (2020)	SCORE (2020)	SCORE PROGRESS 2011–2020
Index	**Transitions Performance Index**		**25**	**64.2**	↗
1.	**Economic transition**		**32**	**52.5**	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	67.4	27	**67.4**	↗
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	19.7	14	**79.0**	–
1.1.2	Internet users (%)	86.8	28	**86.8**	↑
1.1.3	Proportion of people with ICT skills (composite)	36.3	41	**36.3**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	34 102.8	33	**45.5**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	36.9	35	**36.9**	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	71 045.8	35	**47.4**	↑
1.3.2	Gross expenditure on R&D (% of GDP)	1.3	28	**26.4**	↑
1.4	INDUSTRIAL BASE	52.8	23	**52.8**	–
1.4.1	Gross value added of manufacturing (% of GDP)	16.6	19	**55.3**	–
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.4	32	**49.1**	–
2.	**Social transition**		**29**	**74.1**	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	68.7	34	**78.9**	–
2.2	WORK AND INCLUSION	72.5	35	**72.5**	↑
2.2.1	Employment rate of the population aged 20-64 (%)	73.6	29	**67.2**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	18.7	45	**73.3**	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	87.8	34	**81.7**	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	50.1	48	**63.8**	↗
2.4	EQUALITY	77.4	18	**77.4**	↗
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	30.2	19	**77.3**	↗
2.4.2	Income share held by the poorest quintile (%)	8.2	19	**77.5**	↑
3.	**Environmental transition**		**32**	**59.7**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	10.4	54	**56.7**	–
3.2	BIODIVERSITY	88.3	7	**88.3**	↘
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	87.3	7	**87.3**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	91.1	12	**91.1**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	2.1	31	**84.8**	↘
3.3	MATERIAL USE	35.4	52	**35.4**	↑
3.3.1	Resource productivity (PPP$ per kg)	1.9	36	**32.5**	↑
3.3.2	Material footprint (tonnes per capita)	24.7	50	**38.3**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	11.7	34	**58.4**	↑
4.	**Governance transition**		**25**	**71.8**	↘
4.1	FUNDAMENTAL RIGHTS	71.8	35	**71.8**	↓
4.1.1	Voice and accountability index (z-score)	0.6	36	**73.1**	↓
4.1.2	Rule of law Index (z-score)	0.5	36	**70.5**	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.7	16	**84.8**	↗
4.3	TRANSPARENCY	56.4	31	**56.4**	↘
4.3.1	Corruption perceptions index (0-100)	56.0	32	**56.0**	↘
4.3.2	Basel anti-money laundering index (0-10)	4.3	24	**56.6**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	57.5	32	**79.1**	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
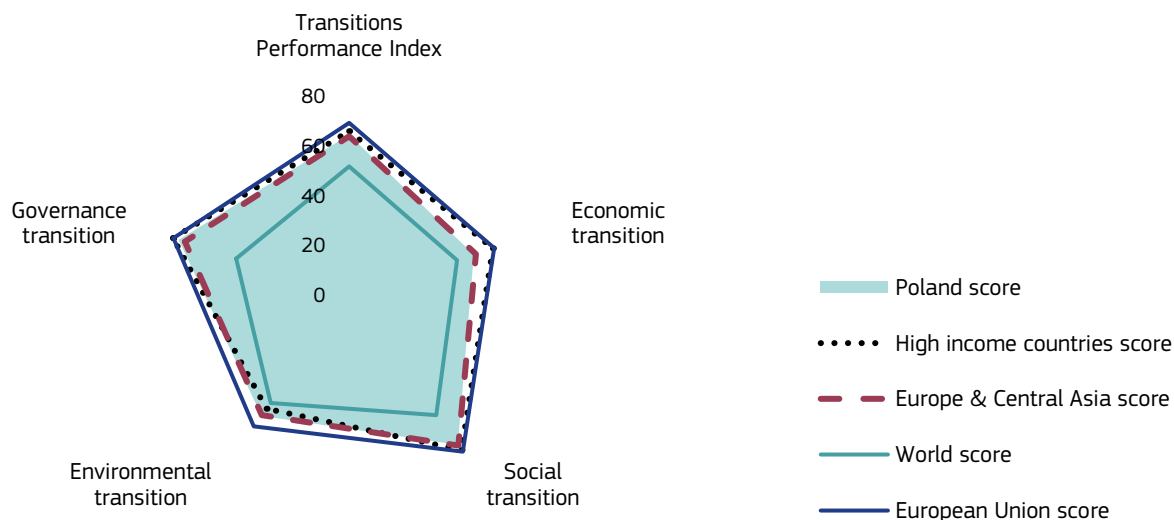*Source: European Commission, Transitions Performance Index 2021.*

PORTUGAL

POPULATION (million inhabitants)	10.2	**GDP PER CAPITA** (current PPP$)	34 042.7
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	347.6	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	41.0
EUROPEAN SKILLS INDEX (0-100)	52.5	**GENDER EQUALITY INDEX SCORE** (0-100)	62.2

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Portugal ranks	**20**	**35**	**24**	**14**	**22**
Portugal score	67.0	50.3	76.9	66.4	73.1
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

Portugal score
High income countries score
Europe & Central Asia score
World score
European Union score

TRANSITIONS PROGRESS 2011-2020

TPI Portugal
Economic transition
Social transition
Environmental transition
Governance transition

PORTUGAL

Index	Transitions Performance Index	VALUE	RANK	SCORE		2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**20**	**67.0**	–	
1.	**Economic transition**		**35**	**50.3**	–	
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	66.1	33	**66.1**	↘	
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	18.5	19	**74.2**	↓	
1.1.2	Internet users (%)	78.3	45	**78.3**	↑	
1.1.3	Proportion of people with ICT skills (composite)	45.8	25	**45.8**	↓	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	34 042.7	34	**45.4**	↑	
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	38.2	32	**38.2**	–	
1.3.1	Output per worker (2011 constant GDP PPP$)	72 660.1	33	**48.4**	–	
1.3.2	Gross expenditure on R&D (% of GDP)	1.4	26	**28.0**	↘	
1.4	INDUSTRIAL BASE	45.9	34	**45.9**	↗	
1.4.1	Gross value added of manufacturing (% of GDP)	11.8	45	**39.3**	–	
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.6	31	**55.8**	↑	
2.	**Social transition**		**24**	**76.9**	↗	
2.1	HEALTH: Healthy life expectancy at birth (years)	71.0	20	**86.5**	–	
2.2	WORK AND INCLUSION	78.6	22	**78.6**	↗	
2.2.1	Employment rate of the population aged 20-64 (%)	74.7	28	**69.4**	↑	
2.2.2	Employment-to-population ratio gender gap 25+ (%)	11.3	18	**83.9**	–	
2.2.3	Gross enrolment ratio, pre-primary (%)	91.0	28	**86.4**	–	
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	57.0	27	**76.4**	↗	
2.4	EQUALITY	69.4	34	**69.4**	↗	
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	33.5	36	**70.0**	↗	
2.4.2	Income share held by the poorest quintile (%)	7.4	35	**67.5**	↗	
3.	**Environmental transition**		**14**	**66.4**	↗	
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	6.6	30	**72.5**	–	
3.2	BIODIVERSITY	70.7	25	**70.7**	–	
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	75.4	23	**75.4**	–	
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	68.6	27	**68.6**	–	
3.2.3	Pesticide use per area of cropland (kg/ha)	4.8	49	**65.6**	↑	
3.3	MATERIAL USE	43.8	40	**43.8**	↗	
3.3.1	Resource productivity (PPP$ per kg)	2.1	33	**34.4**	↑	
3.3.2	Material footprint (tonnes per capita)	18.7	34	**53.2**	↘	
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	15.7	11	**78.6**	↑	
4.	**Governance transition**		**22**	**73.1**	↘	
4.1	FUNDAMENTAL RIGHTS	88.9	18	**88.9**	–	
4.1.1	Voice and accountability index (z-score)	1.3	16	**89.6**	–	
4.1.2	Rule of law Index (z-score)	1.2	22	**88.2**	–	
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.8	18	**83.9**	–	
4.3	TRANSPARENCY	61.3	24	**61.3**	↘	
4.3.1	Corruption perceptions index (0-100)	61.0	25	**61.0**	↘	
4.3.2	Basel anti-money laundering index (0-10)	3.9	14	**61.5**	↘	
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	135.2	68	**28.9**	↓	

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

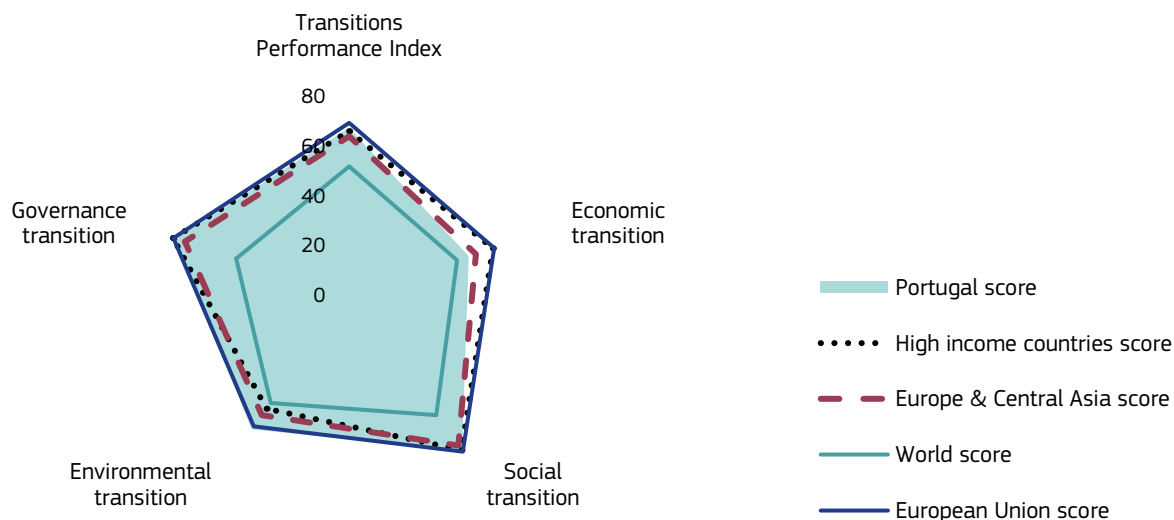*Source: European Commission, Transitions Performance Index 2021.*

ROMANIA

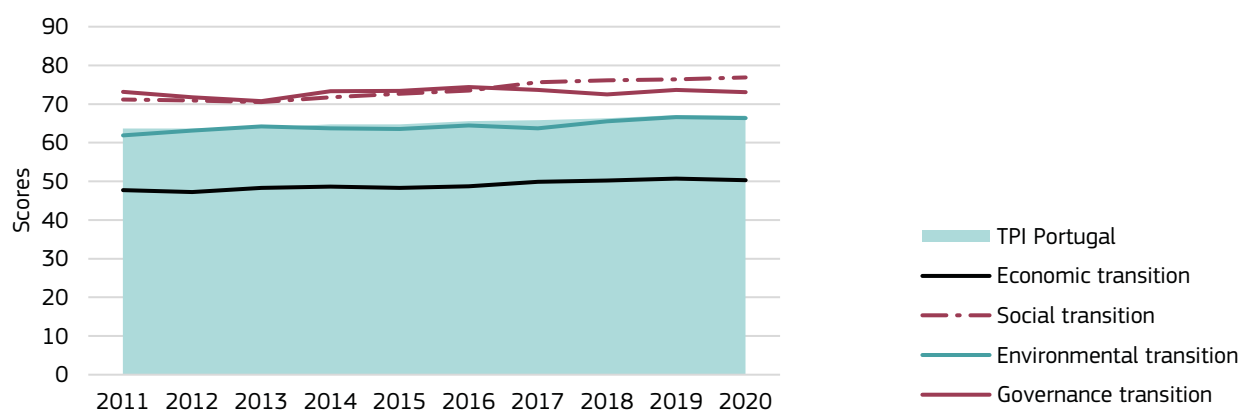| POPULATION (million inhabitants)	19.3	GDP PER CAPITA (current PPP$)	30 526.3
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	589.9	INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	42.0
EUROPEAN SKILLS INDEX (0-100)	41.6	GENDER EQUALITY INDEX SCORE (0-100)	54.5

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Romania ranks	**32**	**44**	**44**	**19**	**34**
Romania score	61.2	42.2	66.0	65.3	66.6
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Romania score
- High income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Romania
- Economic transition
- Social transition
- Environmental transition
- Governance transition

ROMANIA

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		**32**	**61.2**	–
1.	**Economic transition**		**44**	**42.2**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	55.1	51	**55.1**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	13.8	36	**55.2**	↘
1.1.2	Internet users (%)	78.5	42	**78.5**	↑
1.1.3	Proportion of people with ICT skills (composite)	31.5	45	**31.5**	↑
1.2	WEALTH: GDP per capita, current dollars (PPP$)	30 526.3	38	**40.7**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	27.1	43	**27.1**	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	66 847.9	39	**44.6**	↑
1.3.2	Gross expenditure on R&D (% of GDP)	0.5	59	**9.6**	↘
1.4	INDUSTRIAL BASE	40.5	46	**40.5**	↓
1.4.1	Gross value added of manufacturing (% of GDP)	15.4	24	**51.3**	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.0	58	**24.2**	↓
2.	**Social transition**		**44**	**66.0**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	66.9	47	**72.8**	–
2.2	WORK AND INCLUSION	69.6	38	**69.6**	↗
2.2.1	Employment rate of the population aged 20-64 (%)	70.8	37	**61.6**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	20.2	50	**71.1**	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	88.3	33	**82.5**	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	51.0	46	**65.4**	↗
2.4	EQUALITY	59.3	52	**59.3**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	35.8	48	**64.9**	–
2.4.2	Income share held by the poorest quintile (%)	5.4	60	**42.5**	↘
3.	**Environmental transition**		**19**	**65.3**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	5.9	22	**75.4**	–
3.2	BIODIVERSITY	73.9	23	**73.9**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	76.0	20	**76.0**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	60.8	30	**60.8**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	0.6	7	**95.9**	–
3.3	MATERIAL USE	37.5	50	**37.5**	↘
3.3.1	Resource productivity (PPP$ per kg)	1.0	63	**17.5**	↗
3.3.2	Material footprint (tonnes per capita)	17.0	31	**57.6**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	14.9	14	**74.5**	↑
4.	**Governance transition**		**34**	**66.6**	–
4.1	FUNDAMENTAL RIGHTS	68.2	37	**68.2**	↑
4.1.1	Voice and accountability index (z-score)	0.6	38	**72.1**	↗
4.1.2	Rule of law Index (z-score)	0.4	38	**64.4**	↑
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.3	35	**77.2**	↘
4.3	TRANSPARENCY	48.7	44	**48.7**	↘
4.3.1	Corruption perceptions index (0-100)	44.0	44	**44.0**	–
4.3.2	Basel anti-money laundering index (0-10)	4.8	41	**51.8**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	49.8	25	**84.0**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below −10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

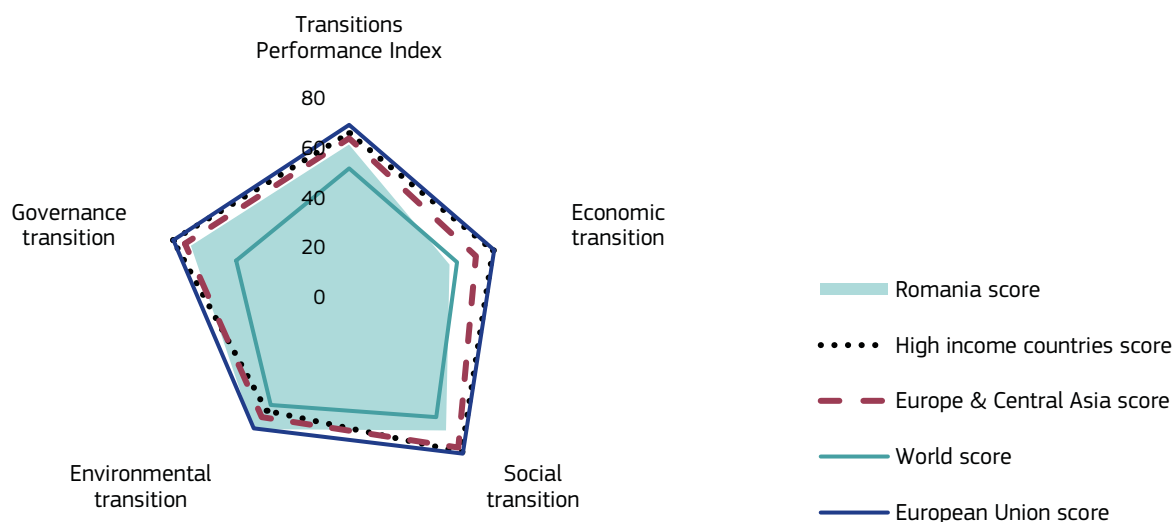*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

SLOVAKIA

POPULATION (million inhabitants)	**5.5**	**GDP PER CAPITA** (current PPP$)	**32 709.9**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**179.4**	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	**39.0**
EUROPEAN SKILLS INDEX (0-100)	**60.3**	**GENDER EQUALITY INDEX SCORE** (0-100)	**56.0**

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Slovakia ranks	**22**	**36**	**14**	**31**	**28**
Slovakia score	65.0	50.1	80.9	60.2	70.9
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020
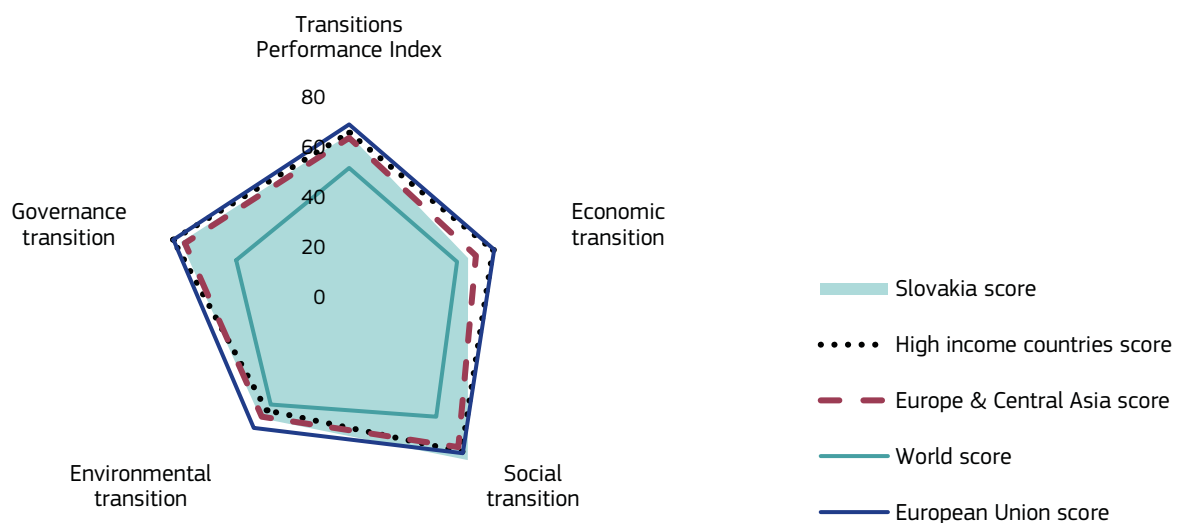
TRANSITIONS PROGRESS 2011-2020
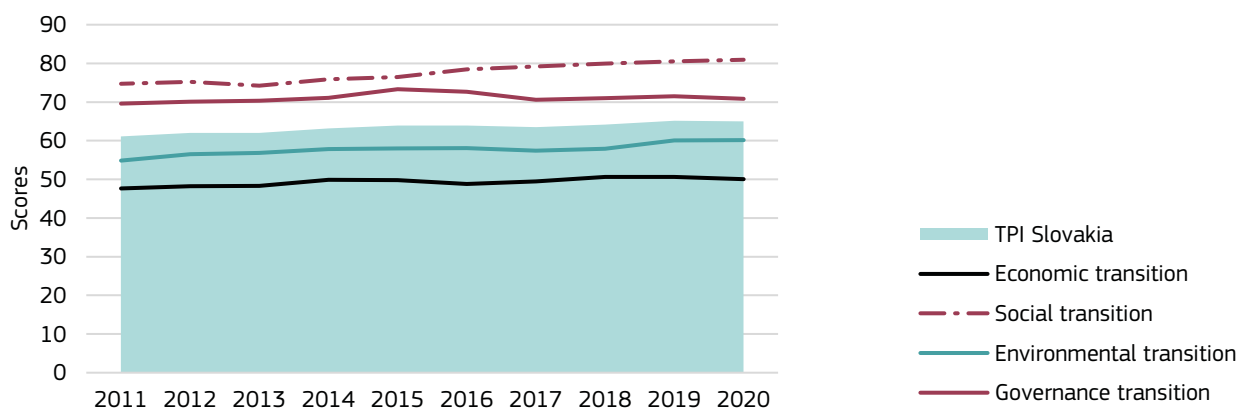
SLOVAKIA

Index	Transitions Performance Index	2020 VALUE	RANK	SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		**22**	**65.0**	–
1.	**Economic transition**		**36**	**50.1**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	65.7	34	**65.7**	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	16.2	32	**64.6**	↗
1.1.2	Internet users (%)	89.9	20	**89.9**	↑
1.1.3	Proportion of people with ICT skills (composite)	42.7	31	**42.7**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	32 709.9	36	**43.6**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	31.3	38	**31.3**	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	68 992.6	37	**46.0**	↗
1.3.2	Gross expenditure on R&D (% of GDP)	0.8	45	**16.6**	↑
1.4	INDUSTRIAL BASE	51.3	24	**51.3**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	16.6	19	**55.3**	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.3	37	**45.1**	–
2.	**Social transition**		**14**	**80.9**	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	68.5	36	**78.5**	↗
2.2	WORK AND INCLUSION	76.5	28	**76.5**	↑
2.2.1	Employment rate of the population aged 20-64 (%)	72.5	32	**65.0**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	15.3	33	**78.2**	–
2.2.3	Gross enrolment ratio, pre-primary (%)	97.3	14	**96.0**	↗
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	56.9	28	**76.2**	↑
2.4	EQUALITY	87.9	6	**87.9**	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	25.0	2	**88.9**	–
2.4.2	Income share held by the poorest quintile (%)	8.8	15	**85.0**	–
3.	**Environmental transition**		**31**	**60.2**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	7.4	37	**69.2**	–
3.2	BIODIVERSITY	86.9	8	**86.9**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	85.8	10	**85.8**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	86.3	15	**86.3**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	1.4	23	**90.3**	↘
3.3	MATERIAL USE	29.4	60	**29.4**	↑
3.3.1	Resource productivity (PPP$ per kg)	2.8	21	**47.1**	↑
3.3.2	Material footprint (tonnes per capita)	35.3	65	**11.8**	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	11.0	39	**55.2**	↑
4.	**Governance transition**		**28**	**70.9**	–
4.1	FUNDAMENTAL RIGHTS	78.1	31	**78.1**	–
4.1.1	Voice and accountability index (z-score)	0.9	30	**81.1**	↘
4.1.2	Rule of law Index (z-score)	0.7	33	**75.1**	–
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.1	27	**79.0**	↗
4.3	TRANSPARENCY	53.4	38	**53.4**	–
4.3.1	Corruption perceptions index (0-100)	49.0	40	**49.0**	↗
4.3.2	Basel anti-money laundering index (0-10)	4.4	25	**56.3**	–
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	60.3	36	**77.2**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[▢ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

SLOVENIA

POPULATION (million inhabitants)	**2.1**	**GDP PER CAPITA** (current PPP$)	**38 807.0**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**82.5**	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	**47.0**
EUROPEAN SKILLS INDEX (0-100)	**74.6**	**GENDER EQUALITY INDEX SCORE** (0-100)	**67.6**

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Slovenia ranks	**10**	**17**	**2**	**30**	**15**
Slovenia score	70.4	62.5	85.9	60.9	77.7
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020
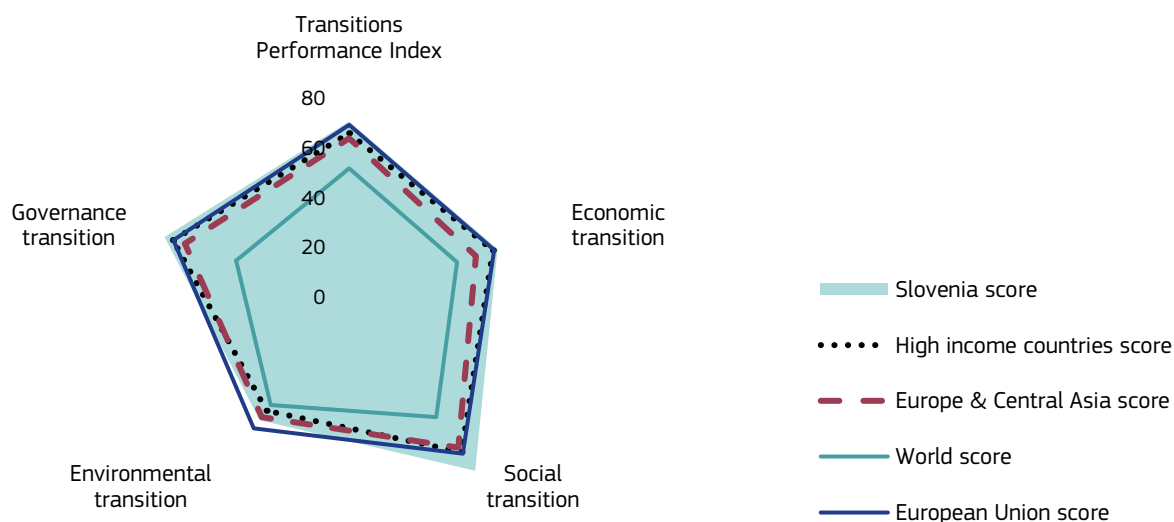
TRANSITIONS PROGRESS 2011-2020

SLOVENIA

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		10	70.4	–
1.	**Economic transition**		17	62.5	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	73.6	19	73.6	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	22.7	4	90.8	↘
1.1.2	Internet users (%)	86.6	30	86.6	↑
1.1.3	Proportion of people with ICT skills (composite)	43.4	29	43.4	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	38 807.0	30	51.7	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	47.9	22	47.9	↘
1.3.1	Output per worker (2011 constant GDP PPP$)	82 607.6	26	55.1	↗
1.3.2	Gross expenditure on R&D (% of GDP)	2.0	17	40.8	↓
1.4	INDUSTRIAL BASE	68.1	8	68.1	–
1.4.1	Gross value added of manufacturing (% of GDP)	20.7	9	69.0	↑
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	1.4	25	66.8	↘
2.	**Social transition**		2	85.9	–
2.1	HEALTH: Healthy life expectancy at birth (years)	70.7	25	85.8	–
2.2	WORK AND INCLUSION	80.2	19	80.2	↗
2.2.1	Employment rate of the population aged 20-64 (%)	75.6	23	71.2	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	10.4	10	85.1	–
2.2.3	Gross enrolment ratio, pre-primary (%)	92.3	26	88.4	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	59.1	15	80.2	↑
2.4	EQUALITY	92.3	1	92.3	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	24.6	1	89.8	–
2.4.2	Income share held by the poorest quintile (%)	10.1	1	100.0	–
3.	**Environmental transition**		30	60.9	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	8.2	42	65.8	↗
3.2	BIODIVERSITY	77.1	18	77.1	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	73.5	24	73.5	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	84.0	20	84.0	–
3.2.3	Pesticide use per area of cropland (kg/ha)	4.2	46	70.4	–
3.3	MATERIAL USE	45.0	38	45.0	↑
3.3.1	Resource productivity (PPP$ per kg)	3.0	16	49.4	↑
3.3.2	Material footprint (tonnes per capita)	23.8	43	40.6	–
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	11.1	37	55.5	↑
4.	**Governance transition**		15	77.7	↘
4.1	FUNDAMENTAL RIGHTS	84.1	26	84.1	↘
4.1.1	Voice and accountability index (z-score)	0.9	28	82.5	↘
4.1.2	Rule of law Index (z-score)	1.1	25	85.7	–
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.5	7	89.1	–
4.3	TRANSPARENCY	64.2	15	64.2	↘
4.3.1	Corruption perceptions index (0-100)	60.0	27	60.0	↘
4.3.2	Basel anti-money laundering index (0-10)	3.3	4	67.0	↓
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	79.8	51	64.7	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

SPAIN

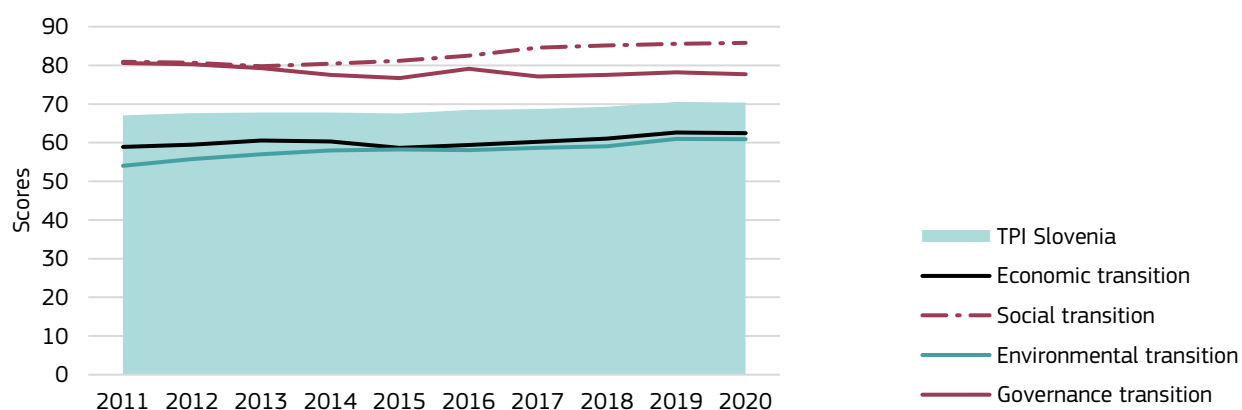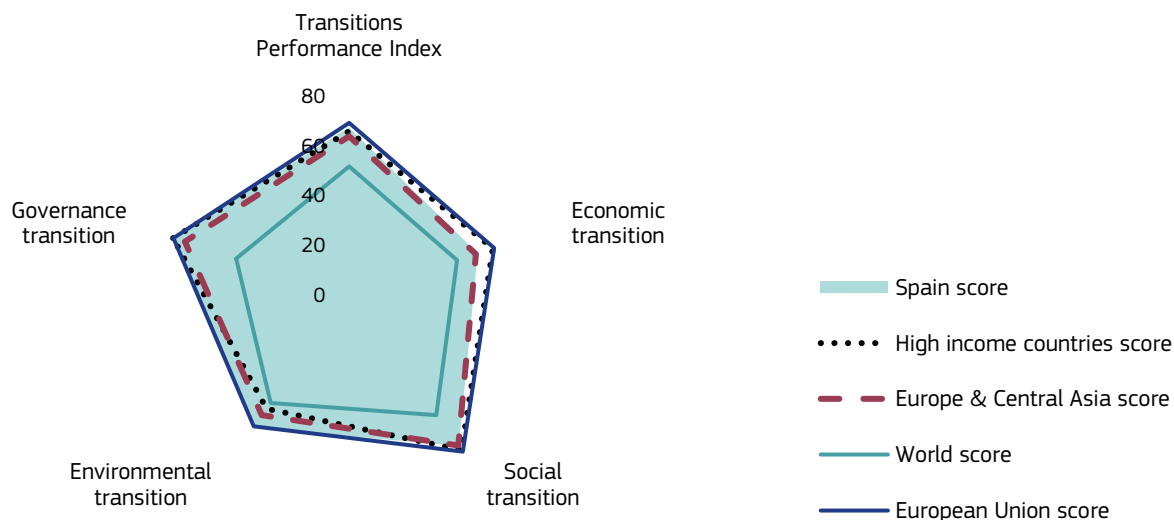| POPULATION (million inhabitants)	47.2	GDP PER CAPITA (current PPP$)	38 392.3
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	1 811.1	INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	47.0
EUROPEAN SKILLS INDEX (0-100)	31.1	GENDER EQUALITY INDEX SCORE (0-100)	73.7

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Spain ranks	19	29	28	18	19
Spain score	67.1	54.2	74.7	65.4	73.7
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Spain score
- High income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Spain
- Economic transition
- Social transition
- Environmental transition
- Governance transition

II-55

TRANSITIONS PERFORMANCE INDEX 2021

SPAIN

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		19	67.1	–
1.	**Economic transition**		29	54.2	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	71.7	23	71.7	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	16.6	30	66.3	↘
1.1.2	Internet users (%)	93.2	11	93.2	↑
1.1.3	Proportion of people with ICT skills (composite)	55.5	15	55.5	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	38 392.3	31	51.2	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	44.9	27	44.9	–
1.3.1	Output per worker (2011 constant GDP PPP$)	97 280.4	21	64.9	–
1.3.2	Gross expenditure on R&D (% of GDP)	1.3	31	25.0	↘
1.4	INDUSTRIAL BASE	44.8	36	44.8	↘
1.4.1	Gross value added of manufacturing (% of GDP)	11.2	47	37.3	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.6	30	56.1	↘
2.	**Social transition**		28	74.7	–
2.1	HEALTH: Healthy life expectancy at birth (years)	72.1	7	90.3	–
2.2	WORK AND INCLUSION	71.7	36	71.7	–
2.2.1	Employment rate of the population aged 20-64 (%)	65.7	44	51.4	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	13.1	26	81.2	–
2.2.3	Gross enrolment ratio, pre-primary (%)	95.6	19	93.4	↘
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	57.7	22	77.7	–
2.4	EQUALITY	63.6	45	63.6	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	34.7	38	67.3	–
2.4.2	Income share held by the poorest quintile (%)	6.2	51	52.5	–
3.	**Environmental transition**		18	65.4	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	7.1	33	70.4	–
3.2	BIODIVERSITY	58.3	34	58.3	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	57.6	31	57.6	↗
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	51.3	34	51.3	–
3.2.3	Pesticide use per area of cropland (kg/ha)	3.7	43	73.9	↘
3.3	MATERIAL USE	59.2	6	59.2	↑
3.3.1	Resource productivity (PPP$ per kg)	4.7	6	78.4	↑
3.3.2	Material footprint (tonnes per capita)	24.0	44	40.1	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	14.7	15	73.7	↑
4.	**Governance transition**		19	73.7	↘
4.1	FUNDAMENTAL RIGHTS	83.0	28	83.0	↘
4.1.1	Voice and accountability index (z-score)	1.0	23	84.3	↘
4.1.2	Rule of law Index (z-score)	0.9	32	81.6	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.6	15	86.6	–
4.3	TRANSPARENCY	63.3	19	63.3	–
4.3.1	Corruption perceptions index (0-100)	62.0	24	62.0	↘
4.3.2	Basel anti-money laundering index (0-10)	3.6	10	64.1	↗
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	119.9	66	38.8	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[☐ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

SWEDEN

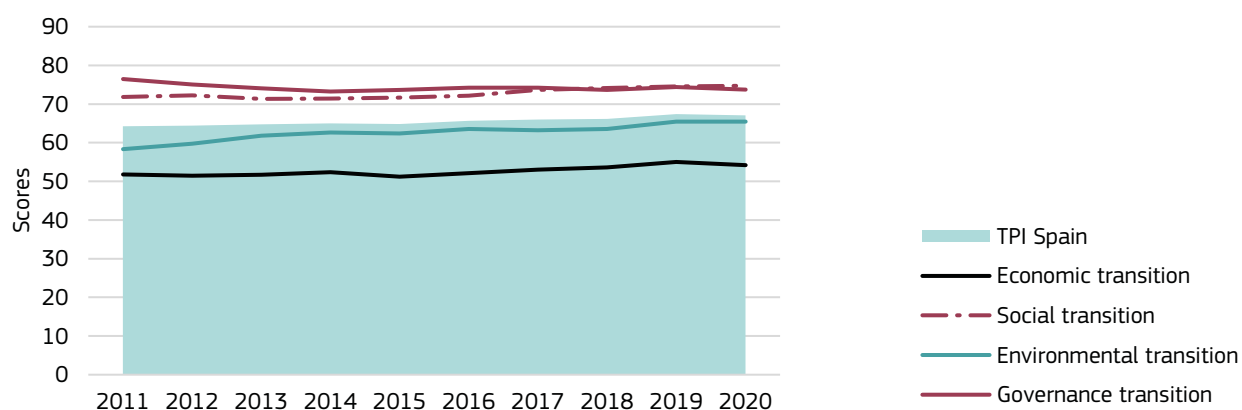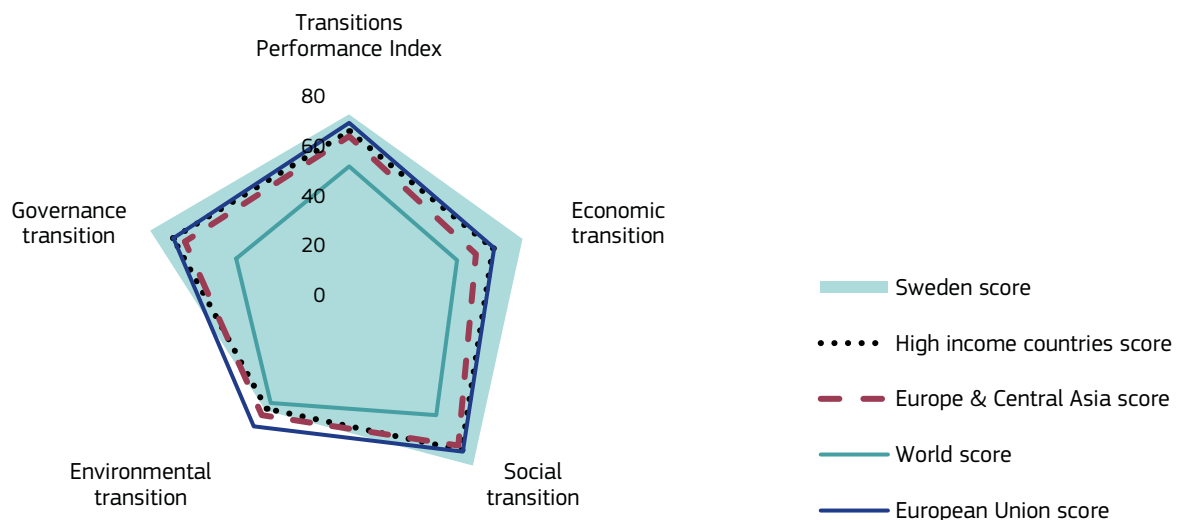| POPULATION (million inhabitants)	10.4	GDP PER CAPITA (current PPP$)	54 146.1
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	565.5	INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	65.0
EUROPEAN SKILLS INDEX (0-100)	72.5	GENDER EQUALITY INDEX SCORE (0-100)	83.9

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Sweden ranks	**7**	**5**	**6**	**39**	**5**
Sweden score	72.3	73.0	84.3	57.0	83.7
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Sweden score
- High income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Sweden
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021

SWEDEN

Index	Transitions Performance Index	2020 VALUE	RANK	SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**7**	**72.3**	–
1.	**Economic transition**		**5**	**73.0**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	88.1	2	**88.1**	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	24.1	1	**96.5**	↑
1.1.2	Internet users (%)	94.5	10	**94.5**	–
1.1.3	Proportion of people with ICT skills (composite)	73.3	4	**73.3**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	54 146.1	12	**72.2**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	70.8	4	**70.8**	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	110 270.0	13	**73.5**	↗
1.3.2	Gross expenditure on R&D (% of GDP)	3.4	3	**68.0**	↗
1.4	INDUSTRIAL BASE	59.8	15	**59.8**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	12.1	44	**40.3**	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	7.1	4	**89.1**	↘
2.	**Social transition**		**6**	**84.3**	↘
2.1	HEALTH: Healthy life expectancy at birth (years)	71.9	11	**89.7**	–
2.2	WORK AND INCLUSION	87.4	2	**87.4**	–
2.2.1	Employment rate of the population aged 20-64 (%)	80.8	6	**81.6**	–
2.2.2	Employment-to-population ratio gender gap 25+ (%)	7.7	5	**89.0**	–
2.2.3	Gross enrolment ratio, pre-primary (%)	97.3	15	**96.0**	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	63.8	4	**88.7**	–
2.4	EQUALITY	76.1	21	**76.1**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	30.0	18	**77.8**	↘
2.4.2	Income share held by the poorest quintile (%)	7.7	27	**71.3**	↓
3.	**Environmental transition**		**39**	**57.0**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	5.2	18	**78.3**	↗
3.2	BIODIVERSITY	66.6	29	**66.6**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	59.1	30	**59.1**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	59.4	32	**59.4**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	0.6	8	**95.9**	–
3.3	MATERIAL USE	28.0	63	**28.0**	–
3.3.1	Resource productivity (PPP$ per kg)	2.2	29	**36.6**	↗
3.3.2	Material footprint (tonnes per capita)	32.3	60	**19.4**	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	11.0	38	**55.2**	↑
4.	**Governance transition**		**5**	**83.7**	↘
4.1	FUNDAMENTAL RIGHTS	94.9	6	**94.9**	↘
4.1.1	Voice and accountability index (z-score)	1.5	7	**93.4**	↘
4.1.2	Rule of law Index (z-score)	1.8	8	**96.5**	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.1	26	**79.7**	↘
4.3	TRANSPARENCY	73.8	5	**73.8**	↘
4.3.1	Corruption perceptions index (0-100)	85.0	3	**85.0**	↘
4.3.2	Basel anti-money laundering index (0-10)	3.4	6	**66.4**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	37.3	11	**92.0**	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[▢ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

EUROPEAN UNION

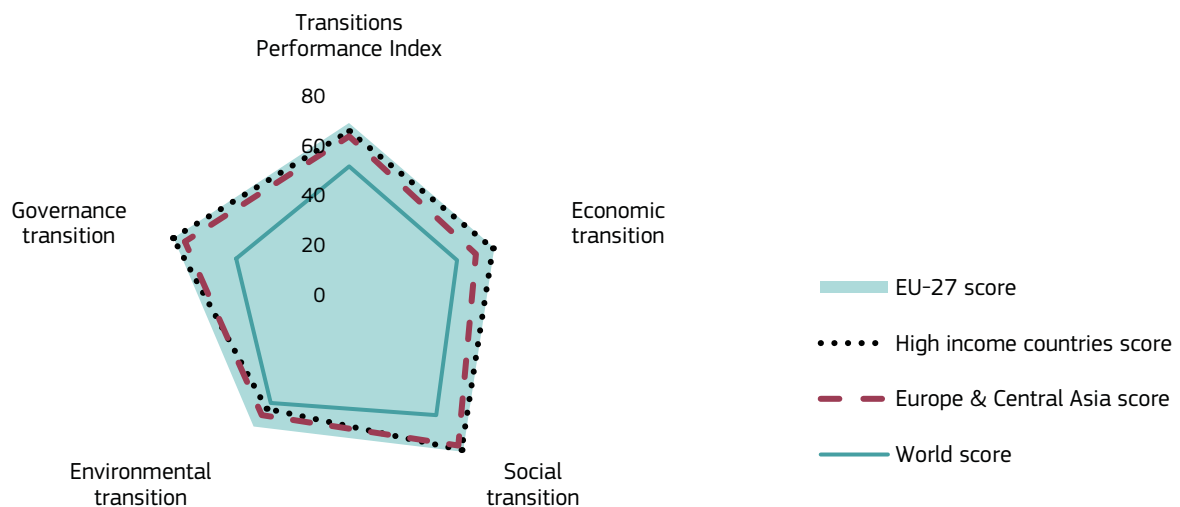|			
POPULATION (million inhabitants)	**447.2**	**GDP PER CAPITA** (current PPP$)	**44 205.3**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**19 767.8**	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	**50.0**
EUROPEAN SKILLS INDEX (0-100)	**51.1**	**GENDER EQUALITY INDEX SCORE** (0-100)	**68.0**

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
EU-27 ranks	**12**	**18**	**21**	**20**	**18**
EU-27 score	69.0	61.1	77.5	65.0	74.0
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2

■ Transition leader [75-100]   ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- EU-27 score
- High income countries score
- Europe & Central Asia score
- World score

TRANSITIONS PROGRESS 2011-2020

- TPI EU-27
- Economic transition
- Social transition
- Environmental transition
- Governance transition
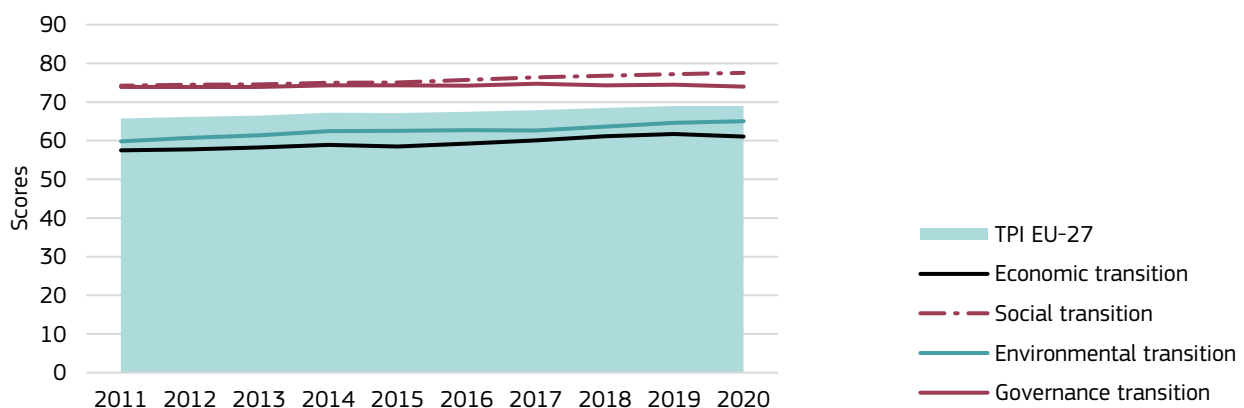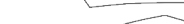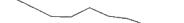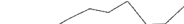
EUROPEAN UNION

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		12	**69.0**	–
1.	**Economic transition**		18	**61.1**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	68.4	26	**68.4**	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	18.0	21	**71.9**	↘
1.1.2	Internet users (%)	85.6	31	**85.6**	↑
1.1.3	Proportion of people with ICT skills (composite)	47.7	23	**47.7**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	44 205.3	22	**58.9**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	53.8	20	**53.8**	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	98 363.4	19	**65.6**	↗
1.3.2	Gross expenditure on R&D (% of GDP)	2.1	16	**42.0**	↗
1.4	INDUSTRIAL BASE	60.1	16	**60.1**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	14.5	28	**48.3**	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	3.1	14	**77.7**	↘
2.	**Social transition**		21	**77.5**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	70.7	27	**85.7**	–
2.2	WORK AND INCLUSION	77.3	27	**77.3**	–
2.2.1	Employment rate of the population aged 20-64 (%)	72.5	31	**65.0**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	13.9	29	**80.1**	–
2.2.3	Gross enrolment ratio, pre-primary (%)	97.6	13	**96.4**	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	57.8	23	**77.8**	↗
2.4	EQUALITY	71.6	30	**71.6**	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	32.3	25	**72.7**	–
2.4.2	Income share held by the poorest quintile (%)	7.4	34	**68.1**	↘
3.	**Environmental transition**		20	**65.0**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	8.4	45	**65.0**	↗
3.2	BIODIVERSITY	77.8	16	**77.8**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	77.5	18	**77.5**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	78.3	21	**78.3**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	3.1	39	**77.7**	↘
3.3	MATERIAL USE	48.3	34	**48.3**	–
3.3.1	Resource productivity (PPP$ per kg)	3.3	12	**55.1**	↗
3.3.2	Material footprint (tonnes per capita)	23.4	42	**41.4**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	13.8	25	**68.9**	↑
4.	**Governance transition**		18	**74.0**	–
4.1	FUNDAMENTAL RIGHTS	85.4	23	**85.4**	↘
4.1.1	Voice and accountability index (z-score)	1.1	19	**86.0**	↘
4.1.2	Rule of law Index (z-score)	1.0	26	**84.8**	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.0	26	**81.1**	–
4.3	TRANSPARENCY	60.9	27	**60.9**	–
4.3.1	Corruption perceptions index (0-100)	65.1	23	**65.1**	–
4.3.2	Basel anti-money laundering index (0-10)	4.2	22	**58.2**	–
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	91.6	59	**57.0**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
Source: European Commission, Transitions Performance Index 2021.

ALBANIA

POPULATION (million inhabitants)	**2.9**	**GDP PER CAPITA** (current PPP$)	**14 218.1**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**40.8**		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Albania ranks	**37**	**68**	**39**	**4**	**55**
Albania score	58.5	28.9	70.2	73.3	52.2
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[▢ Weak transition [0-45[

TPI SCORES 2020

- Albania score
- Upper middle income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Albania
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021
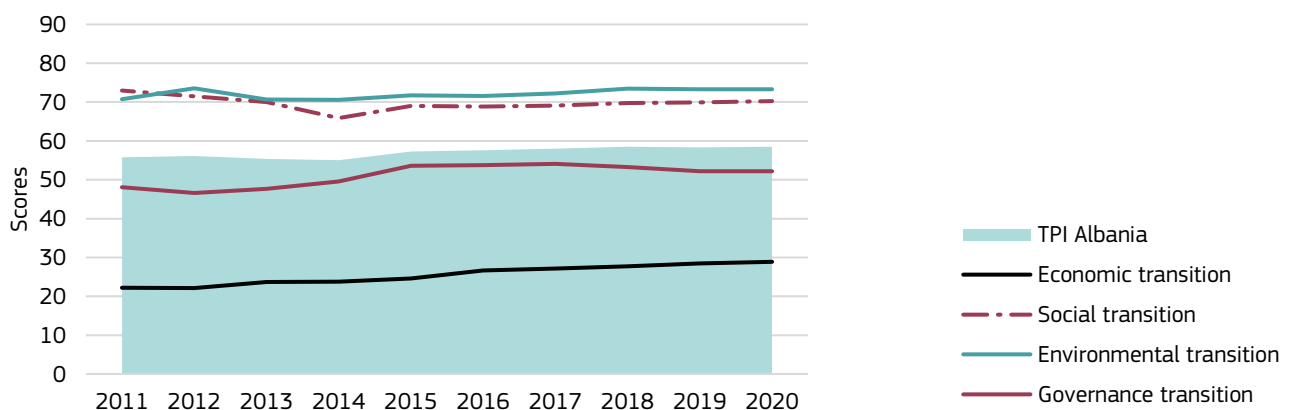
ALBANIA

		2020			2011–2020
Index		**VALUE**	**RANK**	**SCORE**	**SCORE PROGRESS**
	Transitions Performance Index		**37**	**58.5**	–
1.	**Economic transition**		**68**	**28.9**	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	57.1	48	**57.1**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	10.5	54	**42.0**	↗
1.1.2	Internet users (%)	72.2	56	**72.2**	↑
1.1.3	Proportion of people with ICT skills (composite)	N/A	N/A	**N/A**	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	14 218.1	57	**19.0**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	12.5	67	**12.5**	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	31 356.4	60	**20.9**	↑
1.3.2	Gross expenditure on R&D (% of GDP)	0.2	68	**4.0**	–
1.4	INDUSTRIAL BASE	18.2	71	**18.2**	↑
1.4.1	Gross value added of manufacturing (% of GDP)	6.2	68	**20.7**	↗
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.0	66	**14.5**	↑
2.	**Social transition**		**39**	**70.2**	↘
2.1	HEALTH: Healthy life expectancy at birth (years)	69.1	31	**80.3**	–
2.2	WORK AND INCLUSION	65.7	43	**65.7**	↗
2.2.1	Employment rate of the population aged 20-64 (%)	67.2	41	**54.3**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	15.3	34	**78.1**	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	75.8	51	**63.6**	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	49.3	51	**62.3**	↘
2.4	EQUALITY	70.2	32	**70.2**	↓
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	33.2	34	**70.7**	↓
2.4.2	Income share held by the poorest quintile (%)	7.5	31	**68.8**	↓
3.	**Environmental transition**		**4**	**73.3**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	3.5	9	**85.4**	↘
3.2	BIODIVERSITY	77.3	16	**77.3**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	50.5	35	**50.5**	↑
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	96.6	6	**96.6**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	1.1	18	**92.5**	↘
3.3	MATERIAL USE	50.1	29	**50.1**	↘
3.3.1	Resource productivity (PPP$ per kg)	1.7	41	**29.1**	↑
3.3.2	Material footprint (tonnes per capita)	11.6	18	**71.1**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	16.1	8	**80.3**	↑
4.	**Governance transition**		**55**	**52.2**	↗
4.1	FUNDAMENTAL RIGHTS	44.7	53	**44.7**	–
4.1.1	Voice and accountability index (z-score)	0.1	48	**53.5**	–
4.1.2	Rule of law Index (z-score)	(0.4)	59	**36.0**	↗
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	2.3	50	**67.0**	↑
4.3	TRANSPARENCY	40.1	63	**40.1**	↘
4.3.1	Corruption perceptions index (0-100)	36.0	58	**36.0**	↗
4.3.2	Basel anti-money laundering index (0-10)	5.7	64	**42.8**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	77.6	50	**66.1**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below −10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

ALGERIA

POPULATION (million inhabitants)	44.7	GDP PER CAPITA (current PPP$)	11 112.2
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	497.1		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Algeria ranks	**52**	**58**	**56**	**24**	**61**
Algeria score	52.1	33.6	59.6	62.6	46.4
World score	51.5	45.4	59.4	53.4	47.6
Lower middle income countries score	49.7	30.5	55.8	59.1	46.8
Middle East & North Africa score	53.5	44.4	58.3	54.4	55.9
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Algeria score
- ⋯⋯ Lower middle income countries score
- – – Middle East & North Africa score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Algeria
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021

ALGERIA

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**52**	**52.1**	↘
1.	**Economic transition**		**58**	**33.6**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	39.8	67	**39.8**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	9.1	60	**36.6**	–
1.1.2	Internet users (%)	57.5	67	**57.5**	↑
1.1.3	Proportion of people with ICT skills (composite)	25.4	47	**25.4**	–
1.2	WEALTH: GDP per capita, current dollars (PPP$)	11 112.2	65	**14.8**	↓
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	20.0	55	**20.0**	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	43 571.7	52	**29.0**	↗
1.3.2	Gross expenditure on R&D (% of GDP)	0.5	55	**10.9**	–
1.4	INDUSTRIAL BASE	49.0	28	**49.0**	↓
1.4.1	Gross value added of manufacturing (% of GDP)	23.8	5	**79.5**	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.0	69	**3.3**	↑
2.	**Social transition**		**56**	**59.6**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	66.4	49	**71.3**	–
2.2	WORK AND INCLUSION	26.9	66	**26.9**	↑
2.2.1	Employment rate of the population aged 20-64 (%)	44.3	65	**8.6**	–
2.2.2	Employment-to-population ratio gender gap 25+ (%)	53.0	68	**24.3**	↑
2.2.3	Gross enrolment ratio, pre-primary (%)	79.1	44	**68.6**	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	32.9	71	**32.6**	–
2.4	EQUALITY	85.5	9	**85.5**	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	27.6	10	**83.1**	–
2.4.2	Income share held by the poorest quintile (%)	9.4	6	**92.5**	–
3.	**Environmental transition**		**24**	**62.6**	↘
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	5.2	17	**78.4**	↘
3.2	BIODIVERSITY	64.1	32	**64.1**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	36.5	48	**36.5**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	76.3	23	**76.3**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	0.7	12	**94.9**	–
3.3	MATERIAL USE	57.0	11	**57.0**	↘
3.3.1	Resource productivity (PPP$ per kg)	1.3	56	**21.7**	↓
3.3.2	Material footprint (tonnes per capita)	3.1	3	**92.3**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	10.2	44	**50.8**	↓
4.	**Governance transition**		**61**	**46.4**	↓
4.1	FUNDAMENTAL RIGHTS	17.6	71	**17.6**	↘
4.1.1	Voice and accountability index (z-score)	(1.1)	66	**13.5**	↓
4.1.2	Rule of law Index (z-score)	(0.8)	70	**21.8**	–
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.4	37	**76.2**	↘
4.3	TRANSPARENCY	34.0	68	**34.0**	↓
4.3.1	Corruption perceptions index (0-100)	36.0	58	**36.0**	–
4.3.2	Basel anti-money laundering index (0-10)	6.7	68	**32.7**	↓
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	55.6	30	**80.3**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

ARGENTINA

POPULATION (million inhabitants)	45.4	GDP PER CAPITA (current PPP$)	20 751.0
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	942.2		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Argentina ranks	**59**	**50**	**59**	**52**	**58**
Argentina score	49.8	39.8	57.9	51.2	49.3
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
Latin America & Caribbean score	49.7	35.8	55.8	57.3	45.3
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Argentina score
- •••• Upper middle income countries score
- – – Latin America & Caribbean score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Argentina
- Economic transition
- Social transition
- Environmental transition
- Governance transition
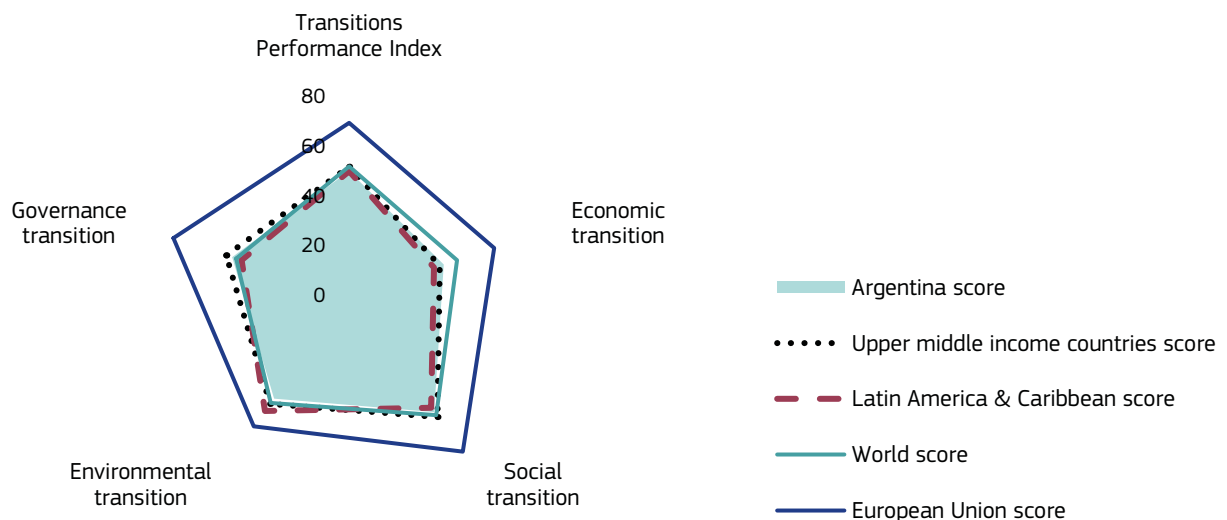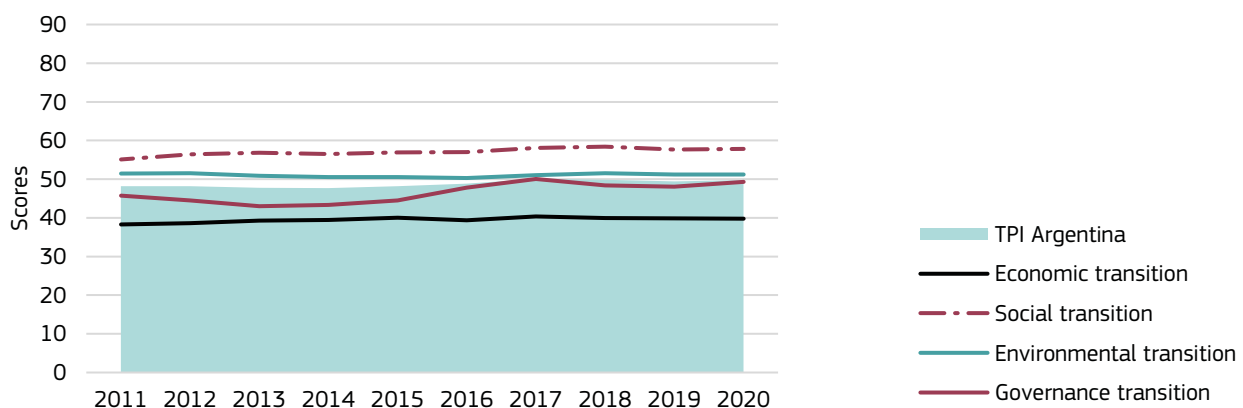
ARGENTINA

Index	Transitions Performance Index	2020 VALUE	RANK	SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		59	49.8	–
1.	**Economic transition**		50	39.8	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	61.0	40	61.0	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	11.9	45	47.8	–
1.1.2	Internet users (%)	74.3	52	74.3	↑
1.1.3	Proportion of people with ICT skills (composite)	N/A	N/A	N/A	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	20 751.0	46	27.7	↗
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	22.5	48	22.5	↓
1.3.1	Output per worker (2011 constant GDP PPP$)	52 790.5	45	35.2	↓
1.3.2	Gross expenditure on R&D (% of GDP)	0.5	58	9.9	↓
1.4	INDUSTRIAL BASE	38.1	52	38.1	↓
1.4.1	Gross value added of manufacturing (% of GDP)	13.9	31	46.2	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.1	56	26.0	↓
2.	**Social transition**		59	57.9	–
2.1	HEALTH: Healthy life expectancy at birth (years)	67.1	42	73.8	–
2.2	WORK AND INCLUSION	39.8	62	39.8	↗
2.2.1	Employment rate of the population aged 20-64 (%)	40.4	69	0.7	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	23.3	57	66.7	↑
2.2.3	Gross enrolment ratio, pre-primary (%)	76.1	49	64.1	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	57.9	20	78.1	↑
2.4	EQUALITY	45.3	66	45.3	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	42.9	65	49.1	↘
2.4.2	Income share held by the poorest quintile (%)	4.7	68	33.8	↘
3.	**Environmental transition**		52	51.2	↘
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	8.2	43	65.7	–
3.2	BIODIVERSITY	41.2	57	41.2	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	32.1	54	32.1	↗
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	42.5	41	42.5	–
3.2.3	Pesticide use per area of cropland (kg/ha)	6.1	56	56.6	↘
3.3	MATERIAL USE	43.7	41	43.7	↘
3.3.1	Resource productivity (PPP$ per kg)	1.5	48	24.4	↑
3.3.2	Material footprint (tonnes per capita)	14.8	25	63.1	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	10.8	42	54.2	↘
4.	**Governance transition**		58	49.3	↗
4.1	FUNDAMENTAL RIGHTS	52.2	46	52.2	↑
4.1.1	Voice and accountability index (z-score)	0.6	37	72.4	↑
4.1.2	Rule of law Index (z-score)	(0.5)	63	31.9	↗
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	5.3	64	48.9	↗
4.3	TRANSPARENCY	46.6	52	46.6	↑
4.3.1	Corruption perceptions index (0-100)	42.0	49	42.0	↑
4.3.2	Basel anti-money laundering index (0-10)	5.0	50	49.7	↑
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	102.8	59	49.8	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

ARMENIA

POPULATION (million inhabitants)	3.0	GDP PER CAPITA (current PPP$)	13 261.3
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	39.5		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Armenia ranks	**44**	**61**	**43**	**42**	**46**
Armenia score	54.2	33.1	66.2	55.6	59.6
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

Performance index

Legend:
- Armenia score
- Upper middle income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

Legend:
- TPI Armenia
- Economic transition
- Social transition
- Environmental transition
- Governance transition

ARMENIA
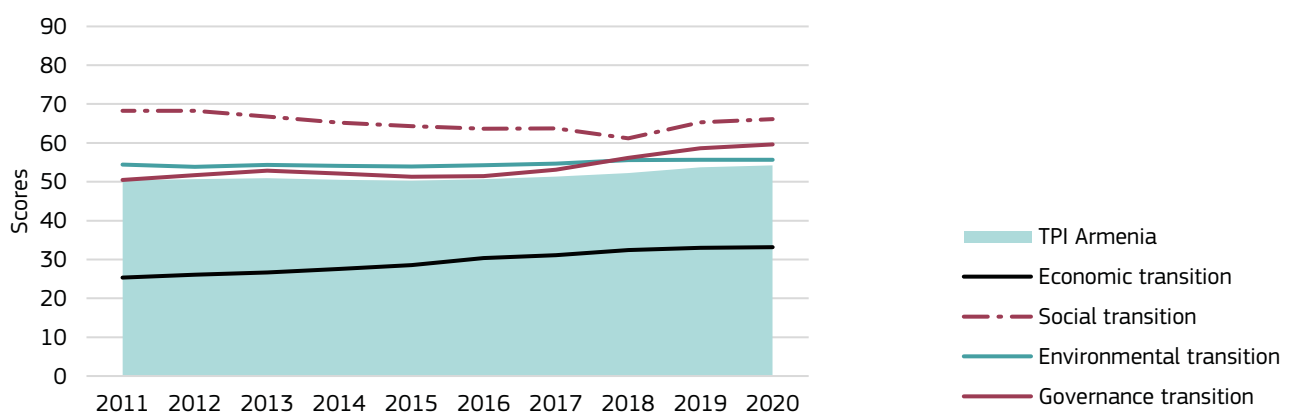
Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011-2020 SCORE PROGRESS
	Transitions Performance Index		44	**54.2**	↗
1.	**Economic transition**		61	**33.1**	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	49.4	58	**49.4**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	8.1	63	**32.2**	↘
1.1.2	Internet users (%)	66.5	65	**66.5**	↑
1.1.3	Proportion of people with ICT skills (composite)	N/A	N/A	**N/A**	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	13 261.3	58	**17.7**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	15.3	62	**15.3**	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	40 102.2	55	**26.7**	↑
1.3.2	Gross expenditure on R&D (% of GDP)	0.2	70	**3.8**	↓
1.4	INDUSTRIAL BASE	39.1	49	**39.1**	–
1.4.1	Gross value added of manufacturing (% of GDP)	12.4	41	**41.5**	↑
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.1	49	**35.7**	↓
2.	**Social transition**		43	**66.2**	↘
2.1	HEALTH: Healthy life expectancy at birth (years)	67.1	43	**73.7**	↗
2.2	WORK AND INCLUSION	40.9	61	**40.9**	↓
2.2.1	Employment rate of the population aged 20-64 (%)	55.0	57	**30.1**	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	22.6	56	**67.8**	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	39.3	65	**9.0**	↓
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	46.4	59	**57.0**	↓
2.4	EQUALITY	80.4	15	**80.4**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	29.9	17	**78.0**	↘
2.4.2	Income share held by the poorest quintile (%)	9.0	10	**87.5**	–
3.	**Environmental transition**		42	**55.6**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	3.2	6	**86.8**	↘
3.2	BIODIVERSITY	39.8	59	**39.8**	↘
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	22.6	63	**22.6**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	30.5	55	**30.5**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	1.0	17	**92.6**	↘
3.3	MATERIAL USE	49.0	31	**49.0**	↘
3.3.1	Resource productivity (PPP$ per kg)	1.1	62	**18.3**	↑
3.3.2	Material footprint (tonnes per capita)	8.1	11	**79.7**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	9.4	50	**46.9**	↑
4.	**Governance transition**		46	**59.6**	↑
4.1	FUNDAMENTAL RIGHTS	49.2	50	**49.2**	↑
4.1.1	Voice and accountability index (z-score)	0.0	51	**51.8**	↑
4.1.2	Rule of law Index (z-score)	(0.1)	50	**46.7**	↑
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.7	44	**72.6**	↗
4.3	TRANSPARENCY	51.8	41	**51.8**	↑
4.3.1	Corruption perceptions index (0-100)	49.0	40	**49.0**	↑
4.3.2	Basel anti-money laundering index (0-10)	4.6	33	**53.7**	↗
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	63.5	39	**75.2**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

AUSTRALIA

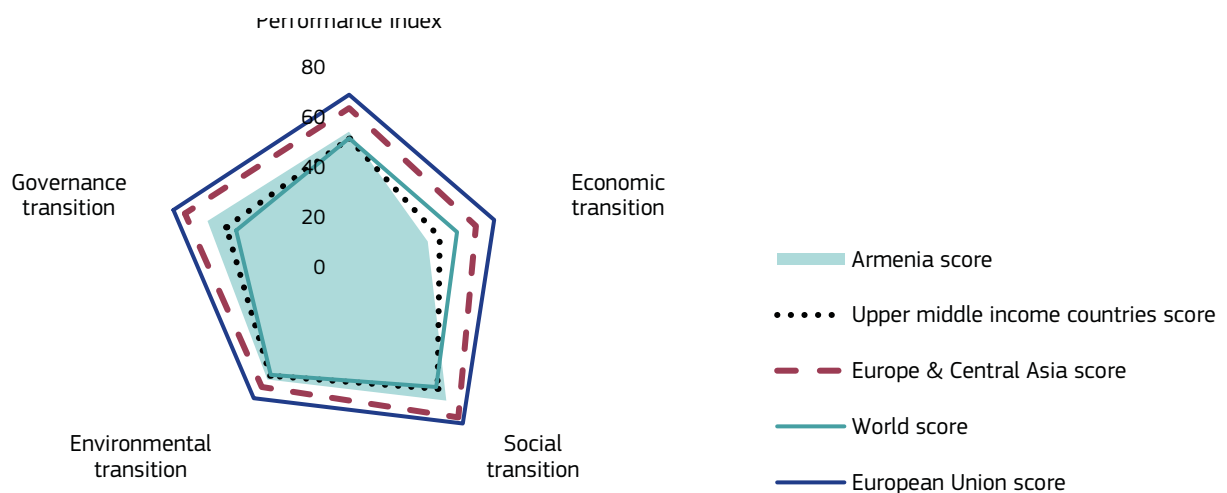|			
POPULATION (million inhabitants)	25.7	**GDP PER CAPITA** (current PPP$)	51 680.4
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	1 330.5	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	60.0

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Australia ranks	**38**	**28**	**21**	**71**	**8**
Australia score	56.8	55.6	77.9	28.1	80.9
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
East Asia & Pacific score	56.8	50.5	69.3	48.1	64.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Australia score
- High income countries score
- East Asia & Pacific score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Australia
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021
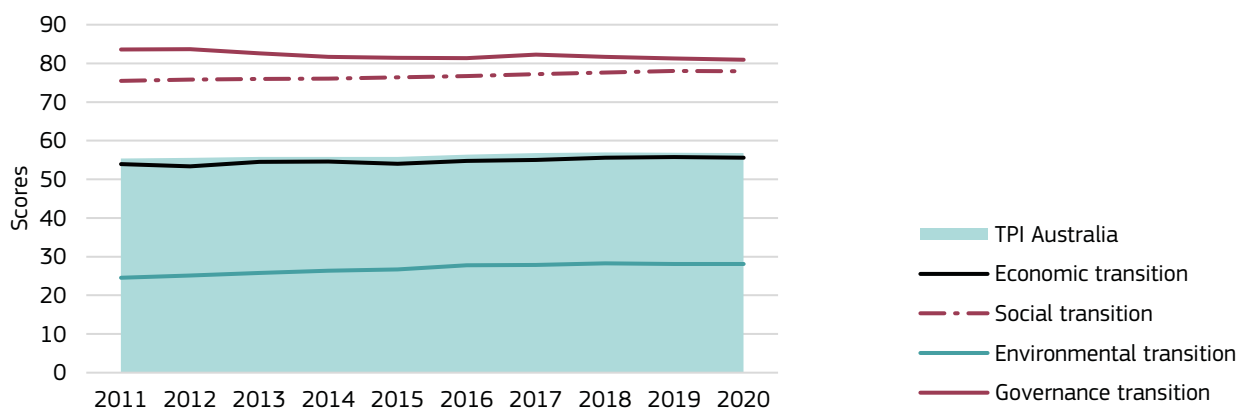
AUSTRALIA

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		38	56.8	–
1.	**Economic transition**		28	55.6	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	68.2	25	68.2	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	12.5	42	49.8	↘
1.1.2	Internet users (%)	86.5	31	86.5	↗
1.1.3	Proportion of people with ICT skills (composite)	N/A	N/A	N/A	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	51 680.4	14	68.9	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	51.8	19	51.8	↘
1.3.1	Output per worker (2011 constant GDP PPP$)	99 210.2	19	66.1	↗
1.3.2	Gross expenditure on R&D (% of GDP)	1.9	20	37.5	↓
1.4	INDUSTRIAL BASE	36.6	58	36.6	↓
1.4.1	Gross value added of manufacturing (% of GDP)	5.7	69	19.1	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	1.0	27	62.8	↘
2.	**Social transition**		21	77.9	–
2.1	HEALTH: Healthy life expectancy at birth (years)	70.9	22	86.4	–
2.2	WORK AND INCLUSION	82.7	10	82.7	↗
2.2.1	Employment rate of the population aged 20-64 (%)	76.8	20	73.6	–
2.2.2	Employment-to-population ratio gender gap 25+ (%)	11.8	22	83.1	↗
2.2.3	Gross enrolment ratio, pre-primary (%)	165.7	1	100.0	↗
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	59.0	17	80.1	–
2.4	EQUALITY	67.9	38	67.9	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	34.4	37	68.0	–
2.4.2	Income share held by the poorest quintile (%)	7.4	35	67.5	–
3.	**Environmental transition**		71	28.1	↑
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	24.7	71	–	↗
3.2	BIODIVERSITY	54.8	37	54.8	↗
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	56.6	32	56.6	↑
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	37.7	47	37.7	↑
3.2.3	Pesticide use per area of cropland (kg/ha)	2.1	30	85.4	↘
3.3	MATERIAL USE	11.1	72	11.1	↑
3.3.1	Resource productivity (PPP$ per kg)	1.3	54	22.1	↑
3.3.2	Material footprint (tonnes per capita)	43.1	69	–	↗
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	9.3	51	46.5	↑
4.	**Governance transition**		8	80.9	↘
4.1	FUNDAMENTAL RIGHTS	92.7	13	92.7	↘
4.1.1	Voice and accountability index (z-score)	1.3	14	90.4	↘
4.1.2	Rule of law Index (z-score)	1.7	13	95.1	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.9	21	82.3	–
4.3	TRANSPARENCY	68.3	7	68.3	↘
4.3.1	Corruption perceptions index (0-100)	77.0	11	77.0	↘
4.3.2	Basel anti-money laundering index (0-10)	3.8	12	62.5	–
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	57.3	31	79.1	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

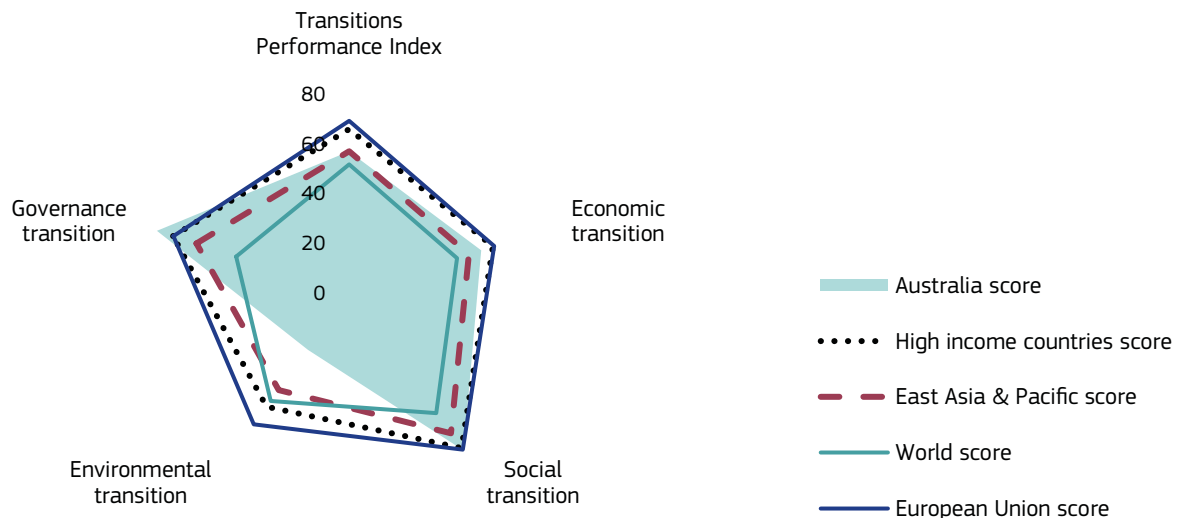*Source: European Commission, Transitions Performance Index 2021.*

BOSNIA AND HERZEGOVINA

POPULATION (million inhabitants)	3.3	GDP PER CAPITA (current PPP$)	15 046.9
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	49.9		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Bosnia and Herzegovina ranks	**57**	**63**	**58**	**49**	**48**
Bosnia and Herzegovina score	50.4	31.4	58.0	52.0	57.3
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100[■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Bosnia and Herzegovina score
- Upper middle income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Bosnia and Herzegovina
- Economic transition
- Social transition
- Environmental transition
- Governance transition
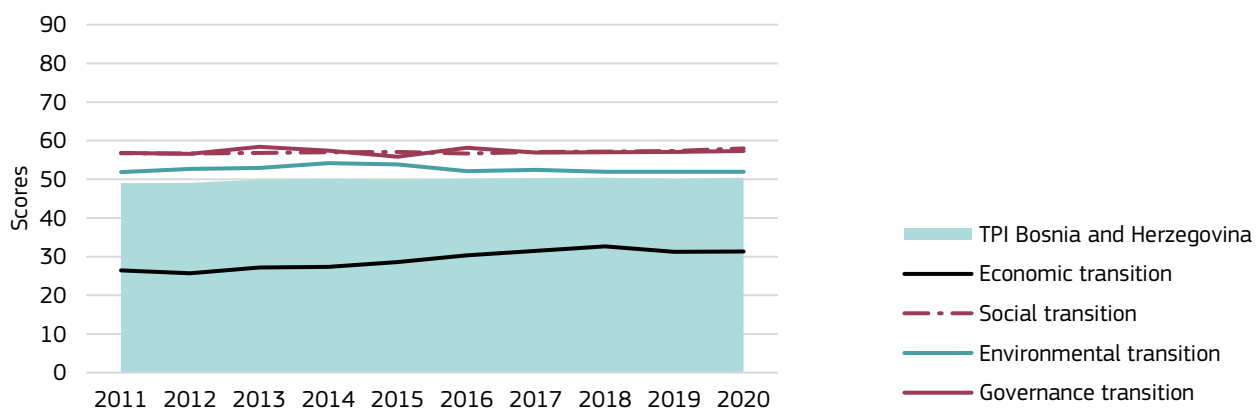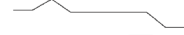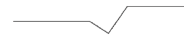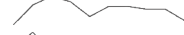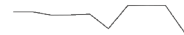
BOSNIA AND HERZEGOVINA

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**57**	**50.4**	–
1.	**Economic transition**		**63**	**31.4**	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	48.9	59	**48.9**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	N/A	N/A	**N/A**	
1.1.2	Internet users (%)	73.2	54	**73.2**	↑
1.1.3	Proportion of people with ICT skills (composite)	24.5	48	**24.5**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	15 046.9	53	**20.1**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	16.4	60	**16.4**	–
1.3.1	Output per worker (2011 constant GDP PPP$)	43 642.7	51	**29.1**	↗
1.3.2	Gross expenditure on R&D (% of GDP)	0.2	69	**3.8**	↓
1.4	INDUSTRIAL BASE	31.3	66	**31.3**	–
1.4.1	Gross value added of manufacturing (% of GDP)	12.5	39	**41.7**	↑
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.0	64	**15.9**	↓
2.	**Social transition**		**58**	**58.0**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	67.2	40	**74.0**	–
2.2	WORK AND INCLUSION	27.5	65	**27.5**	↘
2.2.1	Employment rate of the population aged 20-64 (%)	34.5	70	**-**	↗
2.2.2	Employment-to-population ratio gender gap 25+ (%)	21.8	54	**68.8**	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	24.6	67	**-**	↗
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	40.6	64	**46.5**	↑
2.4	EQUALITY	70.5	30	**70.5**	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	33.0	31	**71.1**	–
2.4.2	Income share held by the poorest quintile (%)	7.5	31	**68.8**	–
3.	**Environmental transition**		**49**	**52.0**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	8.2	41	**65.9**	↘
3.2	BIODIVERSITY	64.5	31	**64.5**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	29.0	56	**29.0**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	100.0	1	**100.0**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	N/A	N/A	**N/A**	
3.3	MATERIAL USE	47.4	35	**47.4**	↘
3.3.1	Resource productivity (PPP$ per kg)	1.3	57	**21.3**	↗
3.3.2	Material footprint (tonnes per capita)	10.6	16	**73.4**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	6.0	65	**30.1**	↗
4.	**Governance transition**		**48**	**57.3**	–
4.1	FUNDAMENTAL RIGHTS	37.6	59	**37.6**	↘
4.1.1	Voice and accountability index (z-score)	(0.3)	59	**37.3**	↓
4.1.2	Rule of law Index (z-score)	(0.3)	57	**38.0**	–
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.2	28	**78.5**	–
4.3	TRANSPARENCY	44.1	55	**44.1**	–
4.3.1	Corruption perceptions index (0-100)	35.0	62	**35.0**	↓
4.3.2	Basel anti-money laundering index (0-10)	5.0	45	**50.2**	↑
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	36.7	10	**92.4**	–

TRANSITIONS PERFORMANCE INDEX 2021

BRAZIL

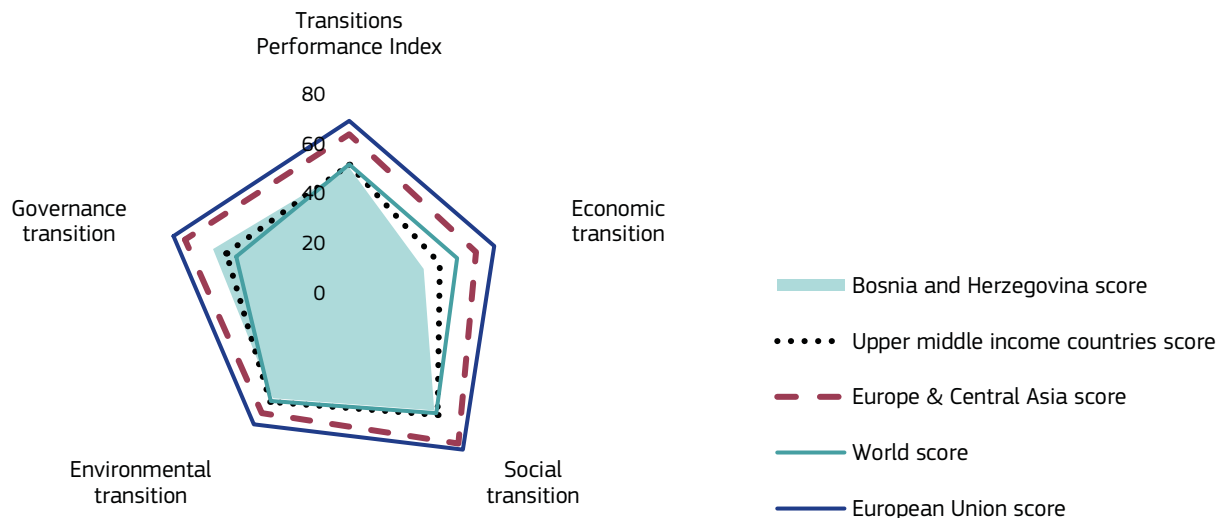|			
POPULATION (million inhabitants)	211.4	**GDP PER CAPITA** (current PPP$)	14 916.3
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	3 153.2	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	37.0

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Brazil ranks	**68**	**62**	**67**	**48**	**70**
Brazil score	43.8	33.0	48.3	52.6	36.5
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
Latin America & Caribbean score	49.7	35.8	55.8	57.3	45.3
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Brazil score
- ••••• Upper middle income countries score
- — — Latin America & Caribbean score
- —— World score
- —— European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Brazil
- Economic transition
- Social transition
- Environmental transition
- Governance transition

II-73

BRAZIL

Index	Transitions Performance Index	VALUE	RANK	SCORE	
	Transitions Performance Index		68	**43.8**	↘
1.	**Economic transition**		62	**33.0**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	48.3	61	**48.3**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	13.2	37	**52.9**	↗
1.1.2	Internet users (%)	73.9	53	**73.9**	↑
1.1.3	Proportion of people with ICT skills (composite)	18.2	52	**18.2**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	14 916.3	55	**19.9**	↘
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	22.5	49	**22.5**	↘
1.3.1	Output per worker (2011 constant GDP PPP$)	32 676.6	59	**21.8**	↘
1.3.2	Gross expenditure on R&D (% of GDP)	1.2	33	**23.2**	–
1.4	INDUSTRIAL BASE	33.5	64	**33.5**	↓
1.4.1	Gross value added of manufacturing (% of GDP)	9.8	57	**32.6**	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.1	50	**34.8**	↘
2.	**Social transition**		67	**48.3**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	65.4	58	**68.0**	↗
2.2	WORK AND INCLUSION	49.6	56	**49.6**	↘
2.2.1	Employment rate of the population aged 20-64 (%)	59.7	52	**39.4**	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	21.5	53	**69.3**	↗
2.2.3	Gross enrolment ratio, pre-primary (%)	53.9	61	**30.8**	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	51.7	43	**66.8**	↑
2.4	EQUALITY	22.8	71	**22.8**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	53.4	71	**25.8**	↘
2.4.2	Income share held by the poorest quintile (%)	3.1	70	**13.8**	↓
3.	**Environmental transition**		48	**52.6**	↘
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	4.9	15	**79.5**	–
3.2	BIODIVERSITY	40.4	58	**40.4**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	43.8	38	**43.8**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	28.3	58	**28.3**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	5.9	52	**57.6**	↘
3.3	MATERIAL USE	35.0	53	**35.0**	↘
3.3.1	Resource productivity (PPP$ per kg)	0.8	69	**13.8**	↘
3.3.2	Material footprint (tonnes per capita)	17.5	33	**56.3**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	11.1	36	**55.7**	↘
4.	**Governance transition**		70	**36.5**	↓
4.1	FUNDAMENTAL RIGHTS	51.7	48	**51.7**	↓
4.1.1	Voice and accountability index (z-score)	0.3	42	**60.3**	↓
4.1.2	Rule of law Index (z-score)	(0.2)	55	**43.0**	↓
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	27.4	69	**7.3**	↓
4.3	TRANSPARENCY	45.1	54	**45.1**	↘
4.3.1	Corruption perceptions index (0-100)	38.0	55	**38.0**	↓
4.3.2	Basel anti-money laundering index (0-10)	5.0	49	**49.9**	–
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	98.9	58	**52.3**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

CANADA

POPULATION (million inhabitants)	**38.0**	**GDP PER CAPITA** (current PPP$)	**48 720.4**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**1 851.5**	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	**55.0**

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Canada ranks	**43**	**19**	**22**	**72**	**23**
Canada score	55.0	60.9	77.1	26.4	72.7
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
North America score	54.6	64.5	69.8	31.2	67.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Canada score
- High income countries score
- North America score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Canada
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021

CANADA

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**43**	**55.0**	–
1.	**Economic transition**		**19**	**60.9**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	80.1	7	**80.1**	↗
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	15.9	33	**63.7**	↘
1.1.2	Internet users (%)	96.5	8	**96.5**	↑
1.1.3	Proportion of people with ICT skills (composite)	N/A	N/A	**N/A**	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	48 720.4	17	**65.0**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	47.0	24	**47.0**	↘
1.3.1	Output per worker (2011 constant GDP PPP$)	94 633.6	23	**63.1**	–
1.3.2	Gross expenditure on R&D (% of GDP)	1.5	23	**30.9**	↓
1.4	INDUSTRIAL BASE	48.2	29	**48.2**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	9.7	58	**32.3**	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	2.0	20	**72.1**	↘
2.	**Social transition**		**22**	**77.1**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	71.3	16	**87.5**	–
2.2	WORK AND INCLUSION	75.5	30	**75.5**	↘
2.2.1	Employment rate of the population aged 20-64 (%)	71.8	36	**63.5**	↘
2.2.2	Employment-to-population ratio gender gap 25+ (%)	9.8	8	**86.0**	–
2.2.3	Gross enrolment ratio, pre-primary (%)	85.6	38	**78.4**	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	59.2	14	**80.4**	↗
2.4	EQUALITY	68.8	35	**68.8**	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	33.3	35	**70.4**	–
2.4.2	Income share held by the poorest quintile (%)	7.1	38	**63.8**	↘
3.	**Environmental transition**		**72**	**26.4**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	19.6	69	**18.5**	↗
3.2	BIODIVERSITY	37.9	61	**37.9**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	29.9	55	**29.9**	↗
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	22.9	62	**22.9**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	2.3	35	**83.9**	↘
3.3	MATERIAL USE	20.5	69	**20.5**	
3.3.1	Resource productivity (PPP$ per kg)	1.7	43	**28.1**	↑
3.3.2	Material footprint (tonnes per capita)	34.8	63	**12.9**	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	5.7	68	**28.5**	–
4.	**Governance transition**		**23**	**72.7**	↘
4.1	FUNDAMENTAL RIGHTS	94.1	11	**94.1**	–
4.1.1	Voice and accountability index (z-score)	1.5	9	**93.0**	–
4.1.2	Rule of law Index (z-score)	1.7	12	**95.1**	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.8	45	**71.9**	↘
4.3	TRANSPARENCY	62.8	22	**62.8**	↘
4.3.1	Corruption perceptions index (0-100)	77.0	11	**77.0**	↘
4.3.2	Basel anti-money laundering index (0-10)	4.7	37	**53.3**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	117.5	64	**40.3**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

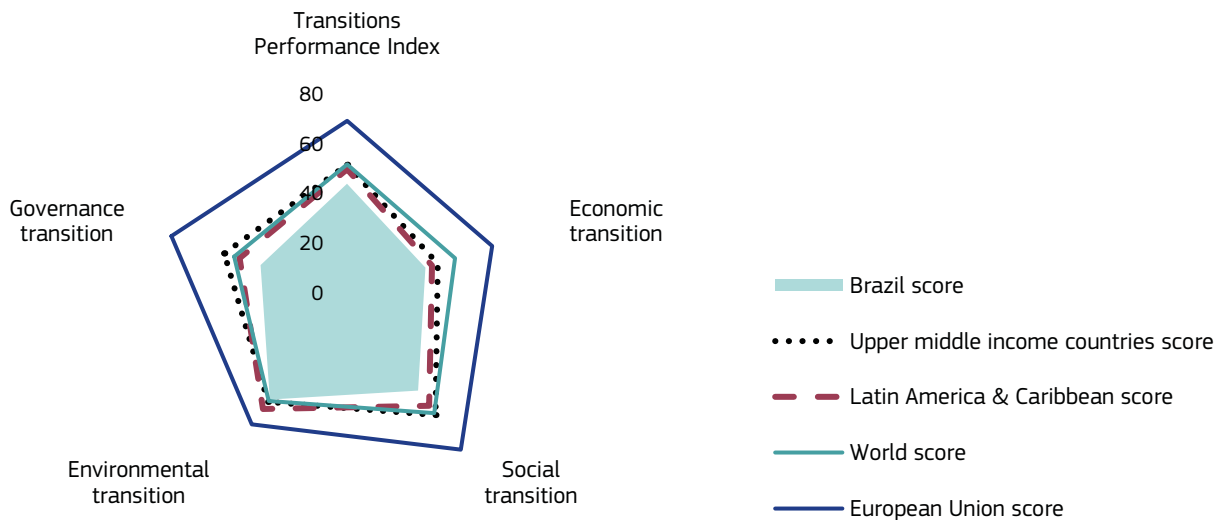*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

CHILE

POPULATION (million inhabitants)	19.5	GDP PER CAPITA (current PPP$)	23 366.3
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	454.6	INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	35.0

RANKS AND SCORES

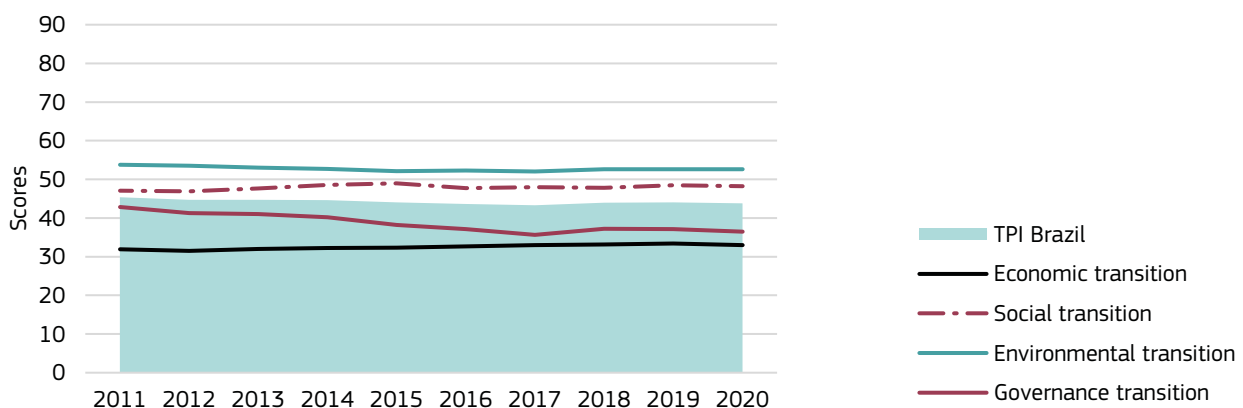| 2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Chile ranks	**41**	**49**	**49**	**51**	**30**
Chile score	55.9	39.9	62.0	51.4	69.9
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Latin America & Caribbean score	49.7	35.8	55.8	57.3	45.3
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Chile score
- High income countries score
- Latin America & Caribbean score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Chile
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021

CHILE
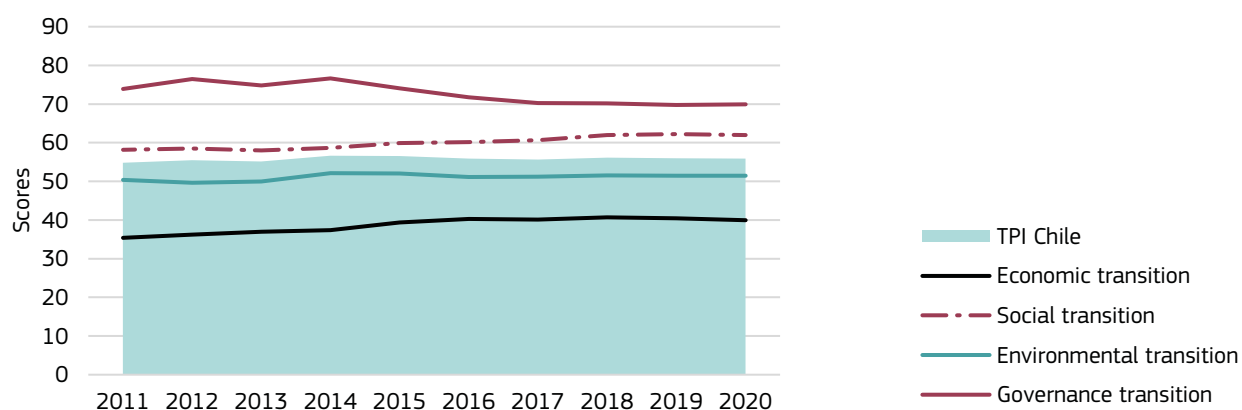
Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		41	55.9	–
1.	**Economic transition**		49	39.9	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	61.2	39	61.2	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	11.6	48	46.6	↑
1.1.2	Internet users (%)	82.3	38	82.3	↑
1.1.3	Proportion of people with ICT skills (composite)	54.7	17	54.7	–
1.2	WEALTH: GDP per capita, current dollars (PPP$)	23 366.3	45	31.2	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	20.9	53	20.9	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	52 054.2	46	34.7	↗
1.3.2	Gross expenditure on R&D (% of GDP)	0.4	62	7.1	–
1.4	INDUSTRIAL BASE	37.2	56	37.2	↘
1.4.1	Gross value added of manufacturing (% of GDP)	9.9	56	33.1	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.2	41	43.3	↘
2.	**Social transition**		49	62.0	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	70.1	29	83.5	–
2.2	WORK AND INCLUSION	57.4	50	57.4	↘
2.2.1	Employment rate of the population aged 20-64 (%)	61.1	49	42.2	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	24.8	58	64.6	↑
2.2.3	Gross enrolment ratio, pre-primary (%)	82.2	42	73.2	↓
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	52.0	40	67.3	↑
2.4	EQUALITY	46.2	65	46.2	↗
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	44.4	66	45.8	↗
2.4.2	Income share held by the poorest quintile (%)	5.8	56	47.5	↑
3.	**Environmental transition**		51	51.4	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	5.9	21	75.6	↘
3.2	BIODIVERSITY	42.1	52	42.1	↗
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	36.4	49	36.4	↑
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	40.0	43	40.0	↑
3.2.3	Pesticide use per area of cropland (kg/ha)	5.9	52	57.6	↘
3.3	MATERIAL USE	33.4	58	33.4	↘
3.3.1	Resource productivity (PPP$ per kg)	0.6	71	9.7	↗
3.3.2	Material footprint (tonnes per capita)	17.1	32	57.1	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	10.9	40	54.7	–
4.	**Governance transition**		30	69.9	↘
4.1	FUNDAMENTAL RIGHTS	85.1	22	85.1	↘
4.1.1	Voice and accountability index (z-score)	1.0	22	84.5	↘
4.1.2	Rule of law Index (z-score)	1.1	24	85.7	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	4.4	60	53.3	↘
4.3	TRANSPARENCY	62.9	21	62.9	↘
4.3.1	Corruption perceptions index (0-100)	67.0	22	67.0	↘
4.3.2	Basel anti-money laundering index (0-10)	4.0	19	60.2	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	32.5	6	95.1	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

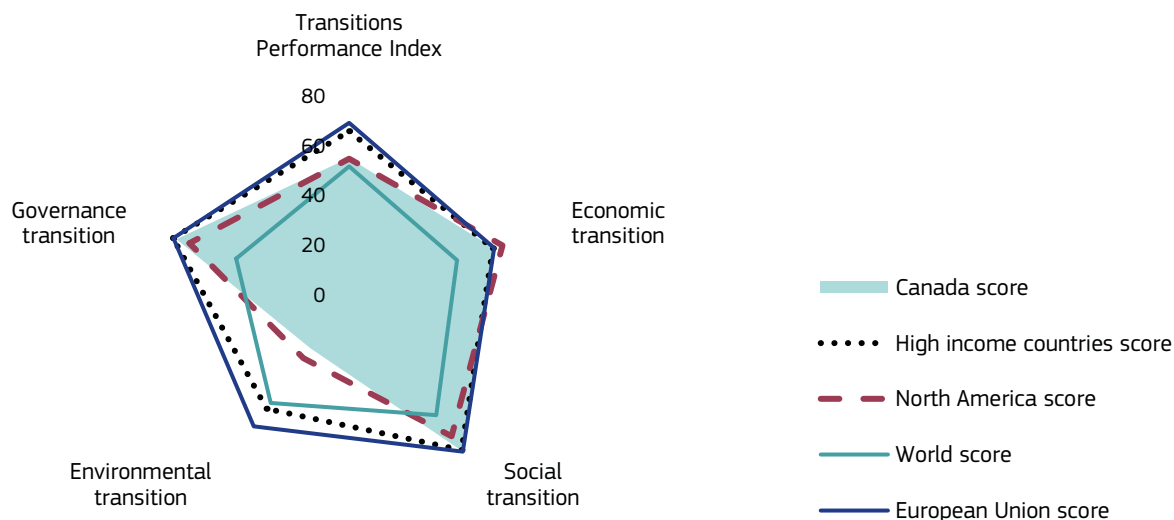*Source: European Commission, Transitions Performance Index 2021.*

POPULATION (million inhabitants)	1 407.2	GDP PER CAPITA (current PPP$)	17 191.7
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	24 191.3	INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	46.0

RANKS AND SCORES

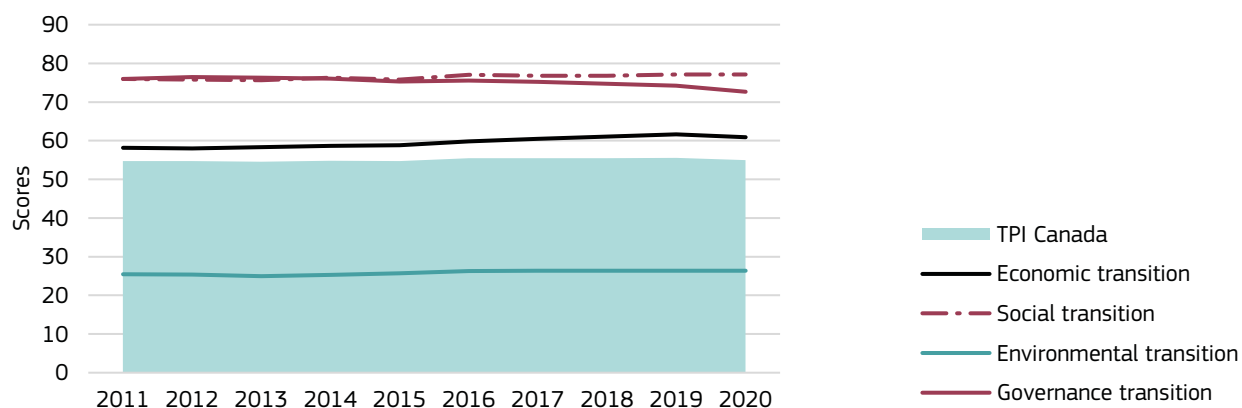| 2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
China ranks	60	34	41	68	54
China score	49.5	52.1	68.2	34.9	52.7
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
East Asia & Pacific score	56.8	50.5	69.3	48.1	64.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- China score
- Upper middle income countries score
- East Asia & Pacific score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI China
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021

CHINA
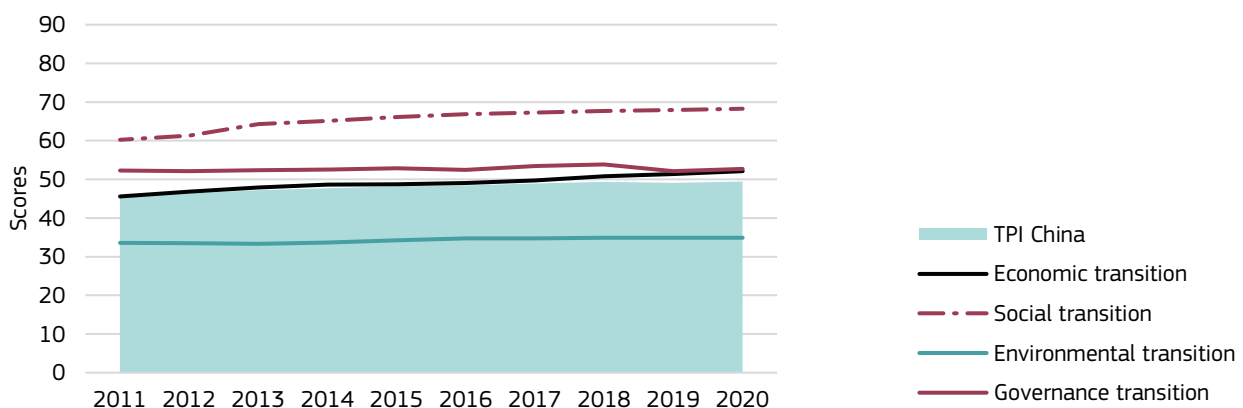
Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		60	**49.5**	↗
1.	**Economic transition**		34	**52.1**	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	58.9	44	**58.9**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	11.8	47	**47.1**	–
1.1.2	Internet users (%)	70.6	59	**70.6**	↑
1.1.3	Proportion of people with ICT skills (composite)	N/A	N/A	**N/A**	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	17 191.7	51	**22.9**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	31.2	39	**31.2**	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	29 362.8	63	**19.6**	↑
1.3.2	Gross expenditure on R&D (% of GDP)	2.1	16	**42.8**	↑
1.4	INDUSTRIAL BASE	78.7	4	**78.7**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	26.2	2	**87.3**	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	1.3	26	**65.8**	↗
2.	**Social transition**		41	**68.2**	↑
2.1	HEALTH: Healthy life expectancy at birth (years)	68.5	37	**78.4**	↗
2.2	WORK AND INCLUSION	79.6	21	**79.6**	↑
2.2.1	Employment rate of the population aged 20-64 (%)	N/A	N/A	**N/A**	
2.2.2	Employment-to-population ratio gender gap 25+ (%)	15.7	36	**77.5**	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	89.1	30	**83.7**	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	48.9	53	**61.7**	–
2.4	EQUALITY	58.2	53	**58.2**	↑
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	38.5	54	**58.9**	↑
2.4.2	Income share held by the poorest quintile (%)	6.5	50	**56.3**	↑
3.	**Environmental transition**		68	**34.9**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	8.7	45	**63.9**	↘
3.2	BIODIVERSITY	9.2	72	**9.2**	↑
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	10.1	70	**10.1**	↗
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	9.6	67	**9.6**	↑
3.2.3	Pesticide use per area of cropland (kg/ha)	13.1	67	**6.6**	↑
3.3	MATERIAL USE	28.8	61	**28.8**	↓
3.3.1	Resource productivity (PPP$ per kg)	0.6	72	**9.4**	↑
3.3.2	Material footprint (tonnes per capita)	20.7	35	**48.2**	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	7.5	61	**37.7**	↑
4.	**Governance transition**		54	**52.7**	–
4.1	FUNDAMENTAL RIGHTS	26.3	67	**26.3**	↑
4.1.1	Voice and accountability index (z-score)	(1.6)	72	**5.0**	↘
4.1.2	Rule of law Index (z-score)	(0.1)	48	**47.6**	↑
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.5	8	**88.3**	↗
4.3	TRANSPARENCY	36.6	67	**36.6**	↓
4.3.1	Corruption perceptions index (0-100)	42.0	49	**42.0**	↗
4.3.2	Basel anti-money laundering index (0-10)	6.7	67	**33.0**	↓
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	66.3	41	**73.3**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

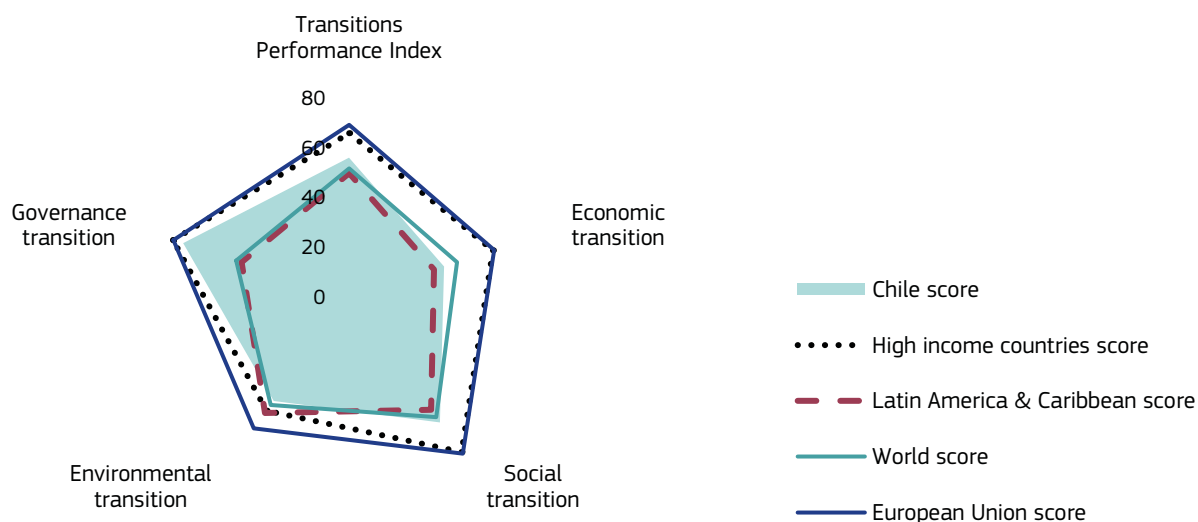*Source: European Commission, Transitions Performance Index 2021.*

COLOMBIA

POPULATION (million inhabitants)	**50.9**	
GDP PER CAPITA (current PPP$)	**14 323.9**	
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**729.1**	

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Colombia ranks	**55**	**65**	**63**	**9**	**69**
Colombia score	50.8	30.1	54.9	69.7	37.6
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
Latin America & Caribbean score	49.7	35.8	55.8	57.3	45.3
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Colombia score
- Upper middle income countries score
- Latin America & Caribbean score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Colombia
- Economic transition
- Social transition
- Environmental transition
- Governance transition

COLOMBIA
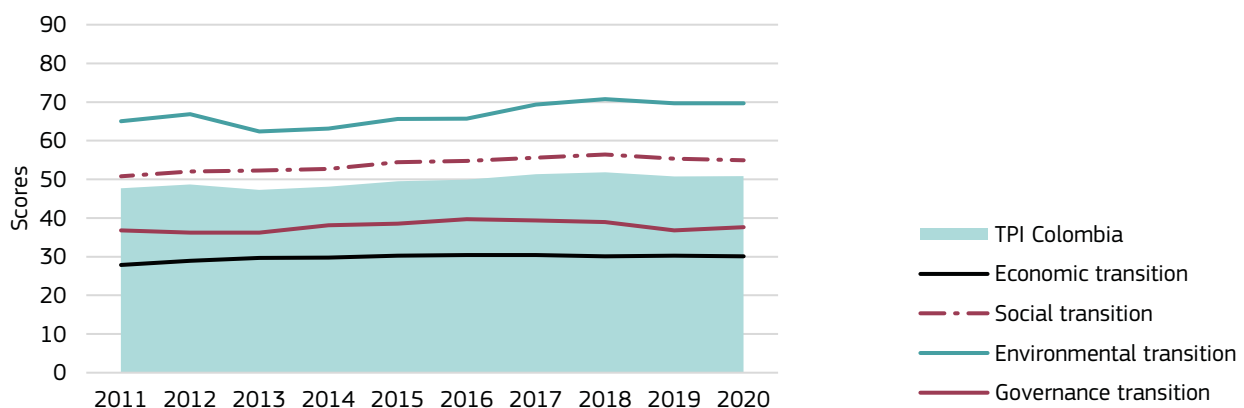
Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		55	**50.8**	↗
1.	**Economic transition**		65	**30.1**	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	45.5	65	**45.5**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	9.4	58	**37.6**	↗
1.1.2	Internet users (%)	65.0	66	**65.0**	↑
1.1.3	Proportion of people with ICT skills (composite)	34.0	43	**34.0**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	14 323.9	56	**19.1**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	12.7	66	**12.7**	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	31 181.6	61	**20.8**	↗
1.3.2	Gross expenditure on R&D (% of GDP)	0.2	66	**4.7**	↑
1.4	INDUSTRIAL BASE	33.5	63	**33.5**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	11.0	48	**36.7**	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.1	55	**28.7**	↗
2.	**Social transition**		63	**54.9**	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	69.0	32	**79.9**	↗
2.2	WORK AND INCLUSION	52.7	54	**52.7**	–
2.2.1	Employment rate of the population aged 20-64 (%)	58.6	54	**37.2**	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	27.5	59	**60.7**	–
2.2.3	Gross enrolment ratio, pre-primary (%)	78.5	46	**67.7**	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	55.0	33	**72.8**	↗
2.4	EQUALITY	28.1	70	**28.1**	↑
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	51.3	70	**30.4**	↑
2.4.2	Income share held by the poorest quintile (%)	3.7	69	**21.3**	↑
3.	**Environmental transition**		9	**69.7**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	3.7	12	**84.6**	↘
3.2	BIODIVERSITY	49.2	45	**49.2**	↑
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	47.6	36	**47.6**	↑
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	50.7	35	**50.7**	↑
3.2.3	Pesticide use per area of cropland (kg/ha)	7.1	60	**49.4**	↗
3.3	MATERIAL USE	54.2	18	**54.2**	–
3.3.1	Resource productivity (PPP$ per kg)	2.1	31	**35.0**	↑
3.3.2	Material footprint (tonnes per capita)	10.7	17	**73.3**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	18.2	5	**90.9**	–
4.	**Governance transition**		69	**37.6**	–
4.1	FUNDAMENTAL RIGHTS	43.5	55	**43.5**	↘
4.1.1	Voice and accountability index (z-score)	0.1	45	**55.9**	↑
4.1.2	Rule of law Index (z-score)	(0.5)	64	**31.2**	↓
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	25.3	68	**9.4**	↑
4.3	TRANSPARENCY	47.8	46	**47.8**	–
4.3.1	Corruption perceptions index (0-100)	39.0	54	**39.0**	↗
4.3.2	Basel anti-money laundering index (0-10)	4.6	35	**53.6**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	65.4	40	**73.9**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

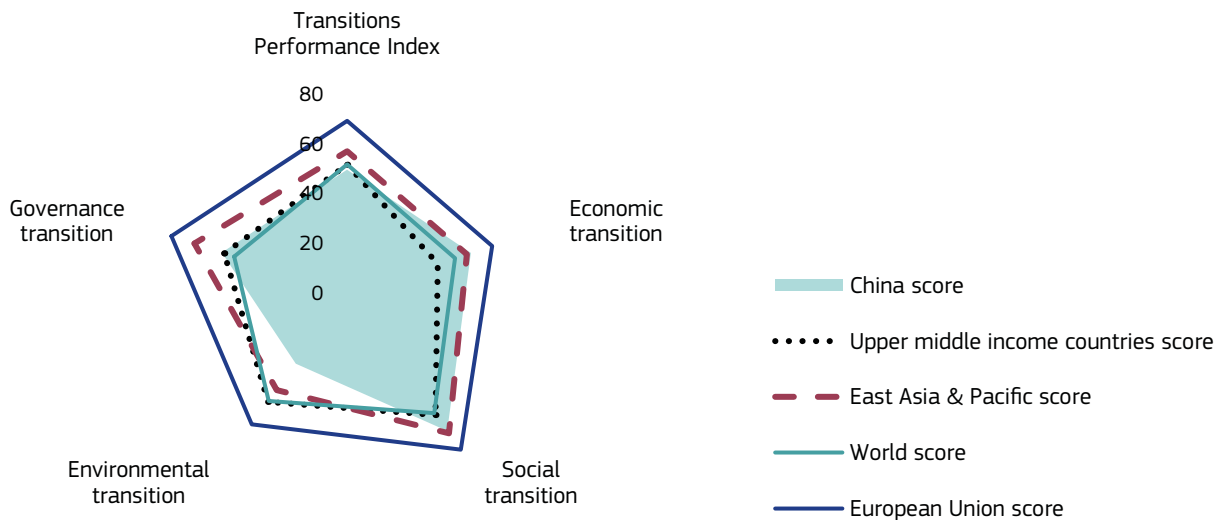## EGYPT

POPULATION (million inhabitants)	100.9	GDP PER CAPITA (current PPP$)	12 789.9
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	1 290.0		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Egypt ranks	**62**	**55**	**65**	**29**	**64**
Egypt score	49.4	34.0	50.7	61.0	44.3
World score	51.5	45.4	59.4	53.4	47.6
Lower middle income countries score	49.7	30.5	55.8	59.1	46.8
Middle East & North Africa score	53.5	44.4	58.3	54.4	55.9
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Egypt score
- Lower middle income countries score
- Middle East & North Africa score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Egypt
- Economic transition
- Social transition
- Environmental transition
- Governance transition
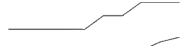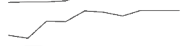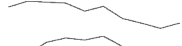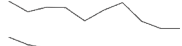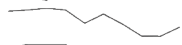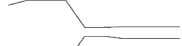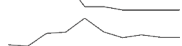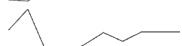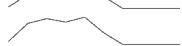
EGYPT

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		62	49.4	–
1.	**Economic transition**		55	34.0	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	51.9	55	51.9	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	7.3	65	29.1	–
1.1.2	Internet users (%)	71.9	58	71.9	↑
1.1.3	Proportion of people with ICT skills (composite)	54.6	18	54.6	↑
1.2	WEALTH: GDP per capita, current dollars (PPP$)	12 789.9	62	17.1	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	21.9	51	21.9	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	43 930.8	49	29.3	↑
1.3.2	Gross expenditure on R&D (% of GDP)	0.7	49	14.5	↑
1.4	INDUSTRIAL BASE	35.5	60	35.5	↘
1.4.1	Gross value added of manufacturing (% of GDP)	16.2	21	54.0	–
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.0	68	7.9	↓
2.	**Social transition**		65	50.7	↘
2.1	HEALTH: Healthy life expectancy at birth (years)	63.0	66	59.9	↗
2.2	WORK AND INCLUSION	9.9	72	9.9	↓
2.2.1	Employment rate of the population aged 20-64 (%)	46.7	63	13.3	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	61.9	71	11.5	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	29.3	67	-	↗
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	33.0	70	32.8	↘
2.4	EQUALITY	77.7	17	77.7	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	31.5	24	74.4	↘
2.4.2	Income share held by the poorest quintile (%)	9.0	10	87.5	↘
3.	**Environmental transition**		29	61.0	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	3.3	8	86.1	–
3.2	BIODIVERSITY	41.8	54	41.8	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	38.4	45	38.4	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	28.5	57	28.5	–
3.2.3	Pesticide use per area of cropland (kg/ha)	3.4	41	75.4	–
3.3	MATERIAL USE	55.4	14	55.4	↘
3.3.1	Resource productivity (PPP$ per kg)	1.4	50	23.1	↘
3.3.2	Material footprint (tonnes per capita)	4.9	8	87.8	–
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	12.1	30	60.5	–
4.	**Governance transition**		64	44.3	↘
4.1	FUNDAMENTAL RIGHTS	21.4	69	21.4	↘
4.1.1	Voice and accountability index (z-score)	(1.5)	70	6.8	↓
4.1.2	Rule of law Index (z-score)	(0.4)	61	35.9	↗
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	2.6	53	64.9	↗
4.3	TRANSPARENCY	42.1	59	42.1	↘
4.3.1	Corruption perceptions index (0-100)	33.0	66	33.0	–
4.3.2	Basel anti-money laundering index (0-10)	5.2	54	48.1	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	89.8	57	58.2	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

GEORGIA

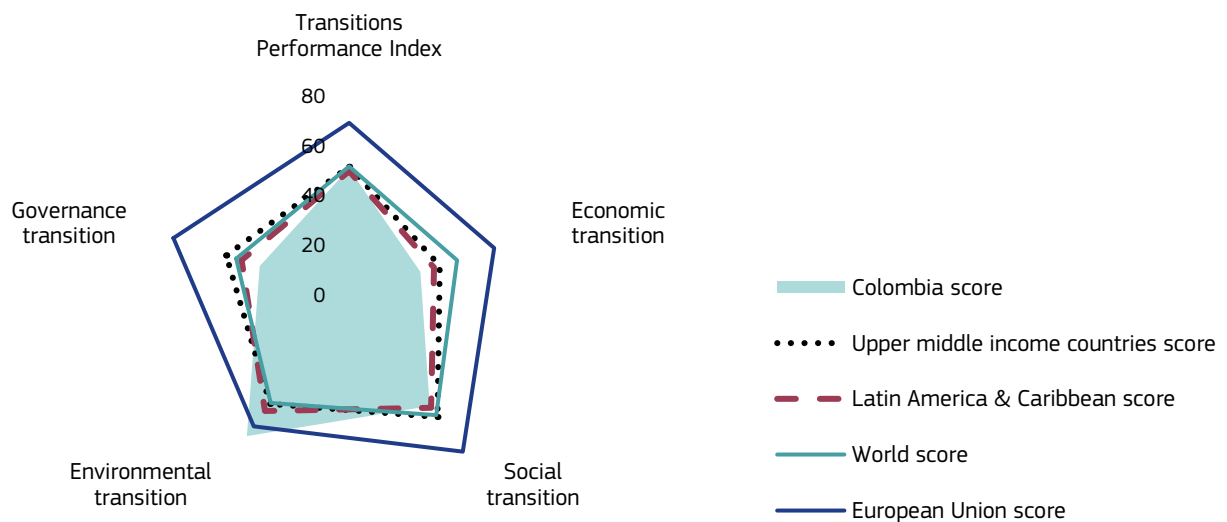|		
POPULATION (million inhabitants)	**3.7**	
		GDP PER CAPITA (current PPP$) **14 917.6**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**55.2**	

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Georgia ranks	**49**	**66**	**51**	**41**	**43**
Georgia score	53.2	29.8	61.8	56.0	61.1
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Georgia score
- Upper middle income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Georgia
- Economic transition
- Social transition
- Environmental transition
- Governance transition
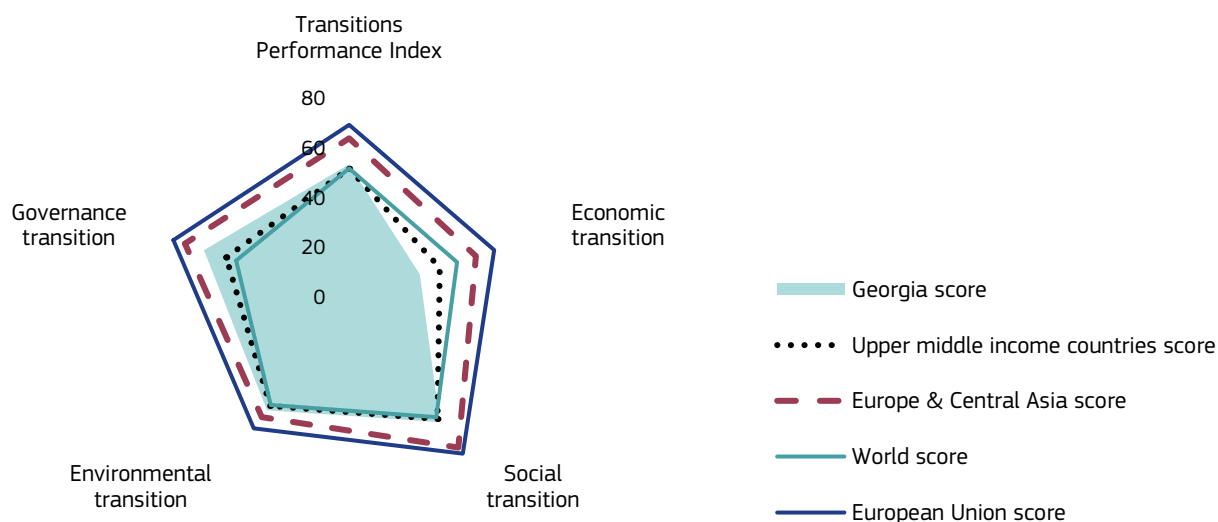
TRANSITIONS PERFORMANCE INDEX 2021
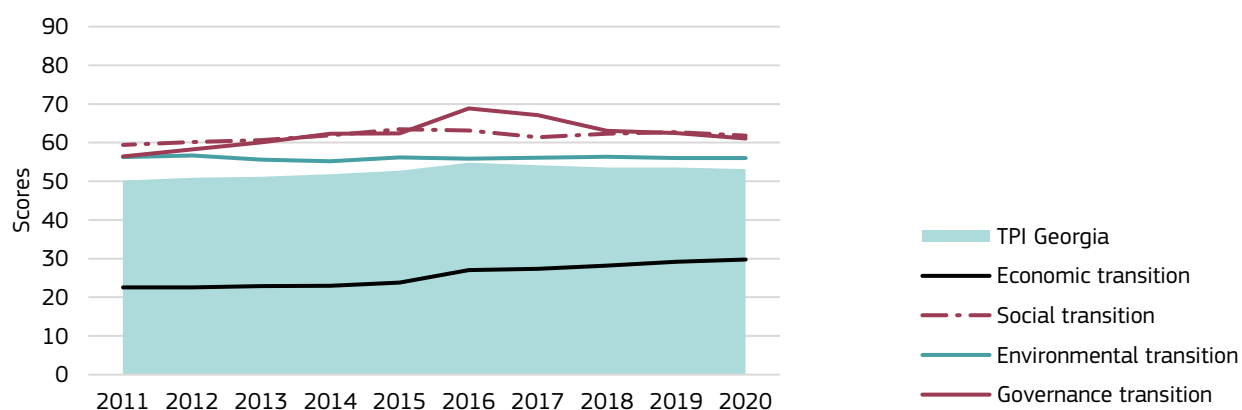
GEORGIA

Index	Transitions Performance Index	VALUE	RANK	SCORE	Progress	
	Transitions Performance Index		49	53.2	–	
1.	**Economic transition**		66	29.8	↑	
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	45.2	66	45.2	↑	
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	11.1	50	44.5	↑	
1.1.2	Internet users (%)	72.5	55	72.5	↑	
1.1.3	Proportion of people with ICT skills (composite)	18.5	51	18.5	↓	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	14 917.6	54	19.9	↑	
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	13.2	64	13.2	↑	
1.3.1	Output per worker (2011 constant GDP PPP$)	31 066.1	62	20.7	↑	
1.3.2	Gross expenditure on R&D (% of GDP)	0.3	64	5.6	↑	
1.4	INDUSTRIAL BASE	32.0	65	32.0	↘	
1.4.1	Gross value added of manufacturing (% of GDP)	9.5	59	31.7	↘	
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.1	51	32.5	↘	
2.	**Social transition**		51	61.8	–	
2.1	HEALTH: Healthy life expectancy at birth (years)	64.7	60	65.6	–	
2.2	WORK AND INCLUSION	47.4	58	47.4	↓	
2.2.1	Employment rate of the population aged 20-64 (%)	47.0	62	14.0	↓	
2.2.2	Employment-to-population ratio gender gap 25+ (%)	15.9	38	77.2	–	
2.2.3	Gross enrolment ratio, pre-primary (%)	69.5	55	54.3	–	
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	52.7	38	68.6	↘	
2.4	EQUALITY	63.5	47	63.5	↑	
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	35.9	49	64.7	↑	
2.4.2	Income share held by the poorest quintile (%)	6.8	43	60.0	↑	
3.	**Environmental transition**		41	56.0	↘	
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	4.2	14	82.4	↘	
3.2	BIODIVERSITY	43.1	51	43.1	–	
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	40.3	41	40.3	↗	
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	38.9	45	38.9	↗	
3.2.3	Pesticide use per area of cropland (kg/ha)	6.0	55	57.1	–	
3.3	MATERIAL USE	54.8	16	54.8	–	
3.3.1	Resource productivity (PPP$ per kg)	1.9	38	31.8	↑	
3.3.2	Material footprint (tonnes per capita)	8.9	13	77.8	↘	
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	8.7	55	43.7	↘	
4.	**Governance transition**		43	61.1	↗	
4.1	FUNDAMENTAL RIGHTS	56.7	43	56.7	↑	
4.1.1	Voice and accountability index (z-score)	0.1	50	52.2	↑	
4.1.2	Rule of law Index (z-score)	0.3	41	61.3	↑	
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	2.2	48	67.6	–	
4.3	TRANSPARENCY	53.5	37	53.5	↗	
4.3.1	Corruption perceptions index (0-100)	56.0	32	56.0	↗	
4.3.2	Basel anti-money laundering index (0-10)	4.8	41	51.8	↑	
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	60.0	35	77.4	↓	

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

ICELAND

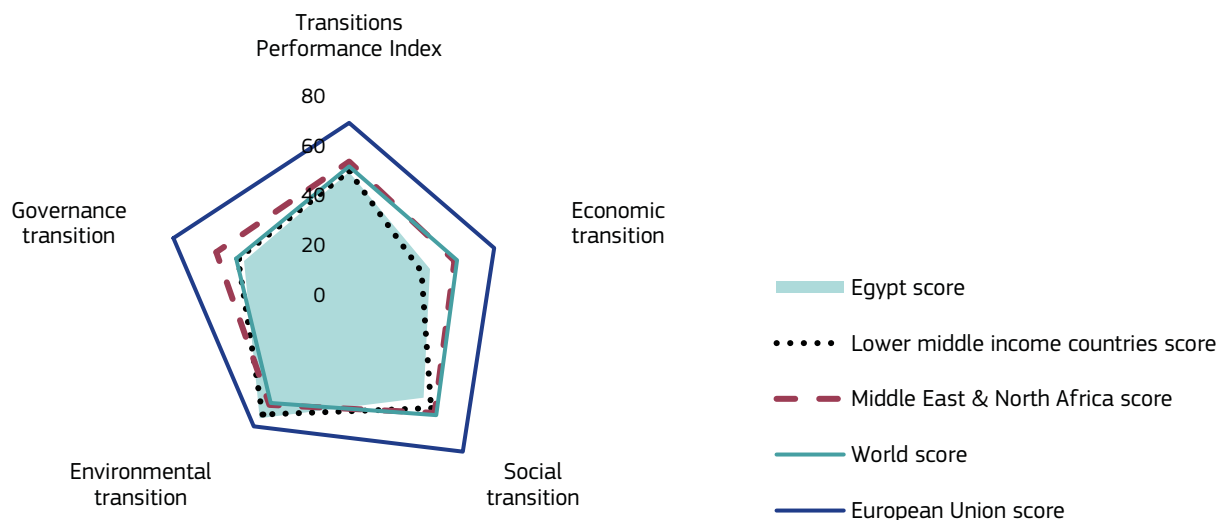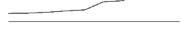|			
POPULATION (million inhabitants)	**0.4**	**GDP PER CAPITA** (current PPP$)	**55 965.8**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**20.4**	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	**62.0**

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Iceland ranks	**31**	**14**	**1**	**70**	**11**
Iceland score	61.2	67.2	89.7	28.7	79.1
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Iceland score
- High income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Iceland
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021

ICELAND
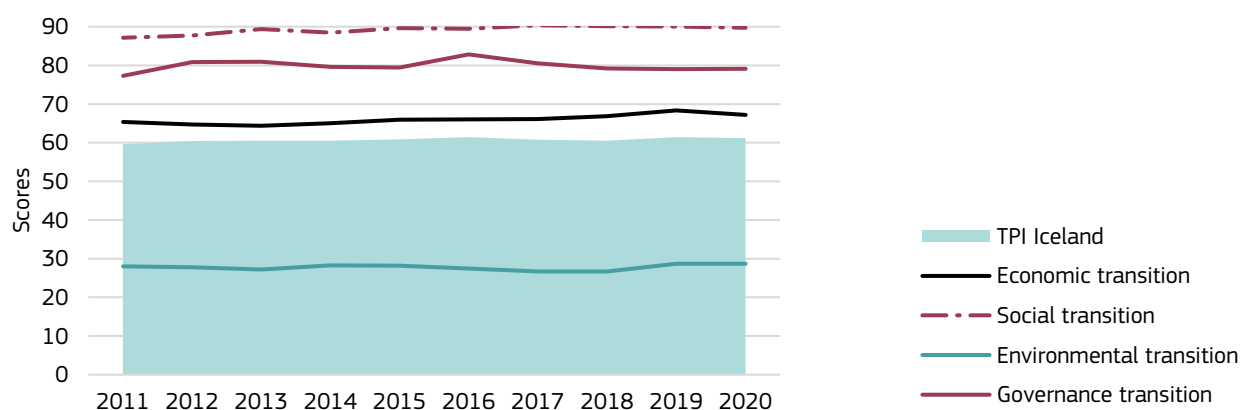
Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		31	61.2	–
1.	**Economic transition**		14	67.2	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	88.1	1	88.1	↘
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	21.7	8	86.9	–
1.1.2	Internet users (%)	99.0	2	99.0	–
1.1.3	Proportion of people with ICT skills (composite)	78.6	1	78.6	↘
1.2	WEALTH: GDP per capita, current dollars (PPP$)	55 965.8	10	74.6	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	57.9	17	57.9	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	103 296.0	18	68.9	↑
1.3.2	Gross expenditure on R&D (% of GDP)	2.4	12	47.0	↘
1.4	INDUSTRIAL BASE	47.4	32	47.4	↓
1.4.1	Gross value added of manufacturing (% of GDP)	8.7	62	29.0	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	2.5	16	75.1	↘
2.	**Social transition**		1	89.7	–
2.1	HEALTH: Healthy life expectancy at birth (years)	72.0	9	89.9	–
2.2	WORK AND INCLUSION	86.5	4	86.5	–
2.2.1	Employment rate of the population aged 20-64 (%)	82.3	4	84.6	–
2.2.2	Employment-to-population ratio gender gap 25+ (%)	10.6	12	84.8	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	95.7	18	93.5	↘
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	66.9	1	94.3	↗
2.4	EQUALITY	88.9	4	88.9	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	26.1	6	86.4	–
2.4.2	Income share held by the poorest quintile (%)	9.7	4	96.3	–
3.	**Environmental transition**		70	28.7	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	15.8	64	34.2	–
3.2	BIODIVERSITY	42.0	53	42.0	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	19.1	68	19.1	↗
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	35.9	54	35.9	–
3.2.3	Pesticide use per area of cropland (kg/ha)	0.0	1	99.9	–
3.3	MATERIAL USE	22.9	67	22.9	↘
3.3.1	Resource productivity (PPP$ per kg)	2.0	35	33.0	–
3.3.2	Material footprint (tonnes per capita)	34.9	64	12.9	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	3.1	72	15.7	↑
4.	**Governance transition**		11	79.1	–
4.1	FUNDAMENTAL RIGHTS	94.1	10	94.1	–
4.1.1	Voice and accountability index (z-score)	1.4	12	91.7	↘
4.1.2	Rule of law Index (z-score)	1.8	9	96.4	–
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.9	20	82.4	–
4.3	TRANSPARENCY	65.2	13	65.2	↓
4.3.1	Corruption perceptions index (0-100)	75.0	16	75.0	↘
4.3.2	Basel anti-money laundering index (0-10)	4.1	22	58.6	↓
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	77.1	49	66.4	↑

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

INDIA

POPULATION (million inhabitants)	**1 389.1**	
GDP PER CAPITA (current PPP$)		**6 461.0**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**8 974.7**	

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
India ranks	**63**	**69**	**68**	**37**	**52**
India score	48.9	27.4	47.7	58.1	54.1
World score	51.5	45.4	59.4	53.4	47.6
Lower middle income countries score	49.7	30.5	55.8	59.1	46.8
South Asia score	48.9	27.4	47.7	58.1	54.1
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- India score
- Lower middle income countries score
- South Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI India
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021

INDIA
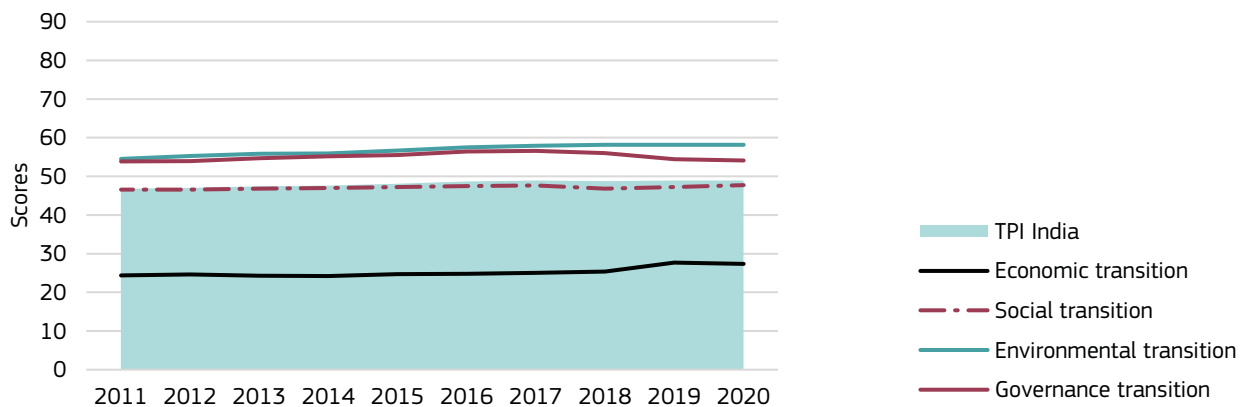
Index	Transitions Performance Index	2020 VALUE	RANK	SCORE	2011-2020 SCORE PROGRESS
	Transitions Performance Index		**63**	**48.9**	–
1.	**Economic transition**		**69**	**27.4**	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	34.3	69	**34.3**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	6.9	66	**27.7**	–
1.1.2	Internet users (%)	41.0	70	**41.0**	↑
1.1.3	Proportion of people with ICT skills (composite)	N/A	N/A	**N/A**	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	6 461.0	70	**8.6**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	13.1	65	**13.1**	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	19 692.8	69	**13.1**	↑
1.3.2	Gross expenditure on R&D (% of GDP)	0.7	50	**13.1**	↓
1.4	INDUSTRIAL BASE	42.4	41	**42.4**	↓
1.4.1	Gross value added of manufacturing (% of GDP)	13.0	36	**43.2**	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.2	43	**41.1**	↓
2.	**Social transition**		**68**	**47.7**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	60.3	69	**51.1**	↑
2.2	WORK AND INCLUSION	16.2	71	**16.2**	↓
2.2.1	Employment rate of the population aged 20-64 (%)	43.2	67	**6.3**	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	61.5	70	**12.1**	↗
2.2.3	Gross enrolment ratio, pre-primary (%)	62.8	58	**44.2**	↗
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	36.9	66	**39.8**	↘
2.4	EQUALITY	67.9	37	**67.9**	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	35.7	45	**65.1**	–
2.4.2	Income share held by the poorest quintile (%)	8.1	21	**76.3**	–
3.	**Environmental transition**		**37**	**58.1**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	2.5	4	**89.6**	↘
3.2	BIODIVERSITY	35.3	63	**35.3**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	20.7	67	**20.7**	↑
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	18.9	64	**18.9**	↑
3.2.3	Pesticide use per area of cropland (kg/ha)	0.4	5	**97.4**	↘
3.3	MATERIAL USE	53.5	19	**53.5**	–
3.3.1	Resource productivity (PPP$ per kg)	1.1	61	**18.6**	↑
3.3.2	Material footprint (tonnes per capita)	4.6	7	**88.5**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	10.8	43	**54.1**	↑
4.	**Governance transition**		**52**	**54.1**	–
4.1	FUNDAMENTAL RIGHTS	52.6	45	**52.6**	↘
4.1.1	Voice and accountability index (z-score)	0.1	44	**56.0**	↓
4.1.2	Rule of law Index (z-score)	(0.0)	47	**49.3**	–
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	3.1	57	**61.1**	↗
4.3	TRANSPARENCY	47.2	50	**47.2**	↗
4.3.1	Corruption perceptions index (0-100)	40.0	51	**40.0**	↗
4.3.2	Basel anti-money laundering index (0-10)	4.8	40	**52.0**	↗
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	89.6	55	**58.3**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
Source: European Commission, Transitions Performance Index 2021.

INDONESIA

POPULATION (million inhabitants)	270.2	GDP PER CAPITA (current PPP$)	12 221.9
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	3 301.9		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Indonesia ranks	**40**	**67**	**54**	**22**	**39**
Indonesia score	56.5	29.5	60.6	64.3	63.9
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
East Asia & Pacific score	56.8	50.5	69.3	48.1	64.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Indonesia score
- Upper middle income countries score
- East Asia & Pacific score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Indonesia
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021
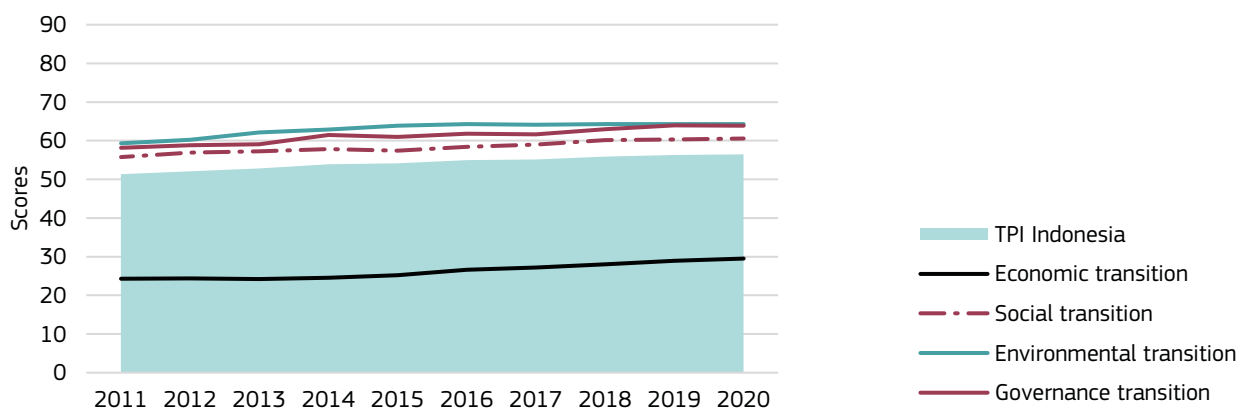
INDONESIA

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**40**	**56.5**	↗
1.	**Economic transition**		**67**	**29.5**	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	39.7	68	**39.7**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	6.8	67	**27.0**	↗
1.1.2	Internet users (%)	53.7	68	**53.7**	↑
1.1.3	Proportion of people with ICT skills (composite)	38.3	38	**38.3**	↑
1.2	WEALTH: GDP per capita, current dollars (PPP$)	12 221.9	63	**16.3**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	10.4	70	**10.4**	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	24 425.3	67	**16.3**	↑
1.3.2	Gross expenditure on R&D (% of GDP)	0.2	67	**4.5**	↑
1.4	INDUSTRIAL BASE	41.0	44	**41.0**	↓
1.4.1	Gross value added of manufacturing (% of GDP)	19.9	11	**66.3**	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.0	70	**3.1**	↓
2.	**Social transition**		**54**	**60.6**	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	62.8	67	**59.4**	↗
2.2	WORK AND INCLUSION	56.5	51	**56.5**	↑
2.2.1	Employment rate of the population aged 20-64 (%)	72.3	33	**64.7**	–
2.2.2	Employment-to-population ratio gender gap 25+ (%)	31.6	62	**54.9**	↗
2.2.3	Gross enrolment ratio, pre-primary (%)	62.3	59	**43.5**	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	51.9	41	**67.2**	↗
2.4	EQUALITY	60.0	51	**60.0**	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	38.2	53	**59.6**	–
2.4.2	Income share held by the poorest quintile (%)	6.9	42	**61.3**	↘
3.	**Environmental transition**		**22**	**64.3**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	3.6	11	**84.9**	↘
3.2	BIODIVERSITY	45.9	48	**45.9**	↗
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	25.9	59	**25.9**	↑
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	39.0	44	**39.0**	↗
3.2.3	Pesticide use per area of cropland (kg/ha)	0.0	2	**99.8**	–
3.3	MATERIAL USE	54.4	17	**54.4**	–
3.3.1	Resource productivity (PPP$ per kg)	1.5	47	**24.4**	↑
3.3.2	Material footprint (tonnes per capita)	6.2	9	**84.4**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	14.4	18	**71.8**	↑
4.	**Governance transition**		**39**	**63.9**	↗
4.1	FUNDAMENTAL RIGHTS	45.4	52	**45.4**	↑
4.1.1	Voice and accountability index (z-score)	0.1	46	**54.0**	↗
4.1.2	Rule of law Index (z-score)	(0.3)	58	**36.7**	↑
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.4	4	**90.0**	–
4.3	TRANSPARENCY	46.7	51	**46.7**	↑
4.3.1	Corruption perceptions index (0-100)	37.0	57	**37.0**	↑
4.3.2	Basel anti-money laundering index (0-10)	4.7	38	**53.2**	↑
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	36.6	9	**92.5**	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

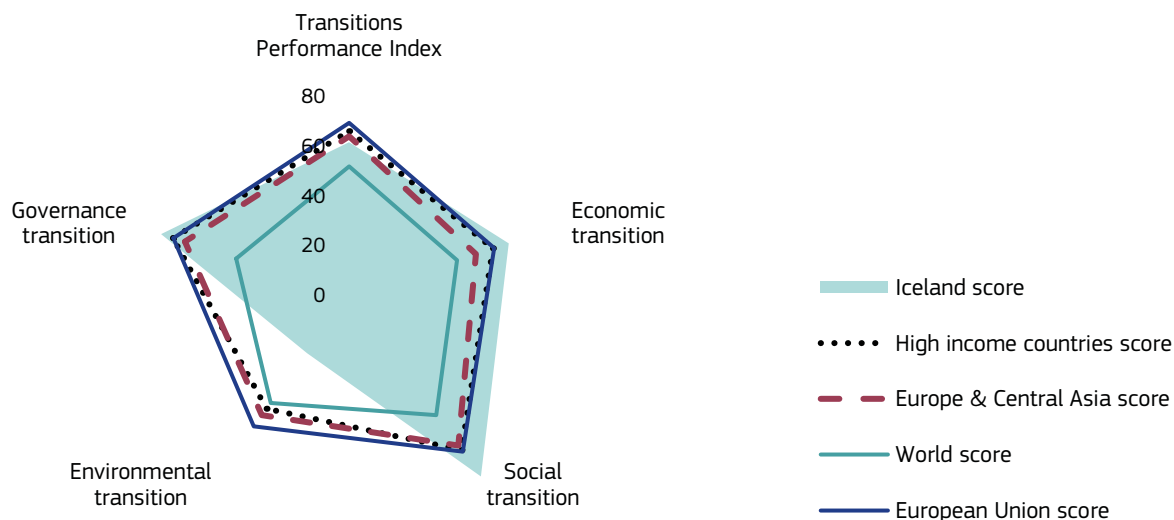*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

IRAN

POPULATION (million inhabitants)	85.7	GDP PER CAPITA (current PPP$)	13 073.2
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	1 120.2		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Iran ranks	**71**	**60**	**70**	**59**	**68**
Iran score	40.8	33.3	44.9	44.9	37.8
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
Middle East & North Africa score	53.5	44.4	58.3	54.4	55.9
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

Iran score
Upper middle income countries score
Middle East & North Africa score
World score
European Union score

TRANSITIONS PROGRESS 2011-2020

TPI Iran
Economic transition
Social transition
Environmental transition
Governance transition

II-93

IRAN
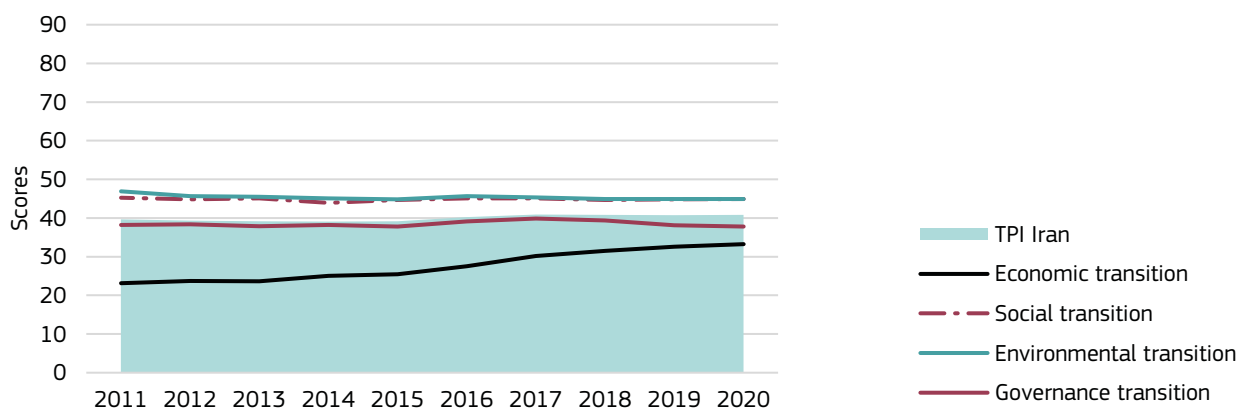
Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**71**	**40.8**	–
1.	**Economic transition**		**60**	**33.3**	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	47.0	63	**47.0**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	10.2	56	**40.9**	↑
1.1.2	Internet users (%)	84.1	35	**84.1**	↑
1.1.3	Proportion of people with ICT skills (composite)	15.9	53	**15.9**	↘
1.2	WEALTH: GDP per capita, current dollars (PPP$)	13 073.2	60	**17.4**	↓
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	22.1	50	**22.1**	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	41 359.5	54	**27.6**	↓
1.3.2	Gross expenditure on R&D (% of GDP)	0.8	44	**16.6**	↑
1.4	INDUSTRIAL BASE	37.5	54	**37.5**	↑
1.4.1	Gross value added of manufacturing (% of GDP)	14.8	27	**49.3**	↑
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.0	59	**19.8**	↑
2.	**Social transition**		**70**	**44.9**	↘
2.1	HEALTH: Healthy life expectancy at birth (years)	66.3	51	**70.9**	–
2.2	WORK AND INCLUSION	17.4	70	**17.4**	↑
2.2.1	Employment rate of the population aged 20-64 (%)	44.5	64	**9.0**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	56.6	69	**19.1**	↑
2.2.3	Gross enrolment ratio, pre-primary (%)	53.9	62	**30.8**	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	31.8	72	**30.6**	↑
2.4	EQUALITY	50.2	62	**50.2**	↓
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	42.0	63	**51.1**	↓
2.4.2	Income share held by the poorest quintile (%)	5.8	56	**47.5**	↓
3.	**Environmental transition**		**59**	**44.9**	↘
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	10.1	53	**57.8**	↘
3.2	BIODIVERSITY	51.5	42	**51.5**	↘
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	43.6	39	**43.6**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	36.7	51	**36.7**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	0.4	6	**97.2**	↘
3.3	MATERIAL USE	40.5	46	**40.5**	↘
3.3.1	Resource productivity (PPP$ per kg)	1.0	65	**16.3**	↓
3.3.2	Material footprint (tonnes per capita)	14.1	24	**64.7**	–
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	5.9	67	**29.7**	↓
4.	**Governance transition**		**68**	**37.8**	↘
4.1	FUNDAMENTAL RIGHTS	13.1	72	**13.1**	↑
4.1.1	Voice and accountability index (z-score)	(1.5)	69	**6.9**	↑
4.1.2	Rule of law Index (z-score)	(0.9)	72	**19.3**	↑
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	2.5	52	**65.3**	–
4.3	TRANSPARENCY	17.4	72	**17.4**	↘
4.3.1	Corruption perceptions index (0-100)	25.0	71	**25.0**	↓
4.3.2	Basel anti-money laundering index (0-10)	8.8	72	**12.4**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	39.5	14	**90.6**	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

ISRAEL

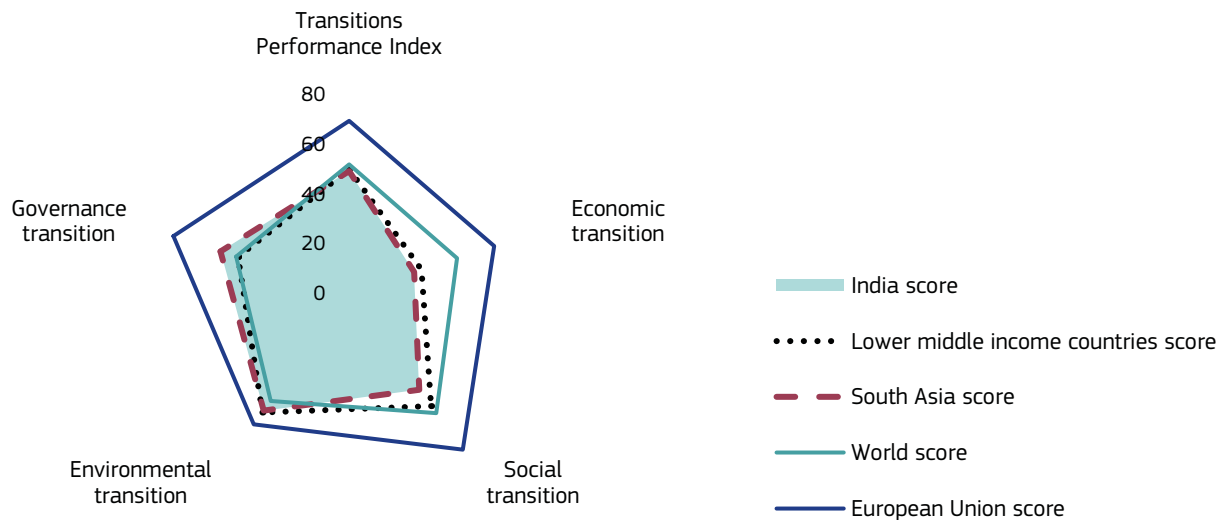|		
POPULATION (million inhabitants)	**9.4**	
GDP PER CAPITA (current PPP$)	**40 547.3**	
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**380.3**	
INTERNATIONAL DIGITAL ECONOMY **AND SOCIETY INDEX (0-100)**	**58.0**	

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Israel ranks	**29**	**16**	**31**	**54**	**26**
Israel score	62.3	64.0	72.7	48.9	71.5
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Middle East & North Africa score	53.5	44.4	58.3	54.4	55.9
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Israel score
- High income countries score
- Middle East & North Africa score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Israel
- Economic transition
- Social transition
- Environmental transition
- Governance transition

ISRAEL

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		29	62.3	↗
1.	**Economic transition**		16	64.0	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	67.1	28	67.1	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	11.9	46	47.5	↗
1.1.2	Internet users (%)	86.8	29	86.8	↑
1.1.3	Proportion of people with ICT skills (composite)	N/A	N/A	N/A	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	40 547.3	27	54.1	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	81.6	1	81.6	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	96 573.0	22	64.4	↗
1.3.2	Gross expenditure on R&D (% of GDP)	4.9	1	98.8	↑
1.4	INDUSTRIAL BASE	55.8	18	55.8	↓
1.4.1	Gross value added of manufacturing (% of GDP)	10.9	50	36.2	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	5.3	8	85.1	↘
2.	**Social transition**		31	72.7	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	72.4	6	91.3	–
2.2	WORK AND INCLUSION	84.3	7	84.3	–
2.2.1	Employment rate of the population aged 20-64 (%)	78.2	12	76.5	↗
2.2.2	Employment-to-population ratio gender gap 25+ (%)	11.0	16	84.2	–
2.2.3	Gross enrolment ratio, pre-primary (%)	111.1	1	100.0	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	54.7	34	72.2	↗
2.4	EQUALITY	53.0	58	53.0	↗
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	39.0	56	57.8	↗
2.4.2	Income share held by the poorest quintile (%)	5.1	66	38.8	↑
3.	**Environmental transition**		54	48.9	↑
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	10.5	55	56.3	↗
3.2	BIODIVERSITY	17.7	71	17.7	↑
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	17.1	69	17.1	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	22.7	63	22.7	–
3.2.3	Pesticide use per area of cropland (kg/ha)	12.7	66	9.0	↗
3.3	MATERIAL USE	46.2	36	46.2	↑
3.3.1	Resource productivity (PPP$ per kg)	3.2	14	52.7	↑
3.3.2	Material footprint (tonnes per capita)	24.1	45	39.7	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	15.0	13	75.2	↑
4.	**Governance transition**		26	71.5	–
4.1	FUNDAMENTAL RIGHTS	79.2	30	79.2	↘
4.1.1	Voice and accountability index (z-score)	0.7	35	74.4	–
4.1.2	Rule of law Index (z-score)	1.0	27	84.1	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.5	39	74.7	↗
4.3	TRANSPARENCY	61.0	25	61.0	–
4.3.1	Corruption perceptions index (0-100)	60.0	27	60.0	–
4.3.2	Basel anti-money laundering index (0-10)	3.8	13	61.7	–
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	72.0	47	69.7	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

JAPAN

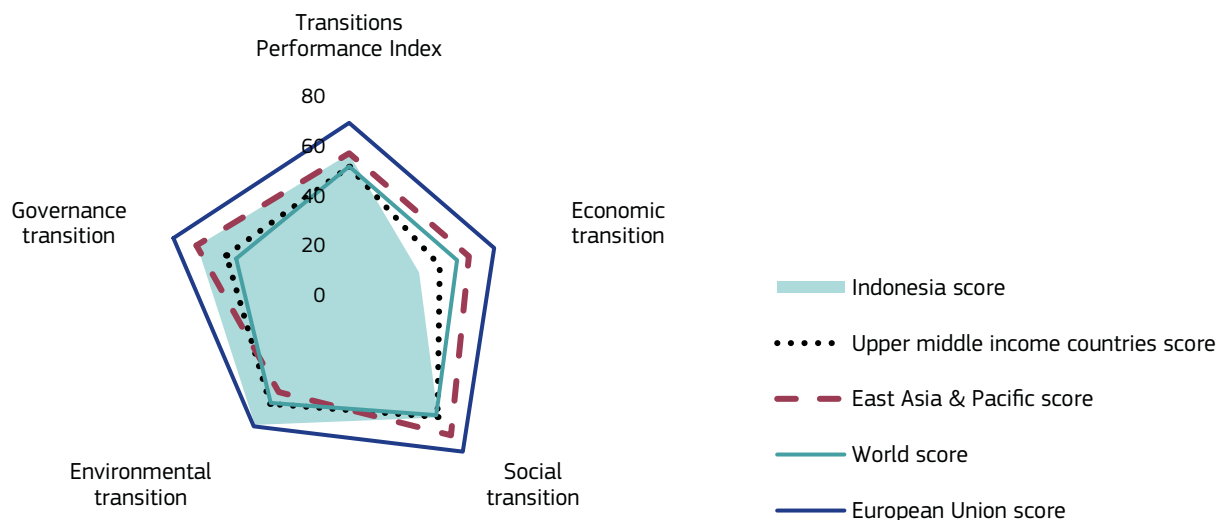|			
POPULATION (million inhabitants)	125.7	**GDP PER CAPITA** (current PPP$)	**42 248.0**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	5 312.3	**INTERNATIONAL DIGITAL ECONOMY** **AND SOCIETY INDEX (0-100)**	**57.0**

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Japan ranks	**17**	**18**	**12**	**36**	**24**
Japan score	67.5	62.2	81.4	58.8	72.6
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
East Asia & Pacific score	56.8	50.5	69.3	48.1	64.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Japan score
- High income countries score
- East Asia & Pacific score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Japan
- Economic transition
- Social transition
- Environmental transition
- Governance transition

JAPAN

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		17	**67.5**	–
1.	**Economic transition**		18	**62.2**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	50.0	57	**50.0**	↗
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	12.9	39	**51.4**	↘
1.1.2	Internet users (%)	92.7	13	**92.7**	↑
1.1.3	Proportion of people with ICT skills (composite)	5.8	55	**5.8**	↘
1.2	WEALTH: GDP per capita, current dollars (PPP$)	42 248.0	23	**56.3**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	58.6	15	**58.6**	–
1.3.1	Output per worker (2011 constant GDP PPP$)	77 490.5	31	**51.7**	–
1.3.2	Gross expenditure on R&D (% of GDP)	3.3	4	**65.6**	–
1.4	INDUSTRIAL BASE	80.6	3	**80.6**	–
1.4.1	Gross value added of manufacturing (% of GDP)	20.7	8	**69.2**	–
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	13.6	1	**97.8**	↘
2.	**Social transition**		12	**81.4**	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	74.1	1	**97.0**	–
2.2	WORK AND INCLUSION	77.7	25	**77.7**	↑
2.2.1	Employment rate of the population aged 20-64 (%)	82.0	5	**84.0**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	20.1	49	**71.3**	↗
2.2.3	Gross enrolment ratio, pre-primary (%)	N/A	N/A	**N/A**	
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	60.8	10	**83.3**	↑
2.4	EQUALITY	71.3	29	**71.3**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	32.9	29	**71.3**	–
2.4.2	Income share held by the poorest quintile (%)	7.7	27	**71.3**	↘
3.	**Environmental transition**		36	**58.8**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	9.3	48	**61.1**	–
3.2	BIODIVERSITY	54.8	36	**54.8**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	65.1	29	**65.1**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	64.4	28	**64.4**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	11.9	65	**15.0**	↓
3.3	MATERIAL USE	55.9	13	**55.9**	↑
3.3.1	Resource productivity (PPP$ per kg)	4.6	7	**76.6**	↑
3.3.2	Material footprint (tonnes per capita)	25.9	51	**35.2**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	12.7	26	**63.6**	↑
4.	**Governance transition**		24	**72.6**	–
4.1	FUNDAMENTAL RIGHTS	88.7	19	**88.7**	–
4.1.1	Voice and accountability index (z-score)	1.0	25	**83.8**	↘
4.1.2	Rule of law Index (z-score)	1.5	15	**93.6**	–
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.3	2	**93.5**	–
4.3	TRANSPARENCY	59.7	26	**59.7**	–
4.3.1	Corruption perceptions index (0-100)	74.0	18	**74.0**	–
4.3.2	Basel anti-money laundering index (0-10)	5.0	47	**50.1**	↗
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	254.1	71	**–**	↗

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[▢ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

KENYA

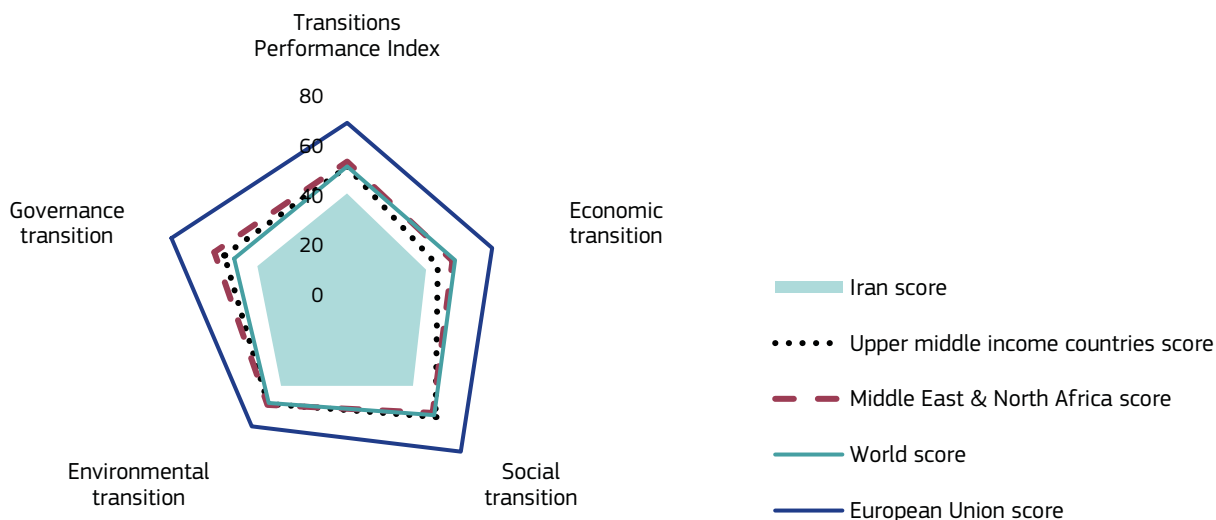|				
POPULATION (million inhabitants)	**50.0**		**GDP PER CAPITA** (current PPP$)	**4 925.5**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**246.1**			

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Kenya ranks	**67**	**72**	**57**	**38**	**65**
Kenya score	45.8	18.7	58.5	57.4	41.0
World score	51.5	45.4	59.4	53.4	47.6
Lower middle income countries score	49.7	30.5	55.8	59.1	46.8
Sub-Saharan Africa score	42.9	25.3	45.6	56.6	35.5
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

TRANSITIONS PROGRESS 2011-2020

II-99

KENYA

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011-2020 SCORE PROGRESS
	Transitions Performance Index		67	45.8	–
1.	**Economic transition**		72	18.7	↘
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	28.9	71	28.9	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	8.8	62	35.2	–
1.1.2	Internet users (%)	22.6	72	22.6	↑
1.1.3	Proportion of people with ICT skills (composite)	N/A	N/A	N/A	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	4 925.5	72	6.6	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	11.2	68	11.2	–
1.3.1	Output per worker (2011 constant GDP PPP$)	9 847.6	72	6.6	↗
1.3.2	Gross expenditure on R&D (% of GDP)	0.8	47	15.8	–
1.4	INDUSTRIAL BASE	21.7	70	21.7	↓
1.4.1	Gross value added of manufacturing (% of GDP)	7.5	65	25.1	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.0	62	16.7	↓
2.	**Social transition**		57	58.5	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	57.7	70	42.3	↑
2.2	WORK AND INCLUSION	68.7	41	68.7	↘
2.2.1	Employment rate of the population aged 20-64 (%)	64.8	45	49.6	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	6.8	2	90.3	–
2.2.3	Gross enrolment ratio, pre-primary (%)	75.8	50	63.6	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	57.6	24	77.4	↗
2.4	EQUALITY	53.5	57	53.5	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	40.8	58	53.8	–
2.4.2	Income share held by the poorest quintile (%)	6.2	51	52.5	–
3.	**Environmental transition**		38	57.4	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	1.5	1	93.6	–
3.2	BIODIVERSITY	48.1	47	48.1	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	34.2	52	34.2	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	36.9	49	36.9	–
3.2.3	Pesticide use per area of cropland (kg/ha)	0.3	4	98.2	–
3.3	MATERIAL USE	57.3	10	57.3	↗
3.3.1	Resource productivity (PPP$ per kg)	1.3	55	21.9	↑
3.3.2	Material footprint (tonnes per capita)	3.0	2	92.6	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	6.1	64	30.5	–
4.	**Governance transition**		65	41.0	–
4.1	FUNDAMENTAL RIGHTS	32.8	63	32.8	↑
4.1.1	Voice and accountability index (z-score)	(0.3)	60	36.7	↘
4.1.2	Rule of law Index (z-score)	(0.6)	66	28.9	↑
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	4.9	62	50.7	–
4.3	TRANSPARENCY	29.0	71	29.0	↑
4.3.1	Corruption perceptions index (0-100)	31.0	68	31.0	↑
4.3.2	Basel anti-money laundering index (0-10)	7.2	71	27.7	↑
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	67.6	43	72.5	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
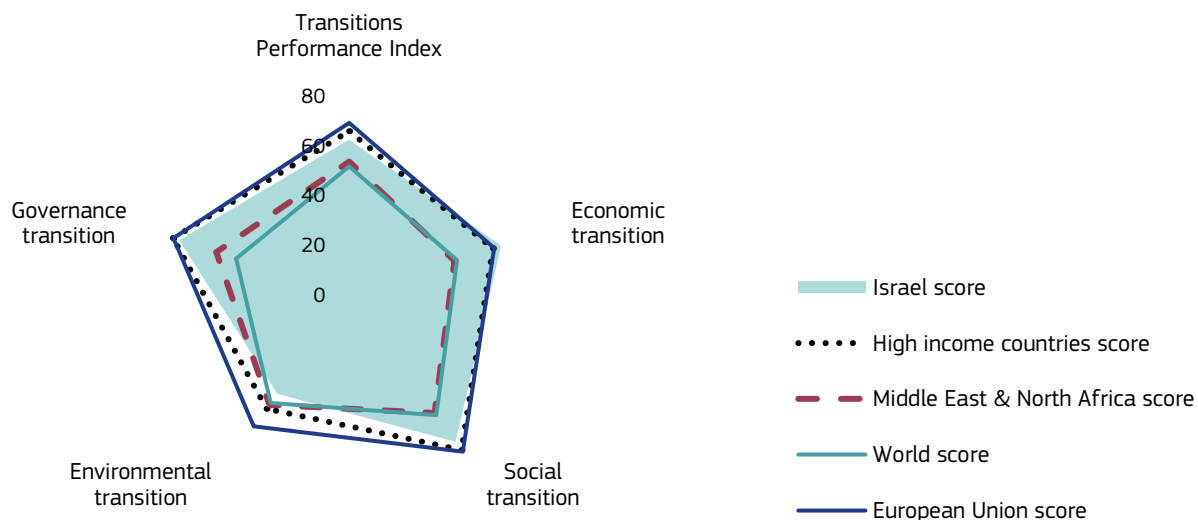*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

MALAYSIA

POPULATION (million inhabitants)	**33.0**	
GDP PER CAPITA (current PPP$)	**27 402.2**	
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**903.7**	

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Malaysia ranks	**47**	**37**	**53**	**58**	**45**
Malaysia score	53.3	49.7	61.6	46.0	59.9
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
East Asia & Pacific score	56.8	50.5	69.3	48.1	64.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Malaysia score
- Upper middle income countries score
- East Asia & Pacific score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Malaysia
- Economic transition
- Social transition
- Environmental transition
- Governance transition
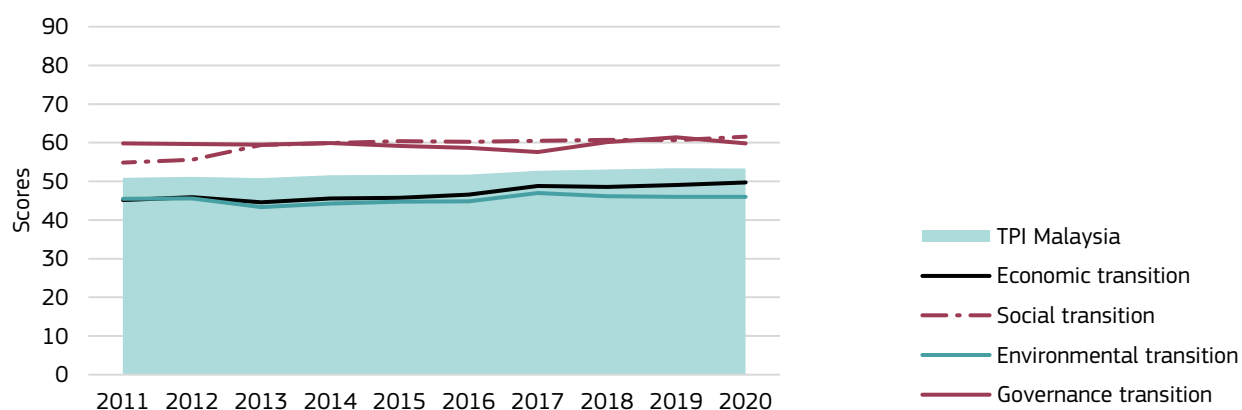
MALAYSIA

Index	Transitions Performance Index	VALUE	RANK	SCORE	SCORE PROGRESS
Index	Transitions Performance Index		47	53.3	–
1.	Economic transition		37	49.7	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	60.9	41	60.9	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	10.1	57	40.4	↓
1.1.2	Internet users (%)	89.6	22	89.6	↑
1.1.3	Proportion of people with ICT skills (composite)	52.8	20	52.8	↑
1.2	WEALTH: GDP per capita, current dollars (PPP$)	27 402.2	43	36.5	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	30.2	40	30.2	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	59 363.6	41	39.6	↑
1.3.2	Gross expenditure on R&D (% of GDP)	1.0	36	20.8	–
1.4	INDUSTRIAL BASE	60.2	14	60.2	↘
1.4.1	Gross value added of manufacturing (% of GDP)	22.3	6	74.4	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.2	45	38.9	↓
2.	Social transition		53	61.6	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	65.7	57	68.9	–
2.2	WORK AND INCLUSION	70.7	37	70.7	↑
2.2.1	Employment rate of the population aged 20-64 (%)	74.8	27	69.7	↗
2.2.2	Employment-to-population ratio gender gap 25+ (%)	29.0	60	58.6	↑
2.2.3	Gross enrolment ratio, pre-primary (%)	98.1	13	97.1	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	48.3	54	60.5	↑
2.4	EQUALITY	51.7	59	51.7	↑
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	41.1	59	53.1	↑
2.4.2	Income share held by the poorest quintile (%)	5.8	56	47.5	↑
3.	Environmental transition		58	46.0	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	9.7	50	59.5	↘
3.2	BIODIVERSITY	43.2	50	43.2	↘
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	28.5	57	28.5	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	50.0	36	50.0	–
3.2.3	Pesticide use per area of cropland (kg/ha)	5.8	51	58.8	↘
3.3	MATERIAL USE	30.6	59	30.6	↘
3.3.1	Resource productivity (PPP$ per kg)	1.4	52	22.7	↗
3.3.2	Material footprint (tonnes per capita)	24.6	48	38.6	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	10.2	45	50.8	↑
4.	Governance transition		45	59.9	–
4.1	FUNDAMENTAL RIGHTS	59.3	41	59.3	↑
4.1.1	Voice and accountability index (z-score)	(0.1)	57	44.1	↑
4.1.2	Rule of law Index (z-score)	0.7	34	74.5	↗
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	2.1	47	68.4	↘
4.3	TRANSPARENCY	47.6	48	47.6	↘
4.3.1	Corruption perceptions index (0-100)	51.0	38	51.0	–
4.3.2	Basel anti-money laundering index (0-10)	5.5	59	45.3	↓
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	67.4	42	72.6	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

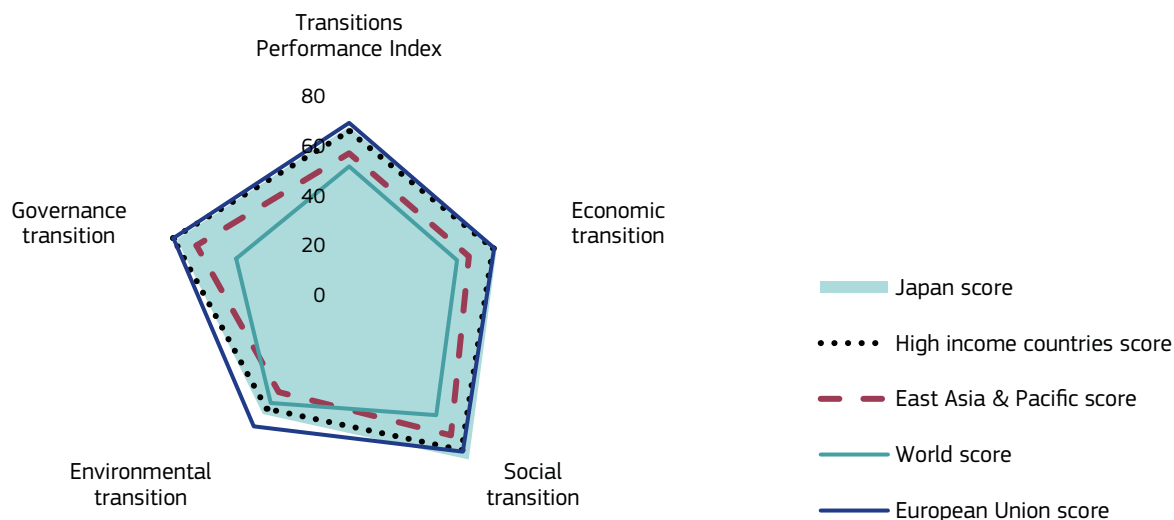*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

MEXICO

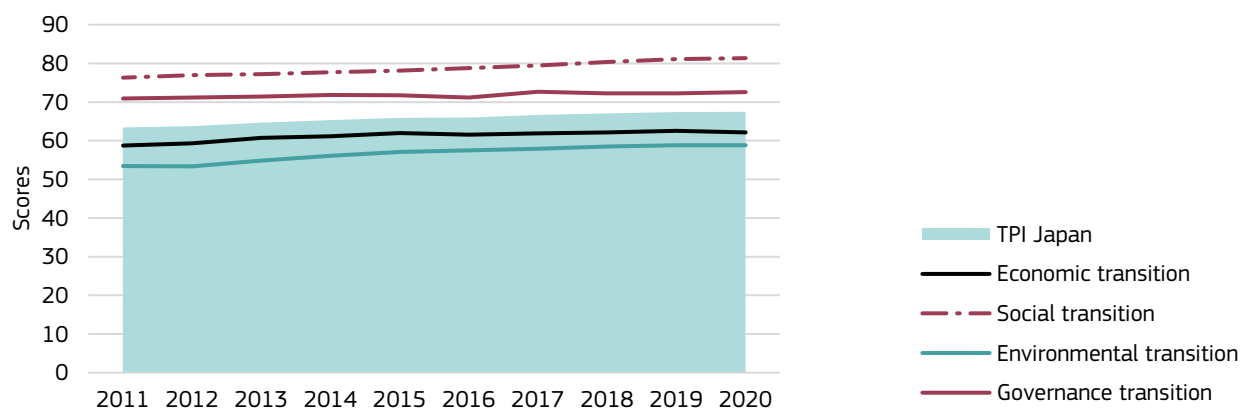| POPULATION (million inhabitants)	127.5	GDP PER CAPITA (current PPP$)	19 130.1
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	2 439.5	INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	37.0

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Mexico ranks	**65**	**53**	**60**	**26**	**71**
Mexico score	48.3	36.2	55.9	61.7	33.0
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
Latin America & Caribbean score	49.7	35.8	55.8	57.3	45.3
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Mexico score
- ••••• Upper middle income countries score
- – – Latin America & Caribbean score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Mexico
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021
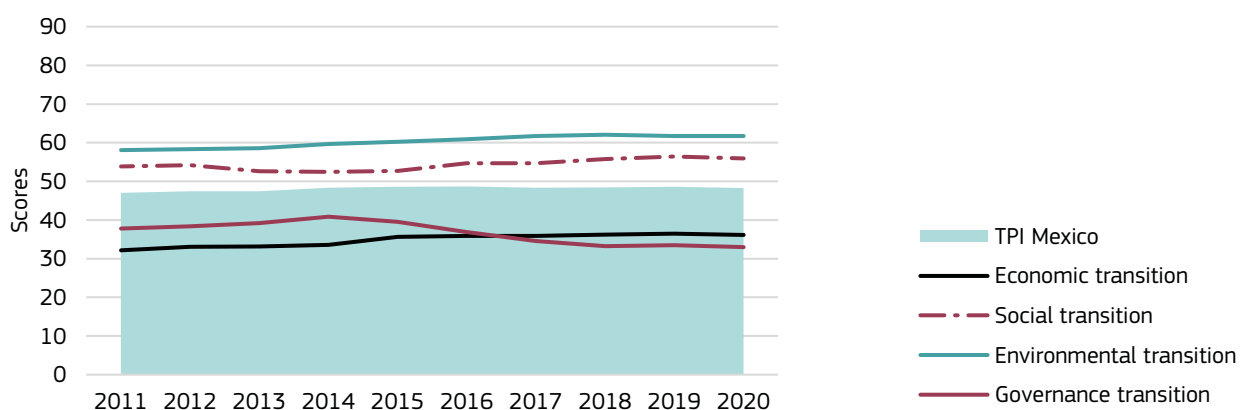
MEXICO

Index	Transitions Performance Index	VALUE	RANK	SCORE	SCORE PROGRESS
Index	**Transitions Performance Index**		**65**	**48.3**	–
1.	**Economic transition**		**53**	**36.2**	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	46.8	64	**46.8**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	7.8	64	**31.3**	↘
1.1.2	Internet users (%)	72.0	57	**72.0**	↑
1.1.3	Proportion of people with ICT skills (composite)	37.1	40	**37.1**	↘
1.2	WEALTH: GDP per capita, current dollars (PPP$)	19 130.1	49	**25.5**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	18.2	56	**18.2**	↘
1.3.1	Output per worker (2011 constant GDP PPP$)	45 126.9	48	**30.1**	–
1.3.2	Gross expenditure on R&D (% of GDP)	0.3	63	**6.3**	↓
1.4	INDUSTRIAL BASE	44.7	37	**44.7**	–
1.4.1	Gross value added of manufacturing (% of GDP)	17.2	17	**57.3**	↗
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.1	57	**25.7**	↓
2.	**Social transition**		**60**	**55.9**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	65.8	56	**69.2**	–
2.2	WORK AND INCLUSION	49.0	57	**49.0**	↓
2.2.1	Employment rate of the population aged 20-64 (%)	61.3	47	**42.6**	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	34.8	63	**50.3**	↗
2.2.3	Gross enrolment ratio, pre-primary (%)	72.8	53	**59.2**	↓
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	52.6	39	**68.3**	–
2.4	EQUALITY	43.3	67	**43.3**	↑
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	45.4	67	**43.6**	↑
2.4.2	Income share held by the poorest quintile (%)	5.4	60	**42.5**	↑
3.	**Environmental transition**		**26**	**61.7**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	5.4	20	**77.6**	–
3.2	BIODIVERSITY	51.3	43	**51.3**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	36.2	50	**36.2**	↗
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	50.0	37	**50.0**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	2.2	33	**84.2**	↘
3.3	MATERIAL USE	53.3	20	**53.3**	–
3.3.1	Resource productivity (PPP$ per kg)	1.9	37	**32.0**	↗
3.3.2	Material footprint (tonnes per capita)	10.2	15	**74.6**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	13.0	25	**64.9**	↑
4.	**Governance transition**		**71**	**33.0**	↓
4.1	FUNDAMENTAL RIGHTS	36.9	61	**36.9**	↓
4.1.1	Voice and accountability index (z-score)	(0.0)	53	**48.6**	↓
4.1.2	Rule of law Index (z-score)	(0.7)	68	**25.1**	↓
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	29.1	70	**5.7**	↓
4.3	TRANSPARENCY	41.9	61	**41.9**	↘
4.3.1	Corruption perceptions index (0-100)	31.0	68	**31.0**	↘
4.3.2	Basel anti-money laundering index (0-10)	5.1	52	**49.1**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	61.0	38	**76.8**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

MOLDOVA

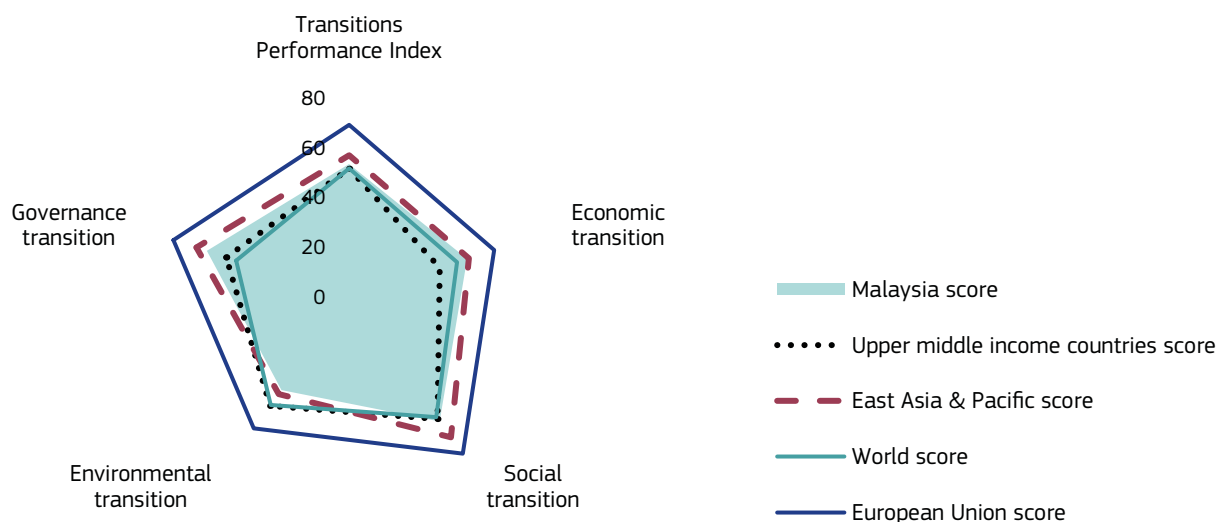|		
POPULATION (million inhabitants)	2.7	**GDP PER CAPITA** (current PPP$) 12 811.3
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	34.1	

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Moldova ranks	56	45	45	56	56
Moldova score	50.6	41.4	65.8	46.8	51.3
World score	51.5	45.4	59.4	53.4	47.6
Lower middle income countries score	49.7	30.5	55.8	59.1	46.8
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020
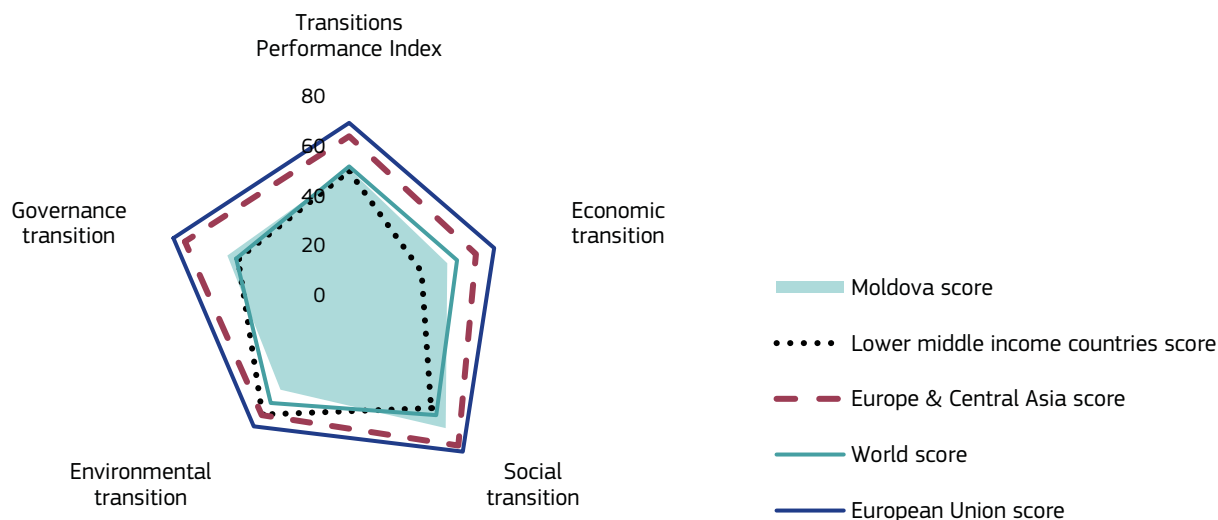
TRANSITIONS PROGRESS 2011-2020
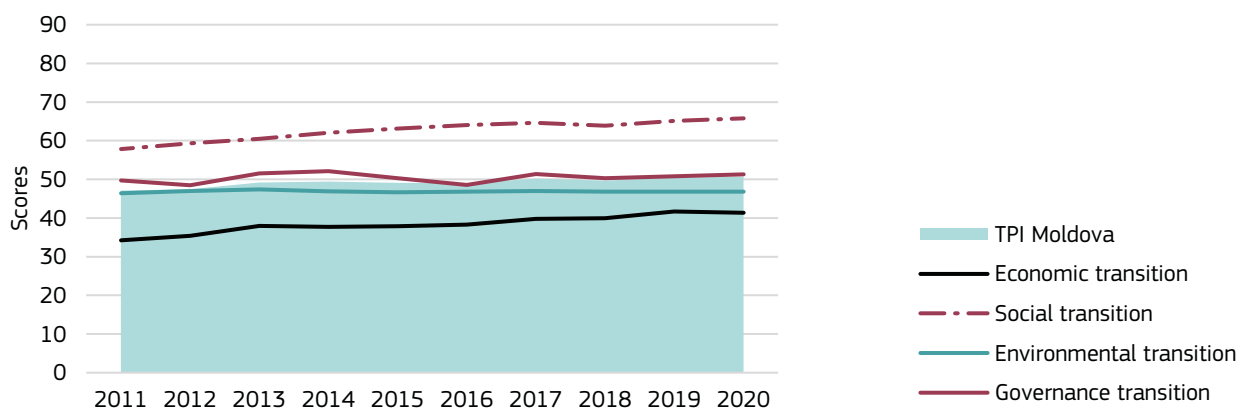
MOLDOVA

Index	Transitions Performance Index	2020 VALUE	RANK	SCORE	2011-2020 SCORE PROGRESS
Index	**Transitions Performance Index**		56	50.6	↗
1.	**Economic transition**		45	41.4	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	82.5	4	82.5	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	22.2	5	89.0	–
1.1.2	Internet users (%)	76.1	49	76.1	↑
1.1.3	Proportion of people with ICT skills (composite)	N/A	N/A	N/A	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	12 811.3	61	17.1	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	11.1	69	11.1	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	25 858.3	65	17.2	↑
1.3.2	Gross expenditure on R&D (% of GDP)	0.3	65	5.0	↓
1.4	INDUSTRIAL BASE	36.6	57	36.6	↘
1.4.1	Gross value added of manufacturing (% of GDP)	10.7	52	35.6	–
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.2	47	38.1	↓
2.	**Social transition**		45	65.8	↑
2.1	HEALTH: Healthy life expectancy at birth (years)	64.5	61	65.1	↑
2.2	WORK AND INCLUSION	52.0	55	52.0	–
2.2.1	Employment rate of the population aged 20-64 (%)	29.8	70	–	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	7.5	3	89.2	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	87.7	35	81.6	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	35.4	68	37.1	↗
2.4	EQUALITY	90.5	3	90.5	↑
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	25.7	4	87.3	↑
2.4.2	Income share held by the poorest quintile (%)	10.2	1	100.0	↑
3.	**Environmental transition**		56	46.8	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	3.3	7	86.4	↘
3.2	BIODIVERSITY	18.1	70	18.1	↘
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	–	72	–	↗
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	–	69	–	↗
3.2.3	Pesticide use per area of cropland (kg/ha)	1.3	22	90.4	↘
3.3	MATERIAL USE	52.8	22	52.8	↘
3.3.1	Resource productivity (PPP$ per kg)	0.9	68	15.0	↑
3.3.2	Material footprint (tonnes per capita)	3.8	4	90.6	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	6.0	66	30.0	↑
4.	**Governance transition**		56	51.3	–
4.1	FUNDAMENTAL RIGHTS	41.1	56	41.1	↘
4.1.1	Voice and accountability index (z-score)	(0.0)	54	48.1	↘
4.1.2	Rule of law Index (z-score)	(0.4)	62	34.1	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	4.1	58	54.9	↗
4.3	TRANSPARENCY	43.7	57	43.7	↗
4.3.1	Corruption perceptions index (0-100)	34.0	64	34.0	↘
4.3.2	Basel anti-money laundering index (0-10)	5.0	45	50.2	↑
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	34.8	7	93.7	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

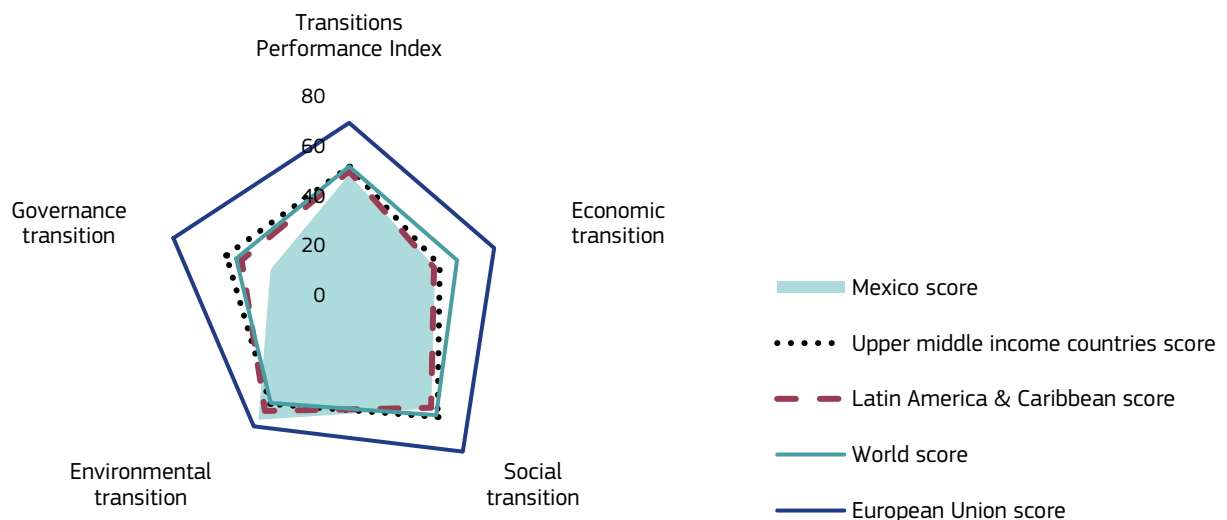*Source: European Commission, Transitions Performance Index 2021.*

MONTENEGRO

POPULATION (million inhabitants)	0.6	GDP PER CAPITA (current PPP$)	19 252.3
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	12.0		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Montenegro ranks	**58**	**64**	**55**	**53**	**50**
Montenegro score	49.9	31.1	60.0	49.9	57.0
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

Montenegro score
Upper middle income countries score
Europe & Central Asia score
World score
European Union score

TRANSITIONS PROGRESS 2011-2020

TPI Montenegro
Economic transition
Social transition
Environmental transition
Governance transition

TRANSITIONS PERFORMANCE INDEX 2021
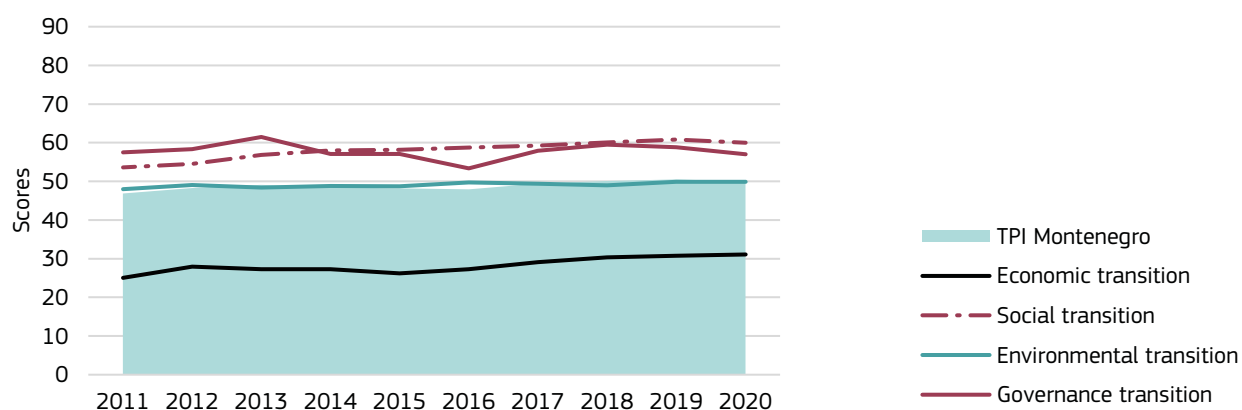
MONTENEGRO

Index		2020 VALUE	RANK	SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**58**	**49.9**	–
1.	**Economic transition**		**64**	**31.1**	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	63.7	37	**63.7**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	N/A	N/A	**N/A**	
1.1.2	Internet users (%)	81.4	40	**81.4**	↑
1.1.3	Proportion of people with ICT skills (composite)	46.0	24	**46.0**	↑
1.2	WEALTH: GDP per capita, current dollars (PPP$)	19 252.3	47	**25.7**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	23.3	46	**23.3**	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	54 910.7	44	**36.6**	–
1.3.2	Gross expenditure on R&D (% of GDP)	0.5	57	**10.0**	↑
1.4	INDUSTRIAL BASE	7.4	72	**7.4**	↓
1.4.1	Gross value added of manufacturing (% of GDP)	3.7	72	**12.3**	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	–	72	**-**	↓
2.	**Social transition**		**55**	**60.0**	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	67.0	44	**73.2**	–
2.2	WORK AND INCLUSION	55.3	52	**55.3**	↑
2.2.1	Employment rate of the population aged 20-64 (%)	55.2	56	**30.4**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	15.8	37	**77.4**	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	74.0	52	**61.0**	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	47.0	58	**58.1**	↑
2.4	EQUALITY	54.2	56	**54.2**	↑
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	38.5	54	**58.9**	↗
2.4.2	Income share held by the poorest quintile (%)	5.2	63	**40.0**	↑
3.	**Environmental transition**		**53**	**49.9**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	6.1	25	**74.8**	–
3.2	BIODIVERSITY	41.4	56	**41.4**	↓
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	25.9	60	**25.9**	↑
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	49.2	39	**49.2**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	6.1	56	**56.6**	↓
3.3	MATERIAL USE	28.8	62	**28.8**	↘
3.3.1	Resource productivity (PPP$ per kg)	1.5	49	**24.3**	↑
3.3.2	Material footprint (tonnes per capita)	26.7	53	**33.2**	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	10.9	41	**54.5**	↑
4.	**Governance transition**		**50**	**57.0**	↘
4.1	FUNDAMENTAL RIGHTS	52.0	47	**52.0**	↘
4.1.1	Voice and accountability index (z-score)	0.0	52	**51.7**	↓
4.1.2	Rule of law Index (z-score)	0.1	46	**52.4**	–
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	2.2	49	**67.5**	↑
4.3	TRANSPARENCY	54.8	35	**54.8**	↗
4.3.1	Corruption perceptions index (0-100)	45.0	43	**45.0**	↗
4.3.2	Basel anti-money laundering index (0-10)	3.9	15	**61.3**	↗
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	107.2	61	**47.0**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

MOROCCO

POPULATION (million inhabitants)	**36.3**	
GDP PER CAPITA (current PPP$)	**7 619.9**	
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**276.4**	

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Morocco ranks	**48**	**56**	**69**	**12**	**53**
Morocco score	53.3	34.0	47.5	67.4	53.7
World score	51.5	45.4	59.4	53.4	47.6
Lower middle income countries score	49.7	30.5	55.8	59.1	46.8
Middle East & North Africa score	53.5	44.4	58.3	54.4	55.9
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

Legend:
- Morocco score
- Lower middle income countries score
- Middle East & North Africa score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

Legend:
- TPI Morocco
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021

MOROCCO

Index	Transitions Performance Index	VALUE	RANK	SCORE	2011-2020 SCORE PROGRESS	
Index	**Transitions Performance Index**		**48**	**53.3**	−	
1.	**Economic transition**		**56**	**34.0**	↑	
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	57.7	45	**57.7**	↑	
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	11.6	49	**46.3**	−	
1.1.2	Internet users (%)	84.1	34	**84.1**	↑	
1.1.3	Proportion of people with ICT skills (composite)	42.7	30	**42.7**	↘	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	7 619.9	69	**10.2**	↗	
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	16.9	59	**16.9**	↑	
1.3.1	Output per worker (2011 constant GDP PPP$)	25 322.3	66	**16.9**	↑	
1.3.2	Gross expenditure on R&D (% of GDP)	N/A	N/A	**N/A**		
1.4	INDUSTRIAL BASE	37.5	55	**37.5**	−	
1.4.1	Gross value added of manufacturing (% of GDP)	14.8	26	**49.3**	↘	
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.0	60	**19.7**	↑	
2.	**Social transition**		**69**	**47.5**	−	
2.1	HEALTH: Healthy life expectancy at birth (years)	63.7	65	**62.3**	−	
2.2	WORK AND INCLUSION	25.1	67	**25.1**	−	
2.2.1	Employment rate of the population aged 20-64 (%)	50.8	59	**21.5**	↘	
2.2.2	Employment-to-population ratio gender gap 25+ (%)	52.4	67	**25.2**	−	
2.2.3	Gross enrolment ratio, pre-primary (%)	54.9	60	**32.3**	−	
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	34.0	69	**34.5**	↘	
2.4	EQUALITY	57.2	55	**57.2**	−	
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	39.5	57	**56.7**	−	
2.4.2	Income share held by the poorest quintile (%)	6.7	45	**58.8**	−	
3.	**Environmental transition**		**12**	**67.4**	−	
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	2.6	5	**89.1**	↘	
3.2	BIODIVERSITY	54.8	35	**54.8**	−	
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	38.5	44	**38.5**	−	
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	54.3	33	**54.3**	−	
3.2.3	Pesticide use per area of cropland (kg/ha)	1.6	25	**88.6**	↘	
3.3	MATERIAL USE	53.0	21	**53.0**	↘	
3.3.1	Resource productivity (PPP$ per kg)	0.9	66	**15.7**	↘	
3.3.2	Material footprint (tonnes per capita)	3.9	5	**90.3**	↘	
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	14.5	16	**72.5**	↗	
4.	**Governance transition**		**53**	**53.7**	−	
4.1	FUNDAMENTAL RIGHTS	36.8	62	**36.8**	↑	
4.1.1	Voice and accountability index (z-score)	(0.6)	62	**27.1**	↑	
4.1.2	Rule of law Index (z-score)	(0.1)	52	**46.5**	↑	
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.4	38	**75.6**	↘	
4.3	TRANSPARENCY	44.1	56	**44.1**	↗	
4.3.1	Corruption perceptions index (0-100)	40.0	51	**40.0**	↗	
4.3.2	Basel anti-money laundering index (0-10)	5.3	57	**46.8**	↑	
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	75.4	48	**67.5**	↓	

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[▢ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, − between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

NEW ZEALAND

POPULATION (million inhabitants)	5.1	GDP PER CAPITA (current PPP$)	42 018.1
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	215.9	INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	54.0

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
New Zealand ranks	**33**	**26**	**20**	**64**	**2**
New Zealand score	60.9	55.8	78.0	36.7	85.1
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
East Asia & Pacific score	56.8	50.5	69.3	48.1	64.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- New Zealand score
- High income countries score
- East Asia & Pacific score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI New Zealand
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021
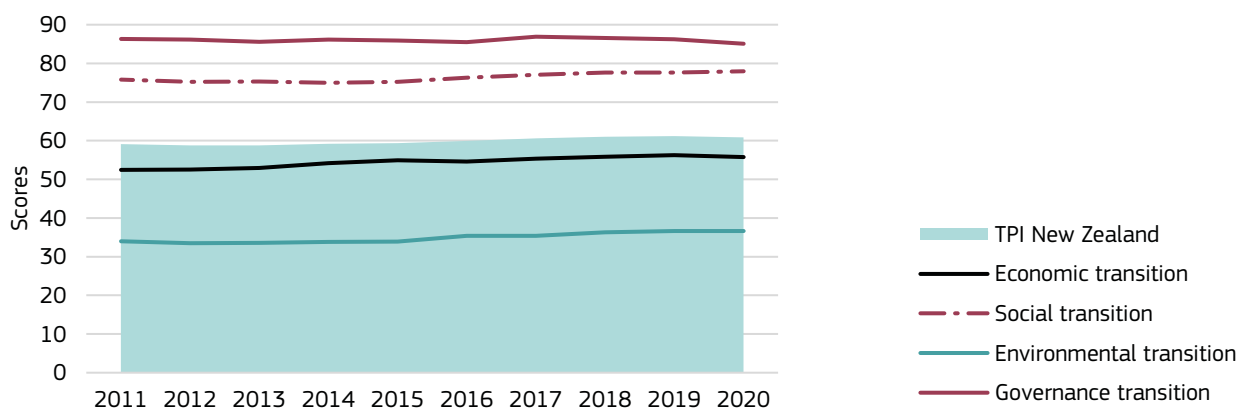
NEW ZEALAND

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011-2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**33**	**60.9**	–
1.	**Economic transition**		**26**	**55.8**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	73.5	20	**73.5**	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	14.0	35	**56.1**	↘
1.1.2	Internet users (%)	90.8	18	**90.8**	↗
1.1.3	Proportion of people with ICT skills (composite)	N/A	N/A	**N/A**	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	42 018.1	24	**56.0**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	40.8	28	**40.8**	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	82 099.8	27	**54.7**	↗
1.3.2	Gross expenditure on R&D (% of GDP)	1.3	27	**26.9**	↗
1.4	INDUSTRIAL BASE	48.0	30	**48.0**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	10.0	55	**33.3**	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	1.7	23	**70.0**	↘
2.	**Social transition**		**20**	**78.0**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	70.2	27	**84.1**	–
2.2	WORK AND INCLUSION	89.1	1	**89.1**	↑
2.2.1	Employment rate of the population aged 20-64 (%)	87.0	2	**94.0**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	11.7	21	**83.2**	–
2.2.3	Gross enrolment ratio, pre-primary (%)	94.2	21	**91.2**	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	60.1	11	**82.0**	↗
2.4	EQUALITY	64.9	42	**64.9**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	34.9	39	**66.9**	↘
2.4.2	Income share held by the poorest quintile (%)	6.7	45	**58.8**	–
3.	**Environmental transition**		**64**	**36.7**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	17.1	65	**28.6**	↑
3.2	BIODIVERSITY	36.7	62	**36.7**	↗
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	46.5	37	**46.5**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	24.6	60	**24.6**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	8.2	61	**41.4**	↑
3.3	MATERIAL USE	33.9	56	**33.9**	↘
3.3.1	Resource productivity (PPP$ per kg)	1.7	42	**28.9**	↑
3.3.2	Material footprint (tonnes per capita)	24.5	47	**38.8**	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	9.5	48	**47.5**	↑
4.	**Governance transition**		**2**	**85.1**	↘
4.1	FUNDAMENTAL RIGHTS	95.8	3	**95.8**	–
4.1.1	Voice and accountability index (z-score)	1.6	3	**94.5**	–
4.1.2	Rule of law Index (z-score)	1.9	3	**97.0**	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.7	17	**84.6**	–
4.3	TRANSPARENCY	74.0	4	**74.0**	↘
4.3.1	Corruption perceptions index (0-100)	88.0	1	**88.0**	↘
4.3.2	Basel anti-money laundering index (0-10)	3.5	9	**64.7**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	43.6	20	**88.0**	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

NIGERIA

POPULATION (million inhabitants)	206.1	GDP PER CAPITA (current PPP$)	5 186.8
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	1 069.0		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Nigeria ranks	**70**	**71**	**66**	**16**	**72**
Nigeria score	43.4	20.8	48.3	66.1	25.9
World score	51.5	45.4	59.4	53.4	47.6
Lower middle income countries score	49.7	30.5	55.8	59.1	46.8
Sub-Saharan Africa score	42.9	25.3	45.6	56.6	35.5
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Nigeria score
- Lower middle income countries score
- Sub-Saharan Africa score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Nigeria
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021
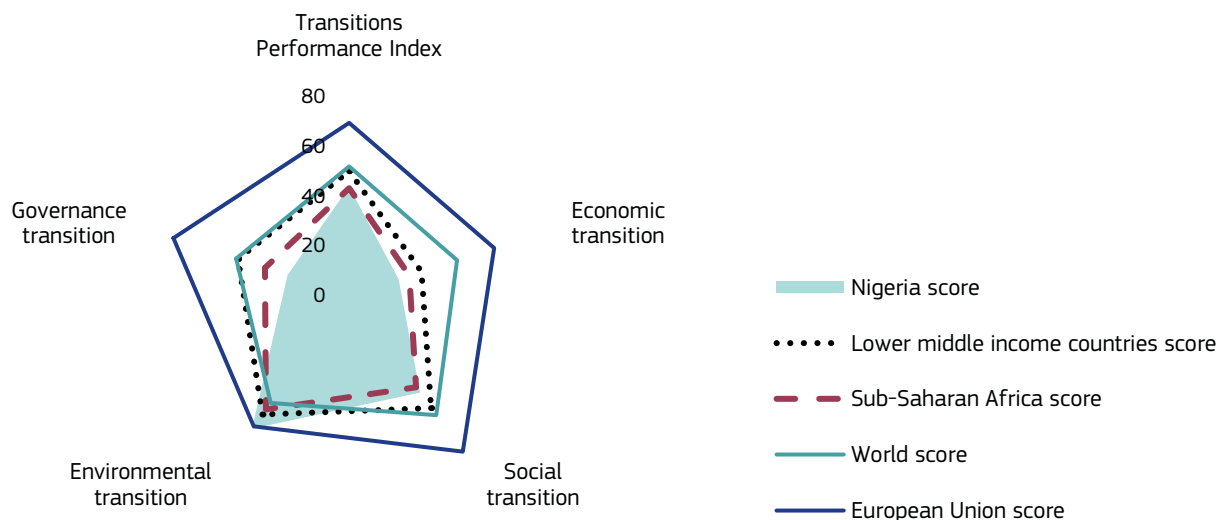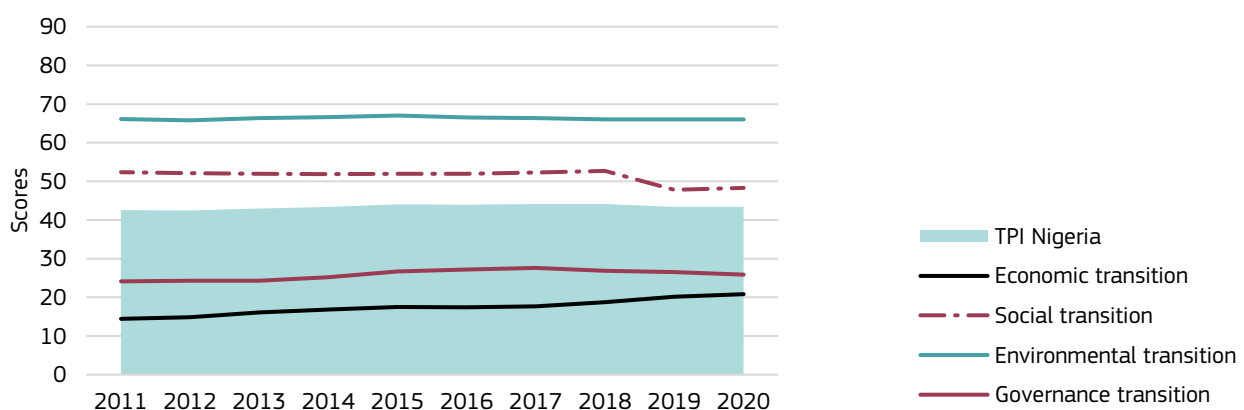
NIGERIA

Index	Transitions Performance Index	VALUE	RANK	SCORE	SCORE PROGRESS
Index	Transitions Performance Index		70	43.4	–
1.	**Economic transition**		71	20.8	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	28.3	72	28.3	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	5.7	68	22.9	↑
1.1.2	Internet users (%)	33.6	71	33.6	↑
1.1.3	Proportion of people with ICT skills (composite)	N/A	N/A	N/A	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	5 186.8	71	6.9	–
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	15.4	61	15.4	↓
1.3.1	Output per worker (2011 constant GDP PPP$)	17 846.5	70	11.9	↑
1.3.2	Gross expenditure on R&D (% of GDP)	0.9	40	18.8	↓
1.4	INDUSTRIAL BASE	26.2	69	26.2	↑
1.4.1	Gross value added of manufacturing (% of GDP)	12.7	38	42.2	↑
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.0	71	2.1	↘
2.	**Social transition**		66	48.3	↘
2.1	HEALTH: Healthy life expectancy at birth (years)	54.4	72	31.3	↑
2.2	WORK AND INCLUSION	39.4	63	39.4	↓
2.2.1	Employment rate of the population aged 20-64 (%)	41.5	68	3.1	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	17.0	41	75.8	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	N/A	N/A	N/A	
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	41.3	63	47.7	↘
2.4	EQUALITY	65.8	40	65.8	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	35.1	41	66.4	–
2.4.2	Income share held by the poorest quintile (%)	7.1	38	63.8	–
3.	**Environmental transition**		16	66.1	↘
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	1.6	2	93.4	↘
3.2	BIODIVERSITY	77.1	19	77.1	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	80.4	15	80.4	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	73.7	25	73.7	–
3.2.3	Pesticide use per area of cropland (kg/ha)	N/A	N/A	N/A	
3.3	MATERIAL USE	59.0	8	59.0	↘
3.3.1	Resource productivity (PPP$ per kg)	1.5	46	24.8	↓
3.3.2	Material footprint (tonnes per capita)	2.7	1	93.2	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	7.0	63	34.8	↗
4.	**Governance transition**		72	25.9	↗
4.1	FUNDAMENTAL RIGHTS	24.4	68	24.4	↑
4.1.1	Voice and accountability index (z-score)	(0.6)	61	27.9	↑
4.1.2	Rule of law Index (z-score)	(0.8)	71	20.8	↑
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	34.5	71	1.1	–
4.3	TRANSPARENCY	29.6	70	29.6	–
4.3.1	Corruption perceptions index (0-100)	25.0	71	25.0	↘
4.3.2	Basel anti-money laundering index (0-10)	6.7	68	32.7	↑
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	35.0	8	93.5	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[▫ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
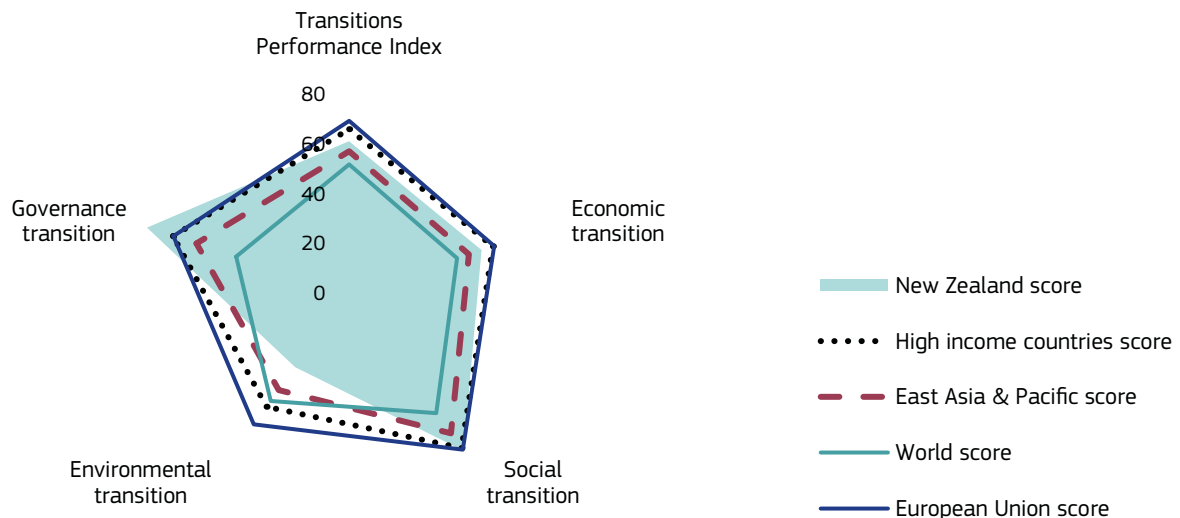*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

NORTH MACEDONIA

POPULATION (million inhabitants)	2.1	GDP PER CAPITA (current PPP$)	16 712.0
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	34.7		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
North Macedonia ranks	**39**	**57**	**52**	**23**	**41**
North Macedonia score	56.7	33.7	61.7	63.3	61.8
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

North Macedonia score

•••• Upper middle income countries score

– – Europe & Central Asia score

World score

European Union score

TRANSITIONS PROGRESS 2011-2020

TPI North Macedonia

Economic transition

Social transition

Environmental transition

Governance transition
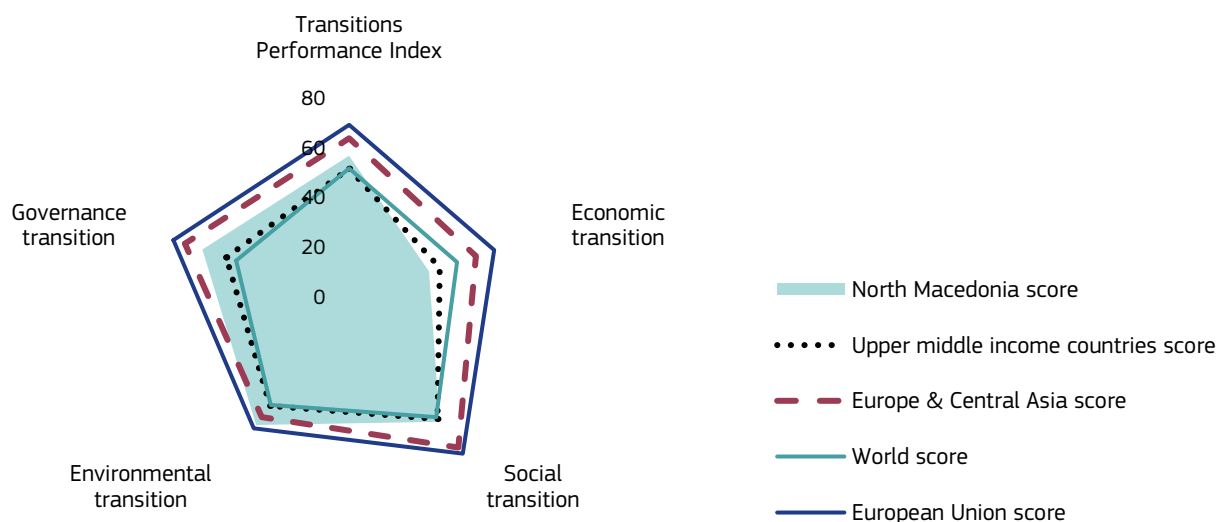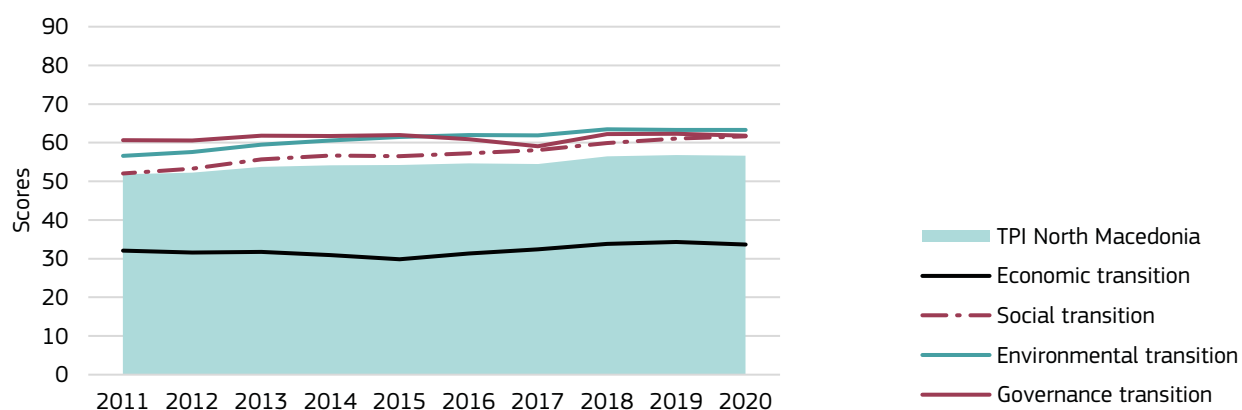
NORTH MACEDONIA

Index	Transitions Performance Index	VALUE	2020 RANK	SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		39	56.7	↗
1.	**Economic transition**		57	33.7	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	54.3	53	54.3	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	N/A	N/A	N/A	
1.1.2	Internet users (%)	81.4	39	81.4	↑
1.1.3	Proportion of people with ICT skills (composite)	27.2	46	27.2	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	16 712.0	52	22.3	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	18.0	57	18.0	↘
1.3.1	Output per worker (2011 constant GDP PPP$)	43 009.0	53	28.7	↘
1.3.2	Gross expenditure on R&D (% of GDP)	0.4	61	7.4	↓
1.4	INDUSTRIAL BASE	31.1	67	31.1	↘
1.4.1	Gross value added of manufacturing (% of GDP)	12.5	39	41.7	↗
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.0	65	15.3	↓
2.	**Social transition**		52	61.7	↑
2.1	HEALTH: Healthy life expectancy at birth (years)	66.1	53	70.5	–
2.2	WORK AND INCLUSION	46.1	59	46.1	↑
2.2.1	Employment rate of the population aged 20-64 (%)	59.1	53	38.2	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	20.5	51	70.7	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	41.8	64	12.7	↗
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	47.1	57	58.4	↗
2.4	EQUALITY	66.1	39	66.1	↑
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	33.0	31	71.1	↑
2.4.2	Income share held by the poorest quintile (%)	6.1	54	51.3	↑
3.	**Environmental transition**		23	63.3	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	5.0	16	79.0	–
3.2	BIODIVERSITY	66.9	28	66.9	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	24.4	62	24.4	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	93.6	8	93.6	–
3.2.3	Pesticide use per area of cropland (kg/ha)	0.2	3	98.5	–
3.3	MATERIAL USE	48.2	33	48.2	↗
3.3.1	Resource productivity (PPP$ per kg)	1.9	40	30.9	↑
3.3.2	Material footprint (tonnes per capita)	13.8	23	65.6	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	11.8	33	59.0	↑
4.	**Governance transition**		41	61.8	–
4.1	FUNDAMENTAL RIGHTS	49.8	49	49.8	↗
4.1.1	Voice and accountability index (z-score)	0.1	49	52.2	↗
4.1.2	Rule of law Index (z-score)	(0.1)	49	47.4	↑
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.2	30	78.2	–
4.3	TRANSPARENCY	50.4	43	50.4	–
4.3.1	Corruption perceptions index (0-100)	35.0	62	35.0	↓
4.3.2	Basel anti-money laundering index (0-10)	3.9	16	60.6	↗
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	51.3	26	83.1	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

NORWAY

POPULATION (million inhabitants)	5.4	GDP PER CAPITA (current PPP$)	65 800.1
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	354.5	INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	64.0

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Norway ranks	**8**	**13**	**3**	**44**	**1**
Norway score	71.3	67.3	85.8	54.2	86.8
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Norway score
- High income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Norway
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021

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NORWAY

Index	Transitions Performance Index	2020 VALUE	RANK	SCORE	2011-2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**8**	**71.3**	–
1.	**Economic transition**		**13**	**67.3**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	81.2	5	**81.2**	–
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	18.7	18	**74.8**	↑
1.1.2	Internet users (%)	97.0	5	**97.0**	–
1.1.3	Proportion of people with ICT skills (composite)	71.8	6	**71.8**	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	65 800.1	5	**87.7**	–
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	62.9	11	**62.9**	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	124 140.3	5	**82.8**	–
1.3.2	Gross expenditure on R&D (% of GDP)	2.2	15	**43.0**	↑
1.4	INDUSTRIAL BASE	42.6	40	**42.6**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	6.7	67	**22.3**	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	2.2	18	**73.0**	–
2.	**Social transition**		**3**	**85.8**	↘
2.1	HEALTH: Healthy life expectancy at birth (years)	71.4	15	**87.9**	–
2.2	WORK AND INCLUSION	85.5	5	**85.5**	↘
2.2.1	Employment rate of the population aged 20-64 (%)	78.8	10	**77.6**	↘
2.2.2	Employment-to-population ratio gender gap 25+ (%)	7.7	5	**89.0**	–
2.2.3	Gross enrolment ratio, pre-primary (%)	96.0	16	**94.0**	↘
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	62.9	6	**87.1**	–
2.4	EQUALITY	83.9	12	**83.9**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	27.6	10	**83.1**	↘
2.4.2	Income share held by the poorest quintile (%)	8.9	12	**86.3**	↘
3.	**Environmental transition**		**44**	**54.2**	↑
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	9.7	49	**59.6**	↗
3.2	BIODIVERSITY	67.2	27	**67.2**	↗
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	56.5	33	**56.5**	↗
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	64.3	29	**64.3**	↑
3.2.3	Pesticide use per area of cropland (kg/ha)	0.8	14	**94.6**	–
3.3	MATERIAL USE	20.4	70	**20.4**	↓
3.3.1	Resource productivity (PPP$ per kg)	2.1	30	**35.7**	↘
3.3.2	Material footprint (tonnes per capita)	37.9	68	**5.2**	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	13.9	21	**69.5**	↑
4.	**Governance transition**		**1**	**86.8**	–
4.1	FUNDAMENTAL RIGHTS	96.7	1	**96.7**	–
4.1.1	Voice and accountability index (z-score)	1.7	1	**95.8**	–
4.1.2	Rule of law Index (z-score)	2.0	2	**97.6**	–
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.5	6	**89.4**	↑
4.3	TRANSPARENCY	73.5	6	**73.5**	↓
4.3.1	Corruption perceptions index (0-100)	84.0	7	**84.0**	↘
4.3.2	Basel anti-money laundering index (0-10)	3.4	5	**66.5**	↓
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	41.4	16	**89.4**	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[▢ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
Source: European Commission, Transitions Performance Index 2021.

PHILIPPINES

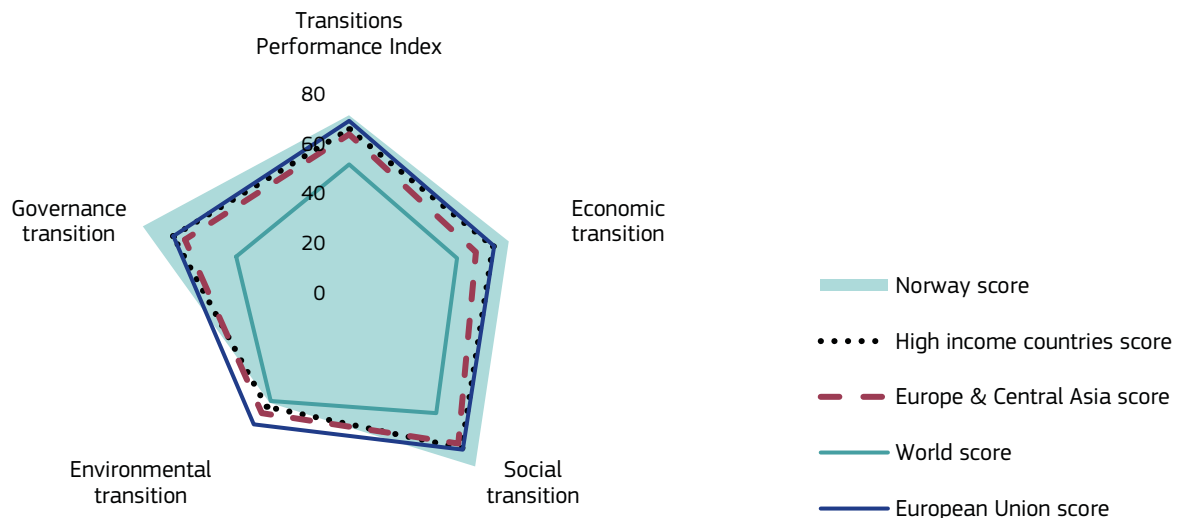|		
POPULATION (million inhabitants)	**108.8**	**GDP PER CAPITA** (current PPP$) **8 452.4**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**919.3**	

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Philippines ranks	**51**	**70**	**62**	**8**	**63**
Philippines score	52.1	26.8	55.1	70.3	44.7
World score	51.5	45.4	59.4	53.4	47.6
Lower middle income countries score	49.7	30.5	55.8	59.1	46.8
East Asia & Pacific score	56.8	50.5	69.3	48.1	64.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100]　■ Strong transition [65-75[　■ Good transition [55-65[　■ Moderate transition [45-55[　■ Weak transition [0-45[

TPI SCORES 2020

- Philippines score
- Lower middle income countries score
- East Asia & Pacific score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Philippines
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021
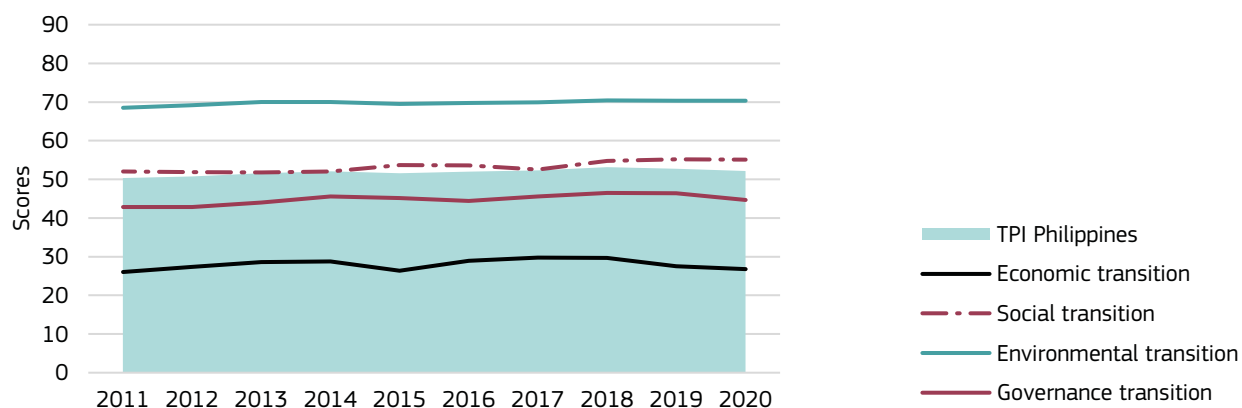
PHILIPPINES

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		51	52.1	–
1.	**Economic transition**		70	26.8	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	33.7	70	33.7	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	5.1	69	20.5	–
1.1.2	Internet users (%)	46.9	69	46.9	↑
1.1.3	Proportion of people with ICT skills (composite)	N/A	N/A	N/A	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	8 452.4	68	11.3	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	8.8	72	8.8	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	21 831.7	68	14.6	↑
1.3.2	Gross expenditure on R&D (% of GDP)	0.2	71	3.1	↑
1.4	INDUSTRIAL BASE	42.3	42	42.3	↓
1.4.1	Gross value added of manufacturing (% of GDP)	17.7	16	58.9	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.0	61	17.3	↓
2.	**Social transition**		62	55.1	–
2.1	HEALTH: Healthy life expectancy at birth (years)	62.0	68	56.7	–
2.2	WORK AND INCLUSION	58.4	49	58.4	↘
2.2.1	Employment rate of the population aged 20-64 (%)	60.0	51	39.9	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	30.6	61	56.2	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	99.8	11	99.7	↘
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	46.3	60	57.0	–
2.4	EQUALITY	51.0	61	51.0	↑
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	42.3	64	50.4	↑
2.4.2	Income share held by the poorest quintile (%)	6.2	51	52.5	↑
3.	**Environmental transition**		8	70.3	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	2.2	3	90.9	↘
3.2	BIODIVERSITY	53.3	38	53.3	↘
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	41.6	40	41.6	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	49.8	38	49.8	–
3.2.3	Pesticide use per area of cropland (kg/ha)	2.3	36	83.8	↘
3.3	MATERIAL USE	61.6	4	61.6	↗
3.3.1	Resource productivity (PPP$ per kg)	2.1	34	34.2	↑
3.3.2	Material footprint (tonnes per capita)	4.4	6	89.0	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	15.1	12	75.3	–
4.	**Governance transition**		63	44.7	–
4.1	FUNDAMENTAL RIGHTS	37.5	60	37.5	↘
4.1.1	Voice and accountability index (z-score)	(0.1)	55	45.9	↘
4.1.2	Rule of law Index (z-score)	(0.6)	65	29.1	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	6.5	66	44.3	↑
4.3	TRANSPARENCY	39.5	64	39.5	–
4.3.1	Corruption perceptions index (0-100)	34.0	64	34.0	–
4.3.2	Basel anti-money laundering index (0-10)	5.7	62	43.1	↗
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	51.7	27	82.8	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

RUSSIA

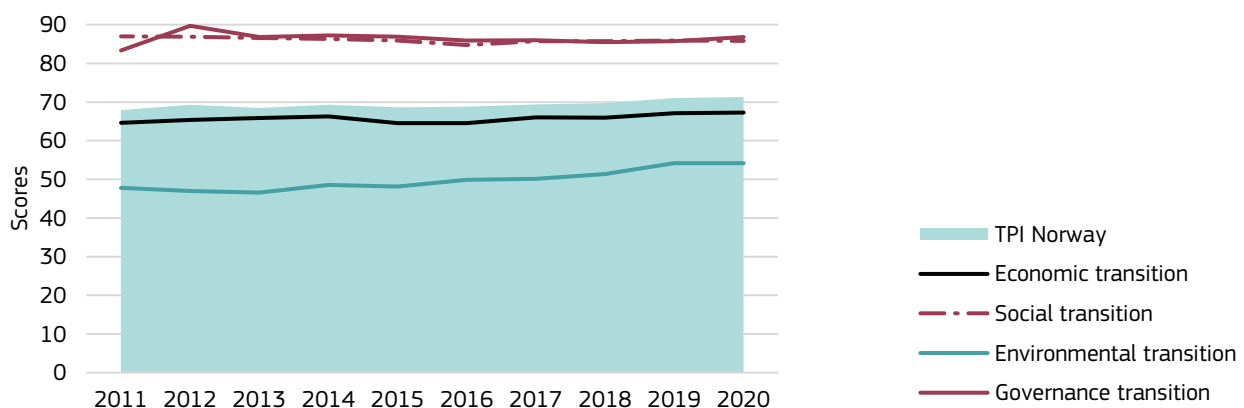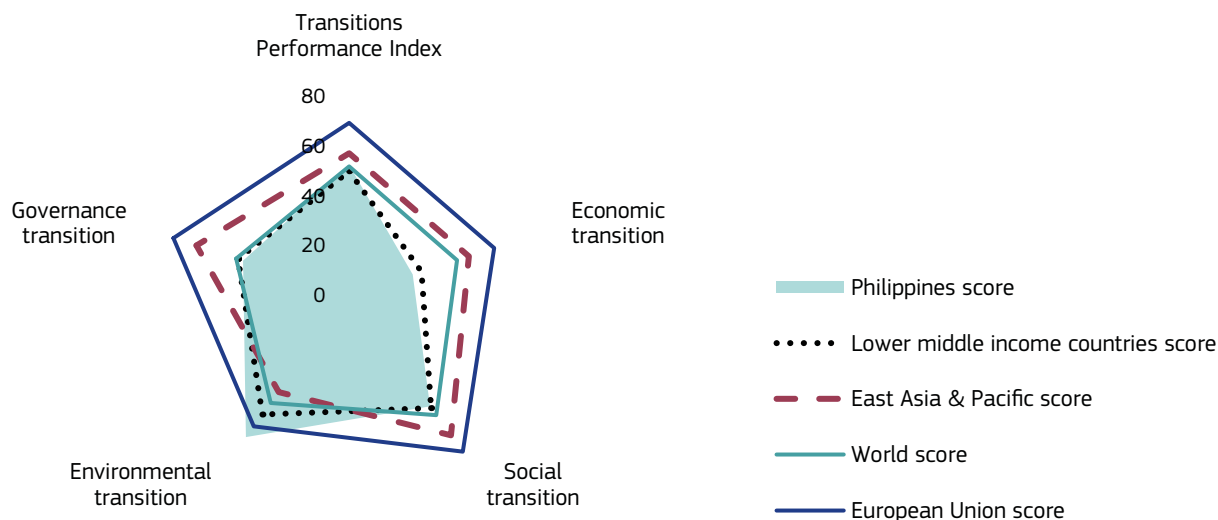|			
POPULATION (million inhabitants)	147.0	**GDP PER CAPITA** (current PPP$)	27 903.3
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	4 100.5	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)**	43.0

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Russia ranks	**69**	**46**	**42**	**67**	**67**
Russia score	43.7	41.0	66.8	35.5	38.7
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Russia score
- ..... Upper middle income countries score
- – – Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Russia
- Economic transition
- Social transition
- Environmental transition
- Governance transition
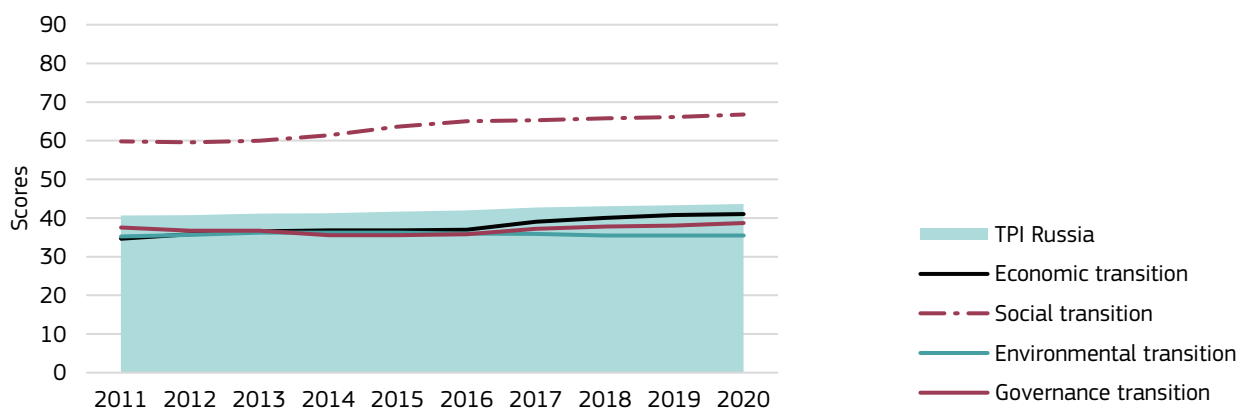
RUSSIA

Index	Transitions Performance Index	VALUE	RANK	SCORE	SCORE PROGRESS
Index	**Transitions Performance Index**		69	**43.7**	↗
1.	**Economic transition**		46	**41.0**	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	50.6	56	**50.6**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	10.6	52	**42.4**	↓
1.1.2	Internet users (%)	85.0	32	**85.0**	↑
1.1.3	Proportion of people with ICT skills (composite)	24.4	49	**24.4**	↑
1.2	WEALTH: GDP per capita, current dollars (PPP$)	27 903.3	41	**37.2**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	29.2	41	**29.2**	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	56 659.1	43	**37.8**	↑
1.3.2	Gross expenditure on R&D (% of GDP)	1.0	37	**20.6**	–
1.4	INDUSTRIAL BASE	41.9	43	**41.9**	↗
1.4.1	Gross value added of manufacturing (% of GDP)	13.3	34	**44.2**	↑
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.2	46	**38.4**	↘
2.	**Social transition**		42	**66.8**	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	64.2	63	**64.0**	↑
2.2	WORK AND INCLUSION	76.0	29	**76.0**	↗
2.2.1	Employment rate of the population aged 20-64 (%)	77.0	17	**74.0**	↗
2.2.2	Employment-to-population ratio gender gap 25+ (%)	16.6	40	**76.3**	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	86.3	36	**79.5**	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	53.4	37	**69.8**	↗
2.4	EQUALITY	61.8	49	**61.8**	↗
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	37.5	52	**61.1**	↗
2.4.2	Income share held by the poorest quintile (%)	7.1	38	**63.8**	↑
3.	**Environmental transition**		67	**35.5**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	17.5	66	**27.3**	–
3.2	BIODIVERSITY	39.6	60	**39.6**	↘
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	25.1	61	**25.1**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	26.2	59	**26.2**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	0.6	10	**95.5**	↘
3.3	MATERIAL USE	50.8	24	**50.8**	↘
3.3.1	Resource productivity (PPP$ per kg)	1.6	45	**26.2**	–
3.3.2	Material footprint (tonnes per capita)	9.8	14	**75.4**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	4.8	70	**24.2**	–
4.	**Governance transition**		67	**38.7**	–
4.1	FUNDAMENTAL RIGHTS	18.2	70	**18.2**	↓
4.1.1	Voice and accountability index (z-score)	(1.1)	65	**14.1**	↓
4.1.2	Rule of law Index (z-score)	(0.8)	69	**22.4**	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	8.2	67	**38.5**	↑
4.3	TRANSPARENCY	39.1	65	**39.1**	↘
4.3.1	Corruption perceptions index (0-100)	30.0	70	**30.0**	↗
4.3.2	Basel anti-money laundering index (0-10)	5.5	61	**45.1**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	19.3	1	**100.0**	–

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
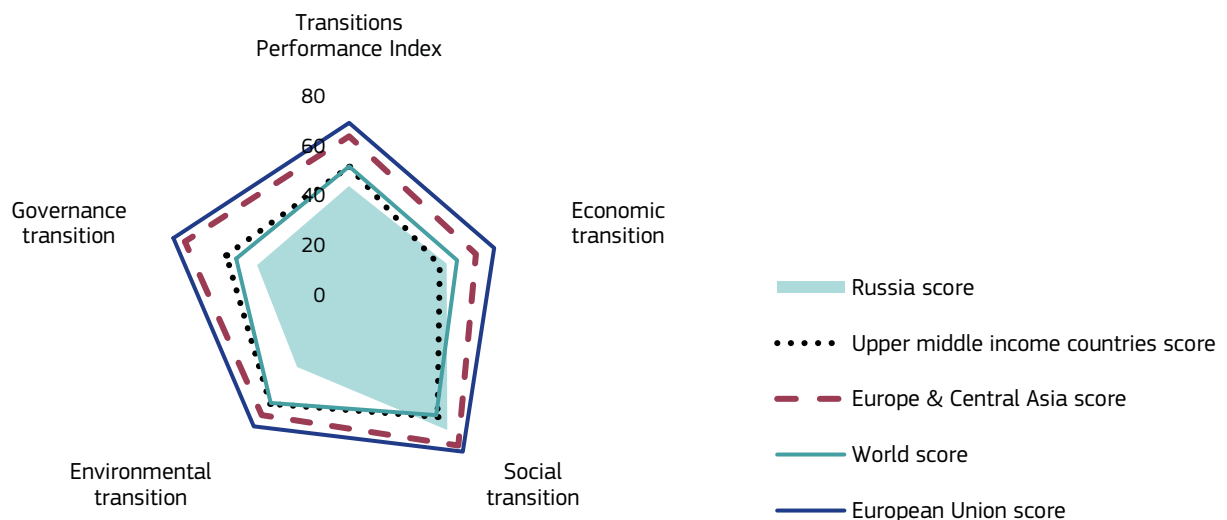*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

SAUDI ARABIA

POPULATION (million inhabitants)	34.8	**GDP PER CAPITA** (current PPP$)	46 810.6
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	1 627.8		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Saudi Arabia ranks	**66**	**23**	**71**	**65**	**47**
Saudi Arabia score	46.4	57.0	39.8	36.1	57.6
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Middle East & North Africa score	53.5	44.4	58.3	54.4	55.9
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Saudi Arabia score
- High income countries score
- Middle East & North Africa score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Saudi Arabia
- Economic transition
- Social transition
- Environmental transition
- Governance transition
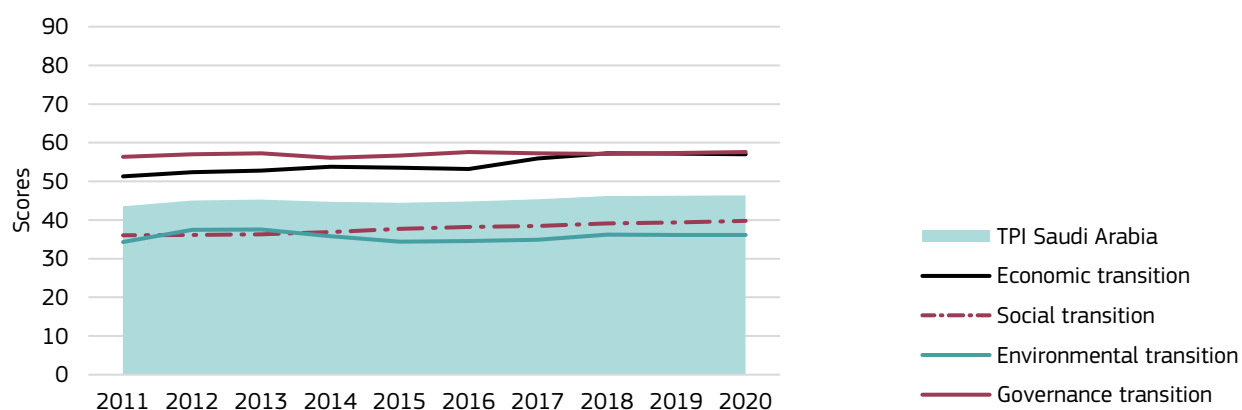
SAUDI ARABIA

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011-2020 SCORE PROGRESS
	Transitions Performance Index		66	46.4	↗
1.	**Economic transition**		23	57.0	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	73.6	18	73.6	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	12.4	43	49.7	–
1.1.2	Internet users (%)	97.9	4	97.9	↑
1.1.3	Proportion of people with ICT skills (composite)	73.3	3	73.3	↑
1.2	WEALTH: GDP per capita, current dollars (PPP$)	46 810.6	18	62.4	↓
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	47.9	23	47.9	↓
1.3.1	Output per worker (2011 constant GDP PPP$)	119 151.0	8	79.4	↓
1.3.2	Gross expenditure on R&D (% of GDP)	0.8	46	16.3	↘
1.4	INDUSTRIAL BASE	42.8	39	42.8	↑
1.4.1	Gross value added of manufacturing (% of GDP)	13.0	35	43.2	↑
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.2	42	42.1	↑
2.	**Social transition**		71	39.8	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	64.0	64	63.4	↗
2.2	WORK AND INCLUSION	19.1	69	19.1	↑
2.2.1	Employment rate of the population aged 20-64 (%)	60.2	50	40.5	↗
2.2.2	Employment-to-population ratio gender gap 25+ (%)	65.0	72	7.2	↑
2.2.3	Gross enrolment ratio, pre-primary (%)	21.5	67	-	↗
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	39.7	65	44.9	↑
2.4	EQUALITY	31.8	69	31.8	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	45.9	68	42.4	–
2.4.2	Income share held by the poorest quintile (%)	1.4	72	-	↗
3.	**Environmental transition**		65	36.1	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	18.9	68	21.1	↘
3.2	BIODIVERSITY	31.7	66	31.7	↘
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	22.0	64	22.0	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	17.7	65	17.7	–
3.2.3	Pesticide use per area of cropland (kg/ha)	2.9	39	79.1	↓
3.3	MATERIAL USE	50.4	27	50.4	↑
3.3.1	Resource productivity (PPP$ per kg)	1.9	39	31.7	↓
3.3.2	Material footprint (tonnes per capita)	12.3	20	69.2	↑
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	8.3	56	41.4	–
4.	**Governance transition**		47	57.6	–
4.1	FUNDAMENTAL RIGHTS	32.4	64	32.4	↑
4.1.1	Voice and accountability index (z-score)	(1.6)	71	5.4	↑
4.1.2	Rule of law Index (z-score)	0.2	43	59.5	↑
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.3	34	77.3	–
4.3	TRANSPARENCY	50.5	42	50.5	↘
4.3.1	Corruption perceptions index (0-100)	53.0	35	53.0	↑
4.3.2	Basel anti-money laundering index (0-10)	5.1	53	48.8	↓
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	32.5	5	95.1	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

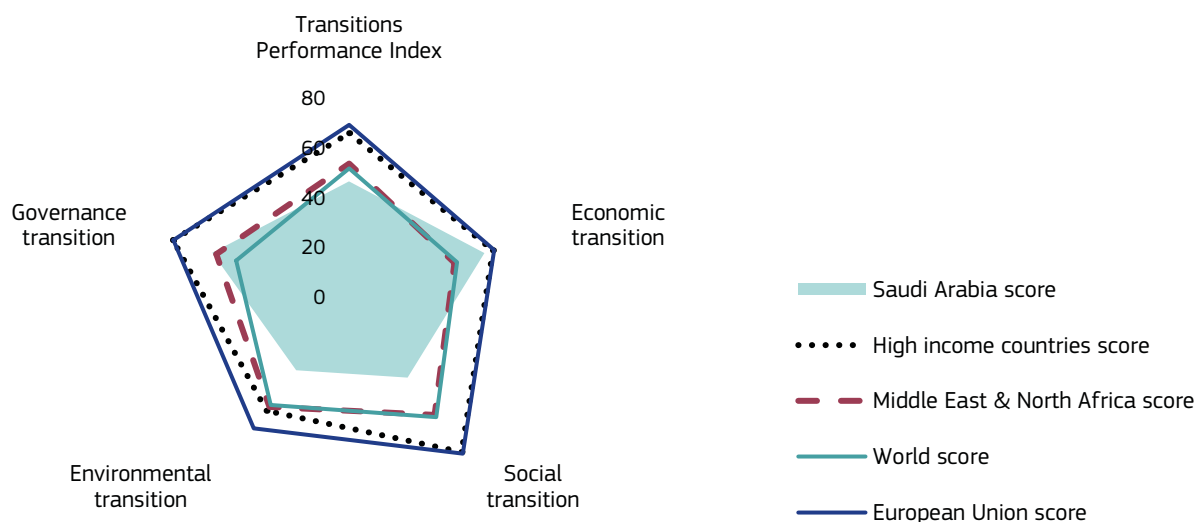*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

SERBIA

POPULATION (million inhabitants)	**6.9**	
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**132.8**	
GDP PER CAPITA (current PPP$)	**19 145.6**	
INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	**38.0**	

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Serbia ranks	**61**	**51**	**47**	**60**	**49**
Serbia score	49.4	37.5	63.4	42.8	57.1
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Serbia score
- Upper middle income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Serbia
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021

SERBIA

Index	Transitions Performance Index	VALUE	2020 RANK	SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**61**	**49.4**	↗
1.	**Economic transition**		**51**	**37.5**	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	55.1	50	**55.1**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	12.9	38	**51.7**	↘
1.1.2	Internet users (%)	78.4	43	**78.4**	↑
1.1.3	Proportion of people with ICT skills (composite)	35.2	42	**35.2**	–
1.2	WEALTH: GDP per capita, current dollars (PPP$)	19 145.6	48	**25.5**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	20.4	54	**20.4**	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	34 428.3	57	**23.0**	↘
1.3.2	Gross expenditure on R&D (% of GDP)	0.9	41	**17.8**	↑
1.4	INDUSTRIAL BASE	39.4	48	**39.4**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	13.3	33	**44.3**	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.1	52	**31.9**	–
2.	**Social transition**		**47**	**63.4**	↑
2.1	HEALTH: Healthy life expectancy at birth (years)	66.9	46	**72.9**	–
2.2	WORK AND INCLUSION	61.0	46	**61.0**	↑
2.2.1	Employment rate of the population aged 20-64 (%)	65.9	43	**51.8**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	15.5	35	**77.9**	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	63.8	57	**45.7**	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	49.8	49	**63.2**	↑
2.4	EQUALITY	58.0	54	**58.0**	↑
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	36.2	51	**64.0**	↑
2.4.2	Income share held by the poorest quintile (%)	5.2	63	**40.0**	↑
3.	**Environmental transition**		**60**	**42.8**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	7.1	34	**70.4**	–
3.2	BIODIVERSITY	25.0	67	**25.0**	↑
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	26.8	58	**26.8**	↑
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	23.2	61	**23.2**	↑
3.2.3	Pesticide use per area of cropland (kg/ha)	N/A	N/A	**N/A**	
3.3	MATERIAL USE	38.0	49	**38.0**	↘
3.3.1	Resource productivity (PPP$ per kg)	1.0	64	**17.4**	↑
3.3.2	Material footprint (tonnes per capita)	16.6	30	**58.5**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	7.6	60	**38.0**	↑
4.	**Governance transition**		**49**	**57.1**	↘
4.1	FUNDAMENTAL RIGHTS	44.0	54	**44.0**	↓
4.1.1	Voice and accountability index (z-score)	(0.1)	56	**45.3**	↓
4.1.2	Rule of law Index (z-score)	(0.2)	56	**42.7**	↗
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.2	32	**77.8**	–
4.3	TRANSPARENCY	42.4	58	**42.4**	↘
4.3.1	Corruption perceptions index (0-100)	38.0	55	**38.0**	↘
4.3.2	Basel anti-money laundering index (0-10)	5.5	59	**45.3**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	58.4	33	**78.5**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[▢ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
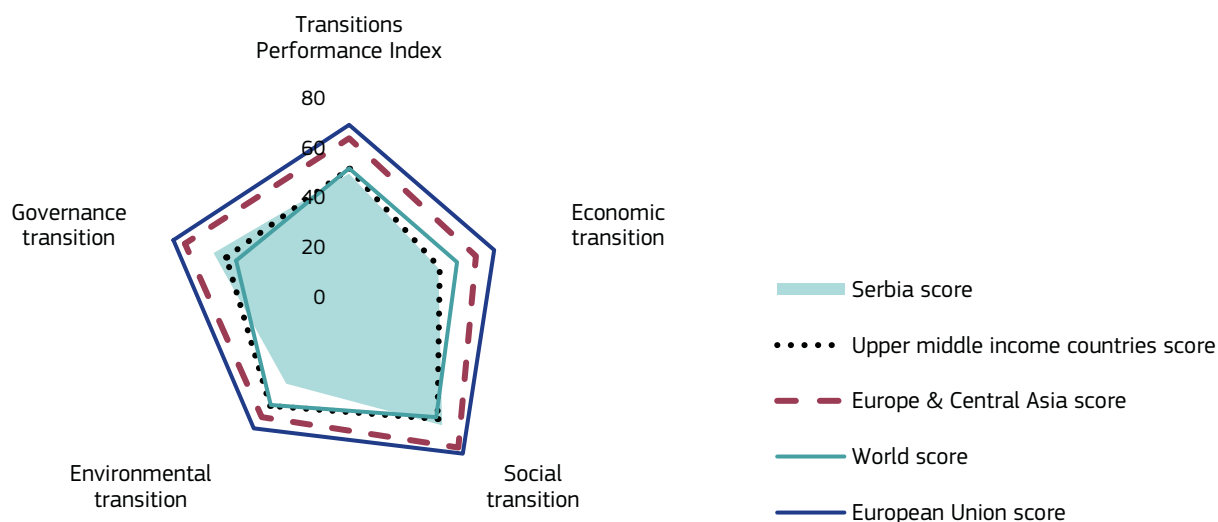*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

SINGAPORE

POPULATION (million inhabitants)	**5.8**	**GDP PER CAPITA** (current PPP$)	**97 056.5**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**560.1**		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Singapore ranks	**35**	**6**	**50**	**62**	**27**
Singapore score	59.4	72.3	62.0	42.2	71.1
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
East Asia & Pacific score	56.8	50.5	69.3	48.1	64.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Singapore score
- High income countries score
- East Asia & Pacific score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Singapore
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021
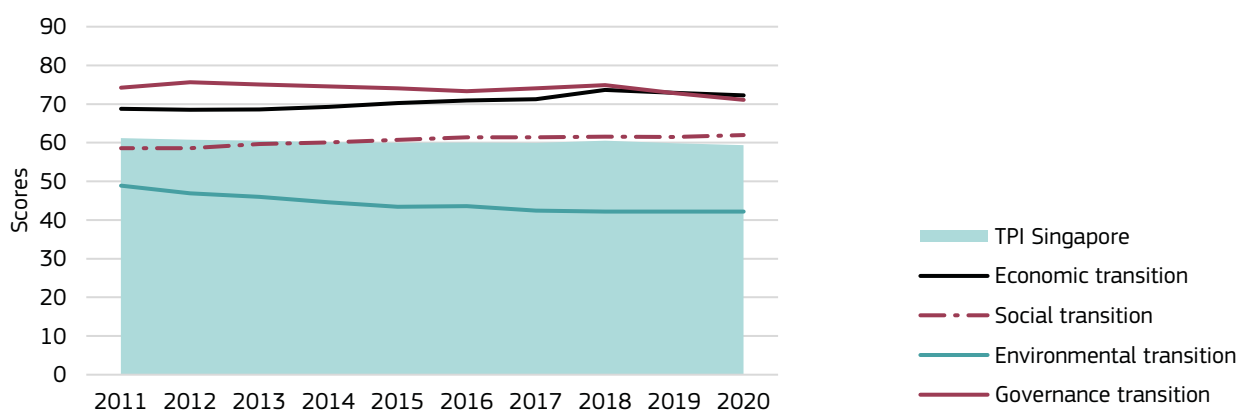
SINGAPORE

Index	Transitions Performance Index	VALUE	2020 RANK	SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**35**	**59.4**	↘
1.	**Economic transition**		**6**	**72.3**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	57.7	46	**57.7**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	10.5	53	**42.1**	↘
1.1.2	Internet users (%)	75.9	51	**75.9**	↗
1.1.3	Proportion of people with ICT skills (composite)	55.0	16	**55.0**	↑
1.2	WEALTH: GDP per capita, current dollars (PPP$)	97 056.5	1	**100.0**	–
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	69.2	8	**69.2**	–
1.3.1	Output per worker (2011 constant GDP PPP$)	159 679.6	1	**100.0**	↗
1.3.2	Gross expenditure on R&D (% of GDP)	1.9	19	**38.5**	↘
1.4	INDUSTRIAL BASE	70.4	7	**70.4**	–
1.4.1	Gross value added of manufacturing (% of GDP)	20.5	10	**68.5**	–
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	2.2	17	**73.2**	–
2.	**Social transition**		**50**	**62.0**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	73.6	2	**95.2**	–
2.2	WORK AND INCLUSION	54.2	53	**54.2**	–
2.2.1	Employment rate of the population aged 20-64 (%)	49.5	60	**19.0**	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	18.1	44	**74.1**	↗
2.2.3	Gross enrolment ratio, pre-primary (%)	90.0	29	**85.0**	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	50.9	47	**65.2**	↗
2.4	EQUALITY	40.8	68	**40.8**	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	45.9	68	**42.4**	↗
2.4.2	Income share held by the poorest quintile (%)	4.9	67	**36.0**	↘
3.	**Environmental transition**		**62**	**42.2**	↓
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	11.6	60	**51.8**	↘
3.2	BIODIVERSITY	21.1	68	**21.1**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	21.1	66	**21.1**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	N/A	N/A	**N/A**	
3.2.3	Pesticide use per area of cropland (kg/ha)	N/A	N/A	**N/A**	
3.3	MATERIAL USE	23.9	66	**23.9**	↗
3.3.1	Resource productivity (PPP$ per kg)	2.9	19	**47.9**	↗
3.3.2	Material footprint (tonnes per capita)	76.1	69	**–**	↗
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	14.4	17	**71.9**	↓
4.	**Governance transition**		**27**	**71.1**	↘
4.1	FUNDAMENTAL RIGHTS	69.5	36	**69.5**	↘
4.1.1	Voice and accountability index (z-score)	(0.2)	58	**42.0**	↘
4.1.2	Rule of law Index (z-score)	1.9	4	**97.0**	–
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.2	1	**96.0**	–
4.3	TRANSPARENCY	66.1	10	**66.1**	↘
4.3.1	Corruption perceptions index (0-100)	85.0	3	**85.0**	↘
4.3.2	Basel anti-money laundering index (0-10)	4.7	36	**53.5**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	154.9	69	**16.2**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
Source: European Commission, Transitions Performance Index 2021.

SOUTH AFRICA

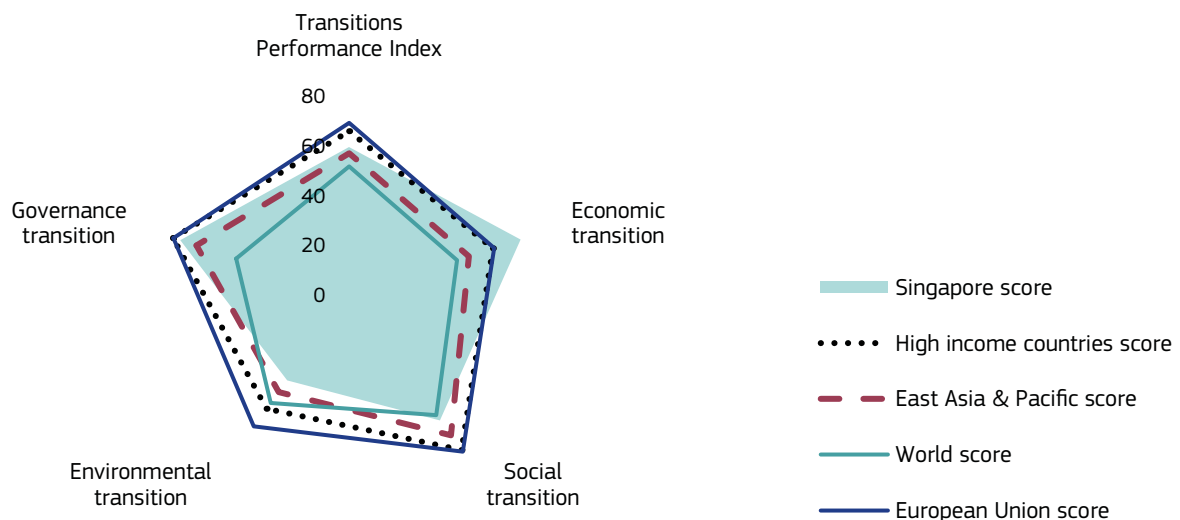|			
POPULATION (million inhabitants)	**65.8**	**GDP PER CAPITA** (current PPP$)	**12 032.4**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**792.3**		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
South Africa ranks	**72**	**52**	**72**	**57**	**66**
South Africa score	39.4	36.5	30.0	46.4	39.6
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
Sub-Saharan Africa score	42.9	25.3	45.6	56.6	35.5
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- South Africa score
- Upper middle income countries score
- Sub-Saharan Africa score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI South Africa
- Economic transition
- Social transition
- Environmental transition
- Governance transition
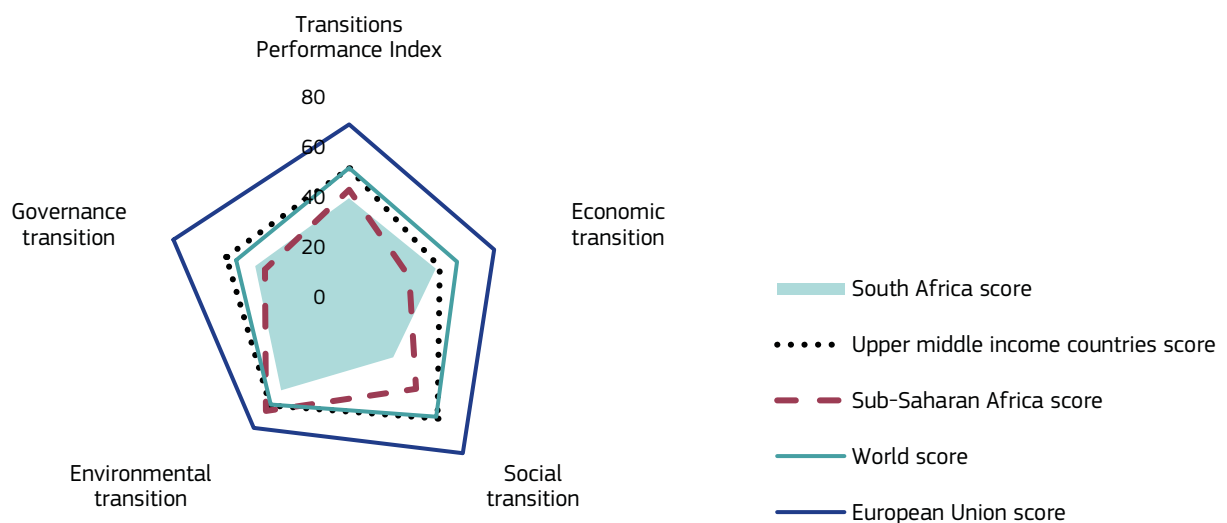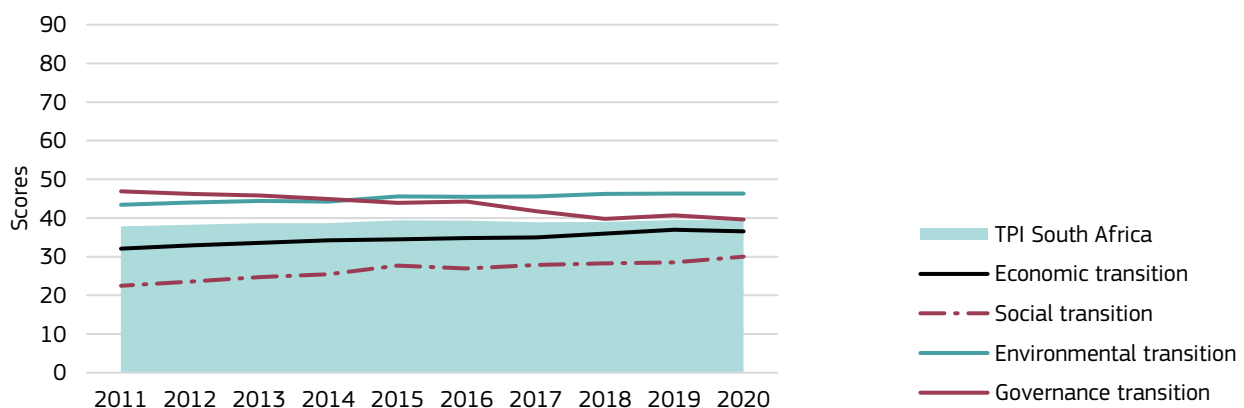
SOUTH AFRICA

Index	Transitions Performance Index	2020 VALUE	RANK	SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**72**	**39.4**	–
1.	**Economic transition**		**52**	**36.5**	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	54.9	52	**54.9**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	10.4	55	**41.6**	–
1.1.2	Internet users (%)	68.2	63	**68.2**	↑
1.1.3	Proportion of people with ICT skills (composite)	N/A	N/A	**N/A**	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	12 032.4	64	**16.0**	↘
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	22.9	47	**22.9**	–
1.3.1	Output per worker (2011 constant GDP PPP$)	43 804.5	50	**29.2**	↘
1.3.2	Gross expenditure on R&D (% of GDP)	0.8	43	**16.6**	↑
1.4	INDUSTRIAL BASE	40.9	45	**40.9**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	11.5	46	**38.4**	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.3	39	**44.5**	↓
2.	**Social transition**		**72**	**30.0**	↑
2.1	HEALTH: Healthy life expectancy at birth (years)	56.2	71	**37.2**	↑
2.2	WORK AND INCLUSION	43.3	60	**43.3**	↑
2.2.1	Employment rate of the population aged 20-64 (%)	44.1	66	**8.2**	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	–	1	**100.0**	↑
2.2.3	Gross enrolment ratio, pre-primary (%)	17.6	67	**–**	↗
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	43.8	62	**52.4**	↑
2.4	EQUALITY	4.6	72	**4.6**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	63.0	72	**4.4**	–
2.4.2	Income share held by the poorest quintile (%)	2.4	71	**5.0**	↓
3.	**Environmental transition**		**57**	**46.4**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	8.9	46	**63.0**	–
3.2	BIODIVERSITY	44.8	49	**44.8**	↑
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	33.1	53	**33.1**	↑
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	36.5	53	**36.5**	↑
3.2.3	Pesticide use per area of cropland (kg/ha)	2.2	32	**84.6**	–
3.3	MATERIAL USE	49.8	30	**49.8**	–
3.3.1	Resource productivity (PPP$ per kg)	1.2	58	**20.6**	↗
3.3.2	Material footprint (tonnes per capita)	8.4	12	**79.0**	–
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	5.6	69	**27.9**	↑
4.	**Governance transition**		**66**	**39.6**	↓
4.1	FUNDAMENTAL RIGHTS	60.6	40	**60.6**	↘
4.1.1	Voice and accountability index (z-score)	0.7	34	**75.7**	–
4.1.2	Rule of law Index (z-score)	(0.1)	53	**45.4**	↓
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	36.4	72	**–**	↓
4.3	TRANSPARENCY	47.6	47	**47.6**	↓
4.3.1	Corruption perceptions index (0-100)	44.0	44	**44.0**	–
4.3.2	Basel anti-money laundering index (0-10)	5.0	48	**50.0**	↓
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	69.4	45	**71.3**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

SOUTH KOREA

POPULATION (million inhabitants)	51.9	GDP PER CAPITA (current PPP$)	44 621.0
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	2 317.2	INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	54.0

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
South Korea ranks	**28**	**3**	**26**	**63**	**17**
South Korea score	62.5	75.4	75.4	37.6	76.7
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
East Asia & Pacific score	56.8	50.5	69.3	48.1	64.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- South Korea score
- High income countries score
- East Asia & Pacific score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI South Korea
- Economic transition
- Social transition
- Environmental transition
- Governance transition
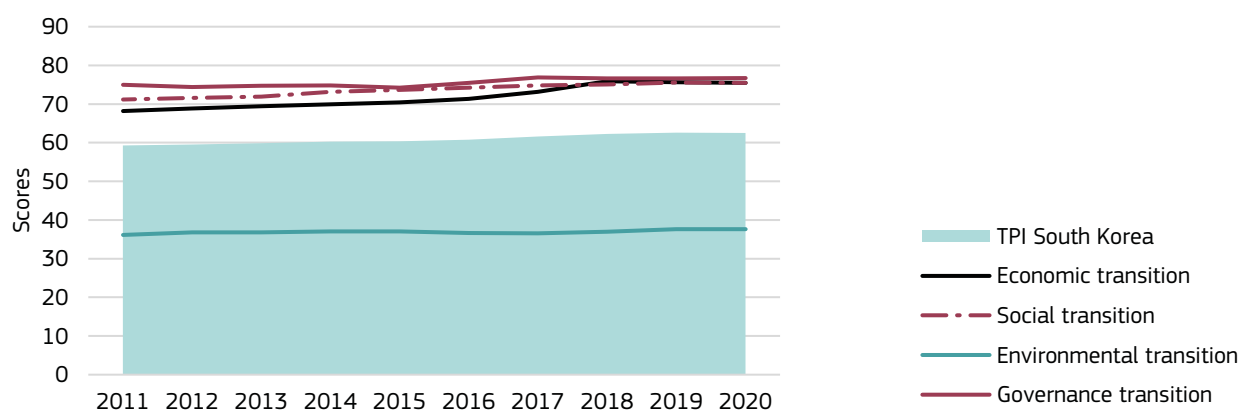
SOUTH KOREA

Index	Transitions Performance Index	VALUE	2020 RANK	SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**28**	**62.5**	–
1.	**Economic transition**		**3**	**75.4**	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	75.2	15	**75.2**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	15.0	34	**60.2**	↗
1.1.2	Internet users (%)	96.5	7	**96.5**	↑
1.1.3	Proportion of people with ICT skills (composite)	68.9	7	**68.9**	↑
1.2	WEALTH: GDP per capita, current dollars (PPP$)	44 621.0	20	**59.5**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	72.2	3	**72.2**	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	81 060.0	29	**54.0**	↑
1.3.2	Gross expenditure on R&D (% of GDP)	4.5	2	**90.4**	↑
1.4	INDUSTRIAL BASE	88.5	1	**88.5**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	24.9	4	**83.2**	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	12.3	2	**96.4**	↘
2.	**Social transition**		**26**	**75.4**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	73.1	3	**93.5**	↗
2.2	WORK AND INCLUSION	69.2	39	**69.2**	–
2.2.1	Employment rate of the population aged 20-64 (%)	69.7	39	**59.5**	–
2.2.2	Employment-to-population ratio gender gap 25+ (%)	22.1	55	**68.5**	↑
2.2.3	Gross enrolment ratio, pre-primary (%)	93.5	22	**90.3**	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	49.7	50	**63.0**	↑
2.4	EQUALITY	73.2	25	**73.2**	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	31.4	22	**74.7**	–
2.4.2	Income share held by the poorest quintile (%)	7.5	31	**68.8**	–
3.	**Environmental transition**		**63**	**37.6**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	14.0	63	**41.5**	↘
3.2	BIODIVERSITY	34.6	64	**34.6**	↗
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	37.6	46	**37.6**	↗
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	36.8	50	**36.8**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	10.6	64	**24.4**	↑
3.3	MATERIAL USE	36.1	51	**36.1**	–
3.3.1	Resource productivity (PPP$ per kg)	2.6	22	**43.4**	↑
3.3.2	Material footprint (tonnes per capita)	28.5	57	**28.7**	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	7.7	59	**38.4**	↑
4.	**Governance transition**		**17**	**76.7**	–
4.1	FUNDAMENTAL RIGHTS	83.7	27	**83.7**	–
4.1.1	Voice and accountability index (z-score)	0.8	33	**79.3**	–
4.1.2	Rule of law Index (z-score)	1.2	23	**88.2**	–
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.6	13	**86.9**	–
4.3	TRANSPARENCY	56.6	30	**56.6**	–
4.3.1	Corruption perceptions index (0-100)	61.0	25	**61.0**	↗
4.3.2	Basel anti-money laundering index (0-10)	4.6	33	**53.7**	–
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	47.9	23	**85.2**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[▢ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
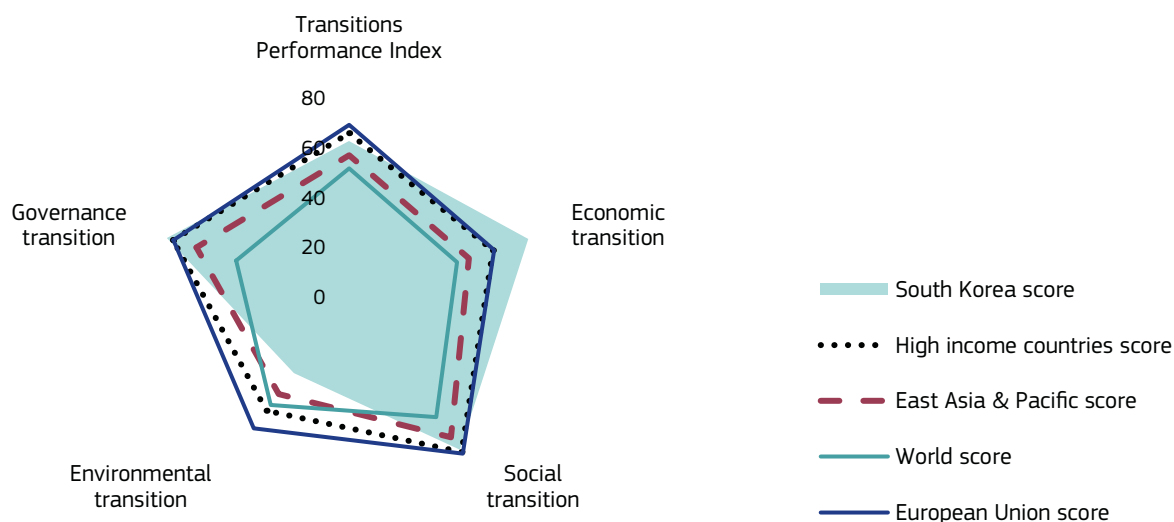*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

SWITZERLAND

POPULATION (million inhabitants)	**8.6**	
GDP PER CAPITA (current PPP$)	**72 873.7**	
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**630.4**	
INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	**66.0**	

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Switzerland ranks	**1**	**1**	**9**	**7**	**6**
Switzerland score	78.4	79.8	82.9	71.7	83.0
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Switzerland score
- High income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Switzerland
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021

II-133
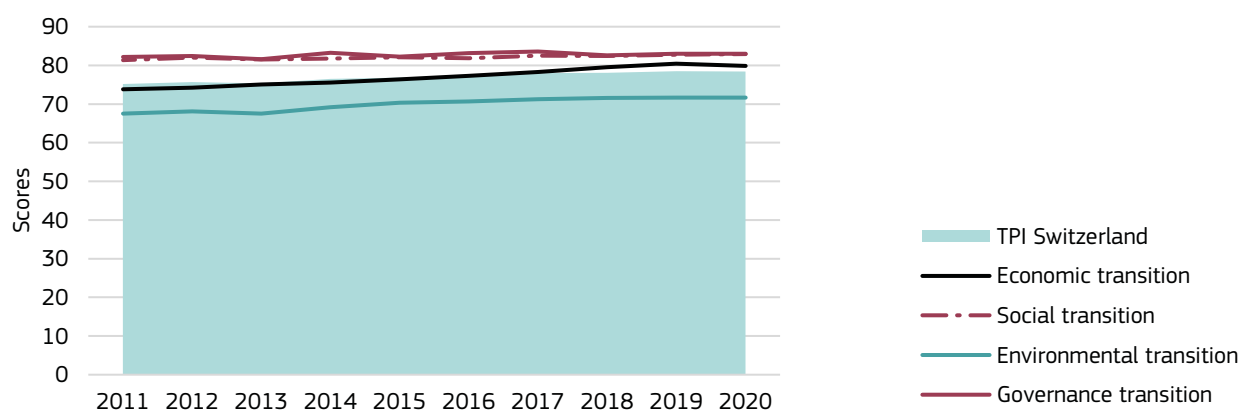
SWITZERLAND

Index	Transitions Performance Index	2020 VALUE	RANK	SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		**1**	**78.4**	–
1.	**Economic transition**		**1**	**79.8**	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	79.9	8	**79.9**	↗
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	21.1	10	**84.5**	↗
1.1.2	Internet users (%)	93.1	12	**93.1**	↗
1.1.3	Proportion of people with ICT skills (composite)	62.0	10	**62.0**	↗
1.2	WEALTH: GDP per capita, current dollars (PPP$)	72 873.7	4	**97.2**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	73.0	2	**73.0**	–
1.3.1	Output per worker (2011 constant GDP PPP$)	123 735.7	6	**82.5**	–
1.3.2	Gross expenditure on R&D (% of GDP)	3.2	6	**63.6**	–
1.4	INDUSTRIAL BASE	72.8	5	**72.8**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	18.1	13	**60.3**	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	8.6	3	**91.5**	↘
2.	**Social transition**		**9**	**82.9**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	72.5	4	**91.7**	–
2.2	WORK AND INCLUSION	87.1	3	**87.1**	–
2.2.1	Employment rate of the population aged 20-64 (%)	82.5	3	**85.0**	–
2.2.2	Employment-to-population ratio gender gap 25+ (%)	12.0	23	**82.8**	↗
2.2.3	Gross enrolment ratio, pre-primary (%)	102.8	1	**100.0**	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	64.3	3	**89.7**	↗
2.4	EQUALITY	70.4	31	**70.4**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	33.1	33	**70.9**	↘
2.4.2	Income share held by the poorest quintile (%)	7.5	31	**68.8**	↘
3.	**Environmental transition**		**7**	**71.7**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	6.1	26	**74.6**	–
3.2	BIODIVERSITY	52.3	39	**52.3**	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	37.0	47	**37.0**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	60.2	31	**60.2**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	4.6	48	**67.1**	↗
3.3	MATERIAL USE	59.8	5	**59.8**	↑
3.3.1	Resource productivity (PPP$ per kg)	6.8	1	**100.0**	↑
3.3.2	Material footprint (tonnes per capita)	32.2	59	**19.5**	↓
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	23.4	1	**100.0**	–
4.	**Governance transition**		**6**	**83.0**	–
4.1	FUNDAMENTAL RIGHTS	95.2	4	**95.2**	–
4.1.1	Voice and accountability index (z-score)	1.5	4	**93.8**	↘
4.1.2	Rule of law Index (z-score)	1.8	6	**96.6**	–
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.6	12	**87.2**	↘
4.3	TRANSPARENCY	64.7	14	**64.7**	–
4.3.1	Corruption perceptions index (0-100)	85.0	3	**85.0**	↘
4.3.2	Basel anti-money laundering index (0-10)	4.9	43	**51.1**	↗
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	42.4	18	**88.8**	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

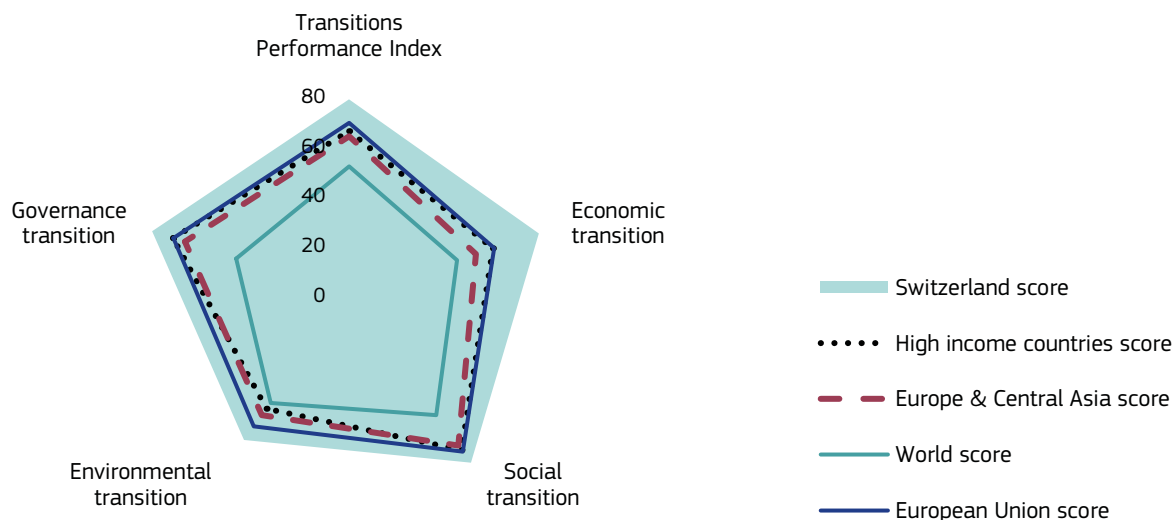*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

THAILAND

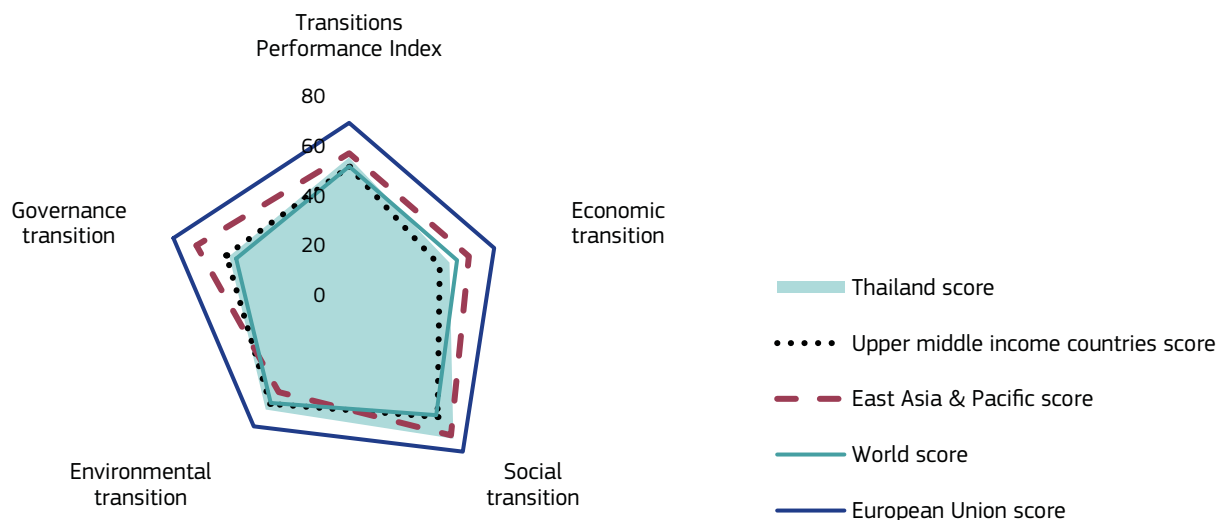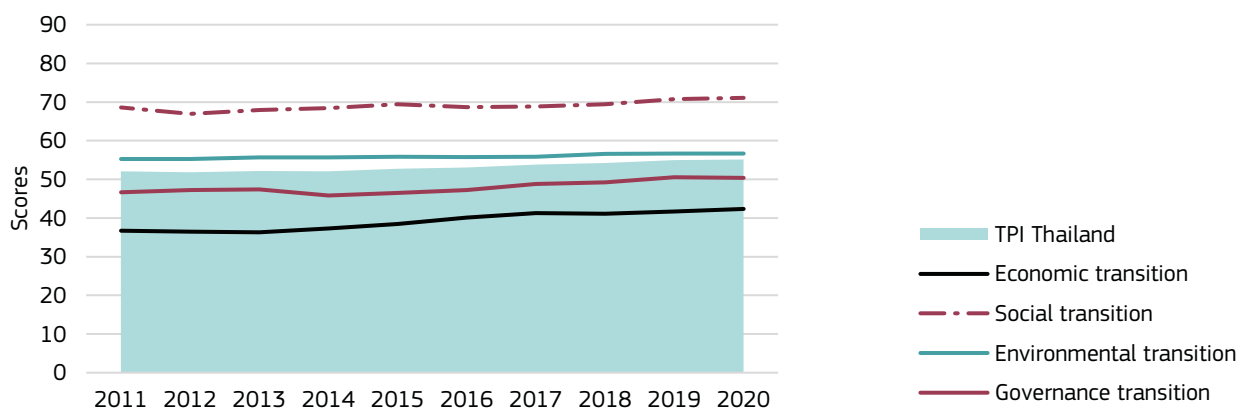|			
POPULATION (million inhabitants)	**69.8**	**GDP PER CAPITA** (current PPP$)	**18 236.4**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**1 272.5**		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Thailand ranks	**42**	**43**	**35**	**40**	**57**
Thailand score	55.1	42.3	71.1	56.7	50.4
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
East Asia & Pacific score	56.8	50.5	69.3	48.1	64.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Thailand score
- Upper middle income countries score
- East Asia & Pacific score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Thailand
- Economic transition
- Social transition
- Environmental transition
- Governance transition

THAILAND

Index	Transitions Performance Index	VALUE	RANK	SCORE	SCORE PROGRESS
	Transitions Performance Index		42	55.1	–
1.	**Economic transition**		43	42.3	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	47.7	62	47.7	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	12.7	41	50.6	↓
1.1.2	Internet users (%)	77.8	47	77.8	↑
1.1.3	Proportion of people with ICT skills (composite)	14.7	54	14.7	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	18 236.4	50	24.3	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	21.2	52	21.2	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	33 501.9	58	22.3	↑
1.3.2	Gross expenditure on R&D (% of GDP)	1.0	38	20.0	↑
1.4	INDUSTRIAL BASE	63.1	12	63.1	↘
1.4.1	Gross value added of manufacturing (% of GDP)	25.2	3	84.1	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.1	53	31.5	↑
2.	**Social transition**		35	71.1	–
2.1	HEALTH: Healthy life expectancy at birth (years)	68.3	39	77.5	–
2.2	WORK AND INCLUSION	73.8	32	73.8	↘
2.2.1	Employment rate of the population aged 20-64 (%)	77.8	13	75.6	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	17.6	43	74.9	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	78.6	45	67.9	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	51.2	44	65.9	–
2.4	EQUALITY	68.0	36	68.0	↗
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	34.9	39	66.9	↗
2.4.2	Income share held by the poorest quintile (%)	7.7	27	71.3	↗
3.	**Environmental transition**		40	56.7	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	6.0	24	75.0	↘
3.2	BIODIVERSITY	62.8	33	62.8	↗
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	71.1	27	71.1	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	40.7	42	40.7	–
3.2.3	Pesticide use per area of cropland (kg/ha)	1.3	21	90.6	↑
3.3	MATERIAL USE	42.8	43	42.8	↘
3.3.1	Resource productivity (PPP$ per kg)	1.4	51	22.9	↑
3.3.2	Material footprint (tonnes per capita)	14.9	27	62.7	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	9.2	52	46.2	↗
4.	**Governance transition**		57	50.4	↗
4.1	FUNDAMENTAL RIGHTS	37.9	58	37.9	↘
4.1.1	Voice and accountability index (z-score)	(0.8)	63	20.9	↓
4.1.2	Rule of law Index (z-score)	0.1	45	54.8	↑
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	2.6	54	64.7	↑
4.3	TRANSPARENCY	37.5	66	37.5	–
4.3.1	Corruption perceptions index (0-100)	36.0	58	36.0	↘
4.3.2	Basel anti-money laundering index (0-10)	6.2	66	38.5	↗
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	49.6	24	84.1	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

TUNISIA

POPULATION (million inhabitants)	11.9	GDP PER CAPITA (current PPP$)	10 119.8
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	120.7		

RANKS AND SCORES

| 2020 | TPI | TRANSITIONS | | | |
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Tunisia ranks	**46**	**54**	**61**	**25**	**51**
Tunisia score	53.6	34.2	55.7	62.1	55.5
World score	51.5	45.4	59.4	53.4	47.6
Lower middle income countries score	49.7	30.5	55.8	59.1	46.8
Middle East & North Africa score	53.5	44.4	58.3	54.4	55.9
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020
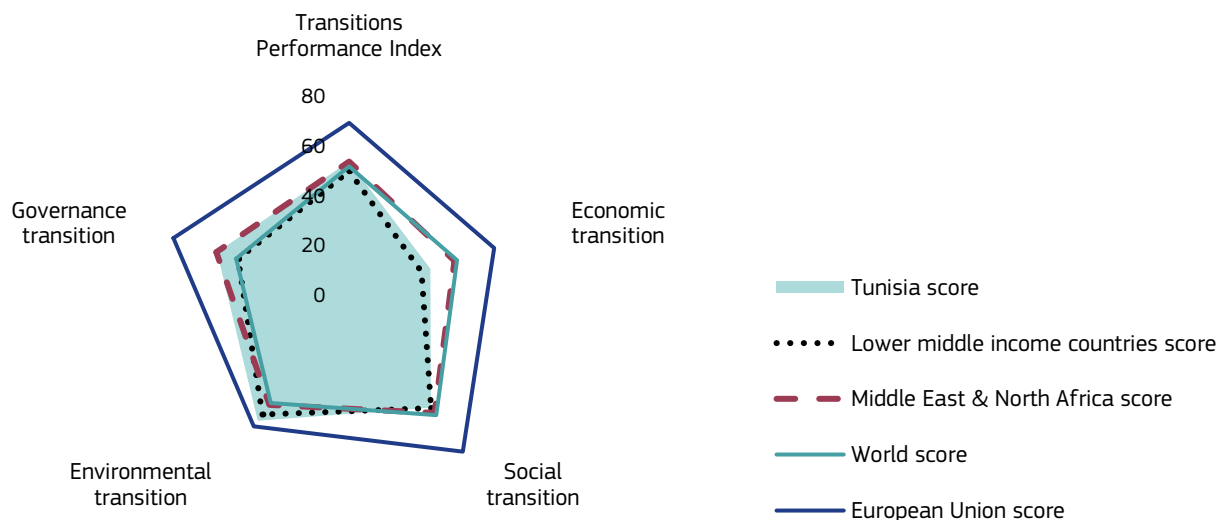
TRANSITIONS PROGRESS 2011-2020

TUNISIA
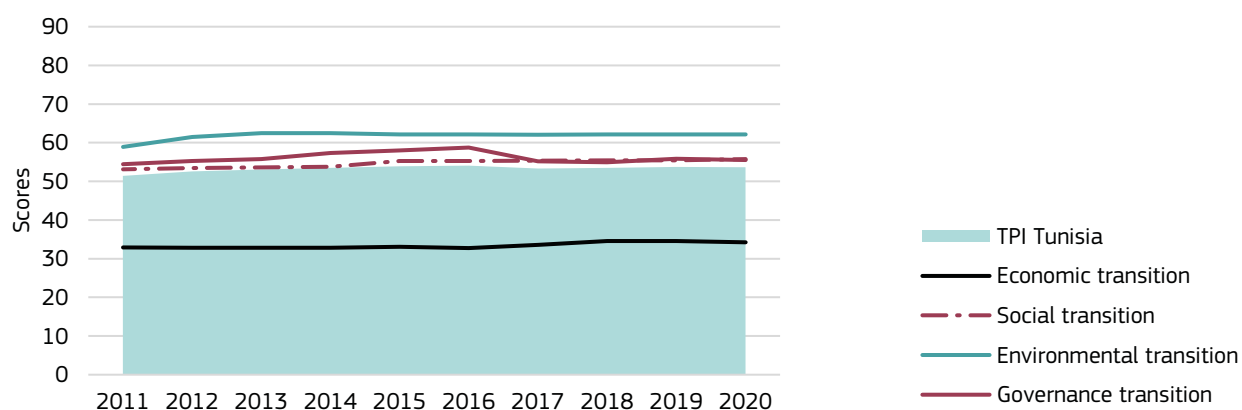
Index	Transitions Performance Index	VALUE	2020 RANK	SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		46	**53.6**	–
1.	**Economic transition**		54	**34.2**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	57.5	47	**57.5**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	16.8	27	**67.1**	↗
1.1.2	Internet users (%)	66.7	64	**66.7**	↑
1.1.3	Proportion of people with ICT skills (composite)	38.6	37	**38.6**	–
1.2	WEALTH: GDP per capita, current dollars (PPP$)	10 119.8	67	**13.5**	–
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	18.0	58	**18.0**	↘
1.3.1	Output per worker (2011 constant GDP PPP$)	36 018.0	56	**24.0**	↗
1.3.2	Gross expenditure on R&D (% of GDP)	0.6	53	**12.0**	↓
1.4	INDUSTRIAL BASE	35.5	61	**35.5**	↓
1.4.1	Gross value added of manufacturing (% of GDP)	14.6	28	**48.5**	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.0	63	**16.0**	↓
2.	**Social transition**		61	**55.7**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	66.9	45	**73.0**	–
2.2	WORK AND INCLUSION	22.1	68	**22.1**	↑
2.2.1	Employment rate of the population aged 20-64 (%)	47.5	61	**15.0**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	47.8	66	**31.8**	↑
2.2.3	Gross enrolment ratio, pre-primary (%)	44.6	63	**16.9**	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	36.9	67	**39.8**	–
2.4	EQUALITY	71.8	28	**71.8**	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	32.8	28	**71.6**	–
2.4.2	Income share held by the poorest quintile (%)	7.8	25	**72.5**	↑
3.	**Environmental transition**		25	**62.1**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	3.6	10	**85.2**	↘
3.2	BIODIVERSITY	52.2	40	**52.2**	↑
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	39.5	43	**39.5**	↑
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	43.4	40	**43.4**	↑
3.2.3	Pesticide use per area of cropland (kg/ha)	0.7	11	**95.0**	↘
3.3	MATERIAL USE	51.4	23	**51.4**	↘
3.3.1	Resource productivity (PPP$ per kg)	1.1	60	**18.8**	↘
3.3.2	Material footprint (tonnes per capita)	6.4	10	**84.1**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	12.0	32	**59.8**	–
4.	**Governance transition**		51	**55.5**	–
4.1	FUNDAMENTAL RIGHTS	58.1	42	**58.1**	↑
4.1.1	Voice and accountability index (z-score)	0.3	41	**60.8**	↑
4.1.2	Rule of law Index (z-score)	0.1	44	**55.5**	↑
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	3.1	56	**61.2**	–
4.3	TRANSPARENCY	46.4	53	**46.4**	↓
4.3.1	Corruption perceptions index (0-100)	44.0	44	**44.0**	↗
4.3.2	Basel anti-money laundering index (0-10)	5.2	55	**48.0**	↓
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	89.7	56	**58.2**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

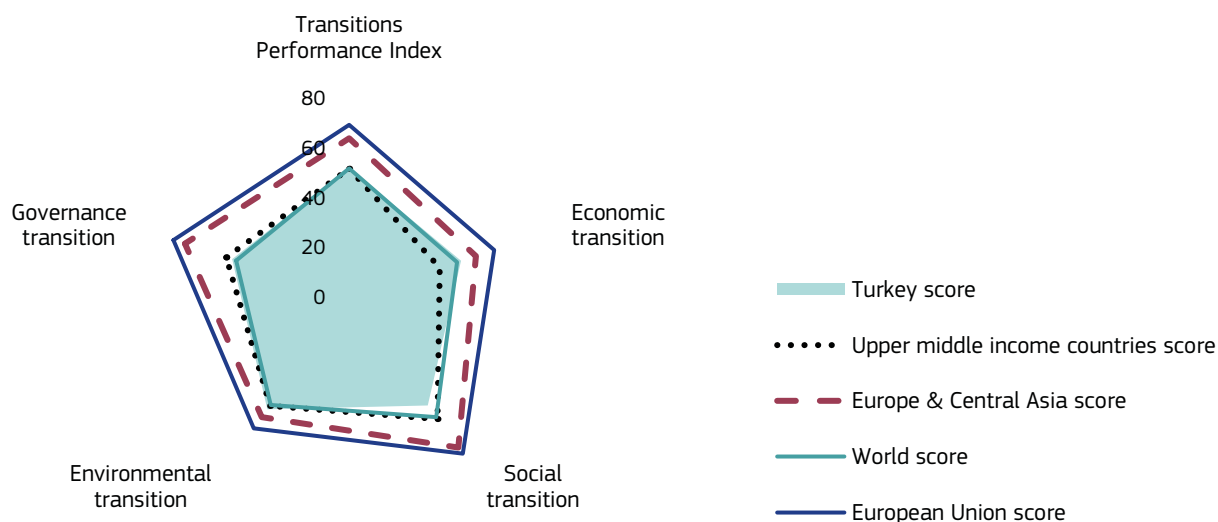*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

TURKEY

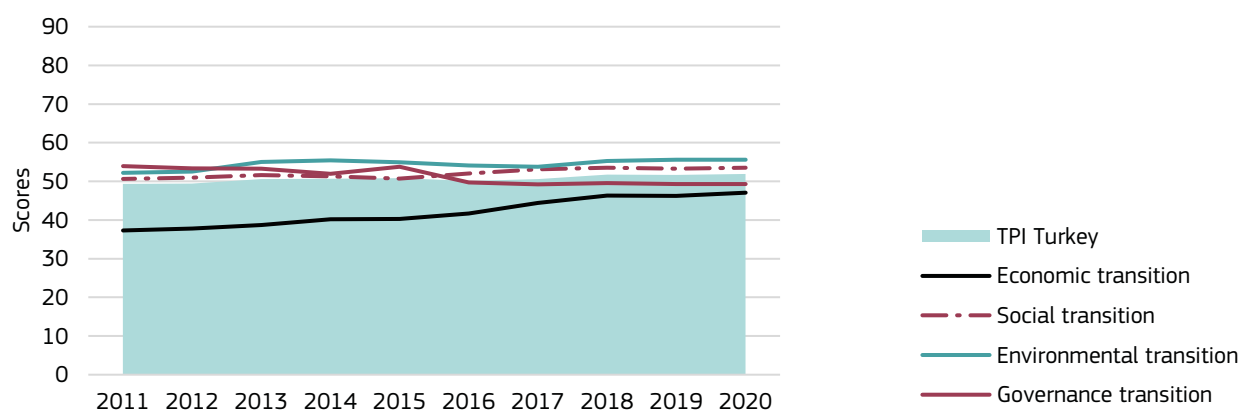| POPULATION (million inhabitants)	84.2	GDP PER CAPITA (current PPP$)	30 252.7
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	2 545.9	INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100)	34.0

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Turkey ranks	**53**	**40**	**64**	**43**	**59**
Turkey score	51.9	47.1	53.5	55.6	49.3
World score	51.5	45.4	59.4	53.4	47.6
Upper middle income countries score	51.5	38.2	60.3	53.8	51.7
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Turkey score
- Upper middle income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Turkey
- Economic transition
- Social transition
- Environmental transition
- Governance transition

TRANSITIONS PERFORMANCE INDEX 2021

TURKEY

Index	Transitions Performance Index	VALUE	RANK	SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**53**	**51.9**	–
1.	**Economic transition**		**40**	**47.1**	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	48.5	60	**48.5**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	9.0	61	**36.1**	–
1.1.2	Internet users (%)	77.7	48	**77.7**	↑
1.1.3	Proportion of people with ICT skills (composite)	31.6	44	**31.6**	↗
1.2	WEALTH: GDP per capita, current dollars (PPP$)	30 252.7	39	**40.3**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	37.8	34	**37.8**	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	81 693.6	28	**54.5**	↑
1.3.2	Gross expenditure on R&D (% of GDP)	1.1	35	**21.2**	↑
1.4	INDUSTRIAL BASE	56.4	17	**56.4**	↗
1.4.1	Gross value added of manufacturing (% of GDP)	18.8	12	**62.7**	↑
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.3	34	**46.9**	–
2.	**Social transition**		**64**	**53.5**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	68.4	38	**78.0**	–
2.2	WORK AND INCLUSION	27.8	64	**27.8**	↑
2.2.1	Employment rate of the population aged 20-64 (%)	51.0	58	**22.0**	↘
2.2.2	Employment-to-population ratio gender gap 25+ (%)	38.6	64	**44.9**	↑
2.2.3	Gross enrolment ratio, pre-primary (%)	36.7	66	**5.0**	↗
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	46.1	61	**56.5**	↑
2.4	EQUALITY	49.1	64	**49.1**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	41.9	62	**51.3**	↘
2.4.2	Income share held by the poorest quintile (%)	5.4	60	**42.5**	↓
3.	**Environmental transition**		**43**	**55.6**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	6.3	29	**73.8**	↘
3.2	BIODIVERSITY	19.4	69	**19.4**	↘
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	2.3	71	**2.3**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	4.2	68	**4.2**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	2.2	34	**84.1**	↘
3.3	MATERIAL USE	50.2	28	**50.2**	↑
3.3.1	Resource productivity (PPP$ per kg)	2.4	24	**40.6**	↑
3.3.2	Material footprint (tonnes per capita)	16.1	29	**59.8**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	15.8	10	**78.9**	↗
4.	**Governance transition**		**59**	**49.3**	↘
4.1	FUNDAMENTAL RIGHTS	27.7	65	**27.7**	↓
4.1.1	Voice and accountability index (z-score)	(0.9)	64	**19.4**	↓
4.1.2	Rule of law Index (z-score)	(0.4)	60	**36.0**	↓
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	2.6	55	**64.6**	↑
4.3	TRANSPARENCY	41.8	62	**41.8**	↘
4.3.1	Corruption perceptions index (0-100)	40.0	51	**40.0**	↓
4.3.2	Basel anti-money laundering index (0-10)	5.7	63	**43.0**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	39.8	15	**90.5**	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

UKRAINE

POPULATION (million inhabitants)	41.6	GDP PER CAPITA (current PPP$)	13 109.6
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	545.0		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
Ukraine ranks	**64**	**48**	**38**	**61**	**62**
Ukraine score	48.5	40.3	70.5	42.7	45.7
World score	51.5	45.4	59.4	53.4	47.6
Lower middle income countries score	49.7	30.5	55.8	59.1	46.8
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Ukraine score
- Lower middle income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Ukraine
- Economic transition
- Social transition
- Environmental transition
- Governance transition
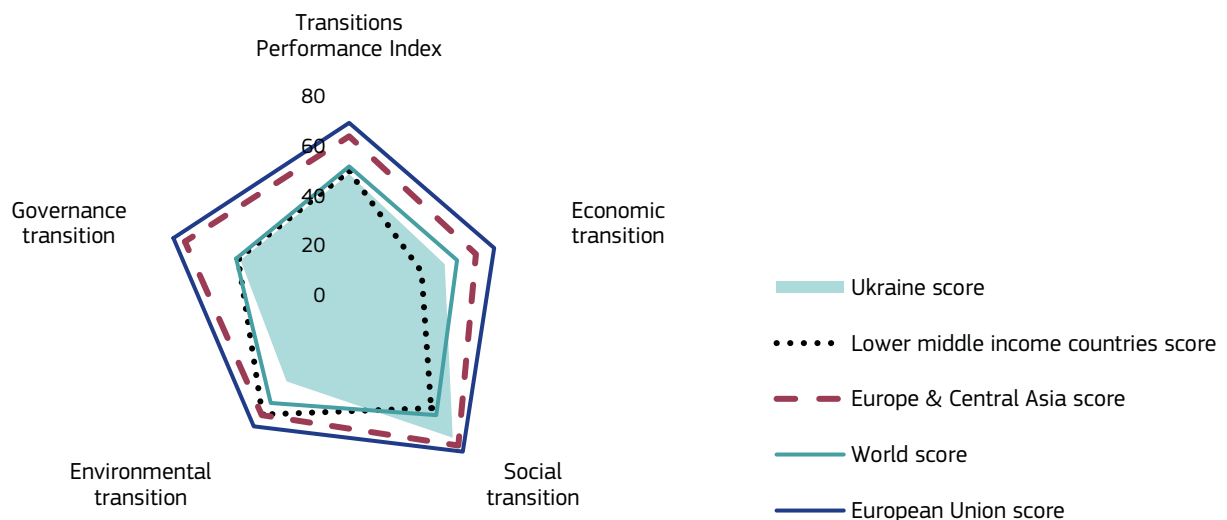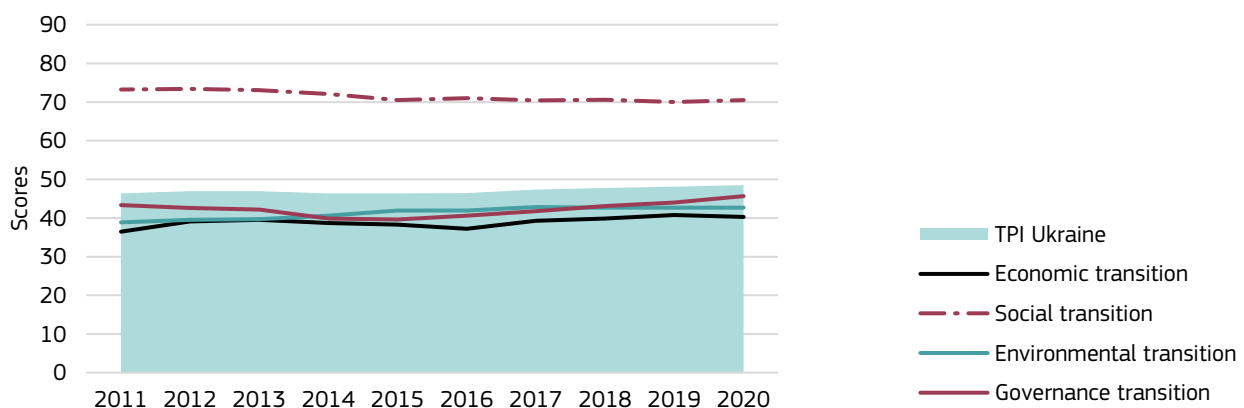
UKRAINE

Index	Transitions Performance Index	VALUE	RANK 2020	SCORE	SCORE PROGRESS 2011–2020
Index	**Transitions Performance Index**		**64**	**48.5**	–
1.	**Economic transition**		**48**	**40.3**	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	76.9	12	**76.9**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	20.9	11	**83.7**	↘
1.1.2	Internet users (%)	70.1	62	**70.1**	↑
1.1.3	Proportion of people with ICT skills (composite)	N/A	N/A	**N/A**	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	13 109.6	59	**17.5**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	14.5	63	**14.5**	↓
1.3.1	Output per worker (2011 constant GDP PPP$)	29 280.4	64	**19.5**	–
1.3.2	Gross expenditure on R&D (% of GDP)	0.5	60	**9.4**	↓
1.4	INDUSTRIAL BASE	36.1	59	**36.1**	↓
1.4.1	Gross value added of manufacturing (% of GDP)	10.1	54	**33.8**	↓
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.2	44	**39.5**	↓
2.	**Social transition**		**38**	**70.5**	↘
2.1	HEALTH: Healthy life expectancy at birth (years)	64.3	62	**64.3**	↗
2.2	WORK AND INCLUSION	58.7	48	**58.7**	↓
2.2.1	Employment rate of the population aged 20-64 (%)	56.1	55	**32.1**	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	16.2	39	**76.8**	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	83.9	41	**75.8**	↓
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	47.6	56	**59.3**	–
2.4	EQUALITY	88.1	5	**88.1**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	26.6	7	**85.3**	↘
2.4.2	Income share held by the poorest quintile (%)	9.7	4	**96.3**	↘
3.	**Environmental transition**		**61**	**42.7**	↗
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	6.2	28	**74.1**	↑
3.2	BIODIVERSITY	34.1	65	**34.1**	↗
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	21.7	65	**21.7**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	16.2	66	**16.2**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	0.7	13	**94.9**	↑
3.3	MATERIAL USE	42.5	44	**42.5**	↘
3.3.1	Resource productivity (PPP$ per kg)	0.9	67	**15.2**	↑
3.3.2	Material footprint (tonnes per capita)	12.1	19	**69.8**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	4.0	71	**19.8**	↑
4.	**Governance transition**		**62**	**45.7**	–
4.1	FUNDAMENTAL RIGHTS	39.3	57	**39.3**	↑
4.1.1	Voice and accountability index (z-score)	0.1	47	**53.5**	↑
4.1.2	Rule of law Index (z-score)	(0.7)	67	**25.1**	↑
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	6.2	65	**45.4**	↘
4.3	TRANSPARENCY	41.9	60	**41.9**	↑
4.3.1	Corruption perceptions index (0-100)	33.0	66	**33.0**	↑
4.3.2	Basel anti-money laundering index (0-10)	5.2	56	**47.9**	↑
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	60.8	37	**76.9**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

Source: European Commission, Transitions Performance Index 2021.

UNITED ARAB EMIRATES

POPULATION (million inhabitants)	11.2	GDP PER CAPITA (current PPP$)	58 753.0
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	660.3		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
United Arab Emirates ranks	**50**	**30**	**30**	**69**	**37**
United Arab Emirates score	53.2	53.7	73.9	31.8	65.9
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Middle East & North Africa score	53.5	44.4	58.3	54.4	55.9
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- United Arab Emirates score
- ••••• High income countries score
- – · – Middle East & North Africa score
- —— World score
- —— European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI United Arab Emirates
- Economic transition
- Social transition
- Environmental transition
- Governance transition
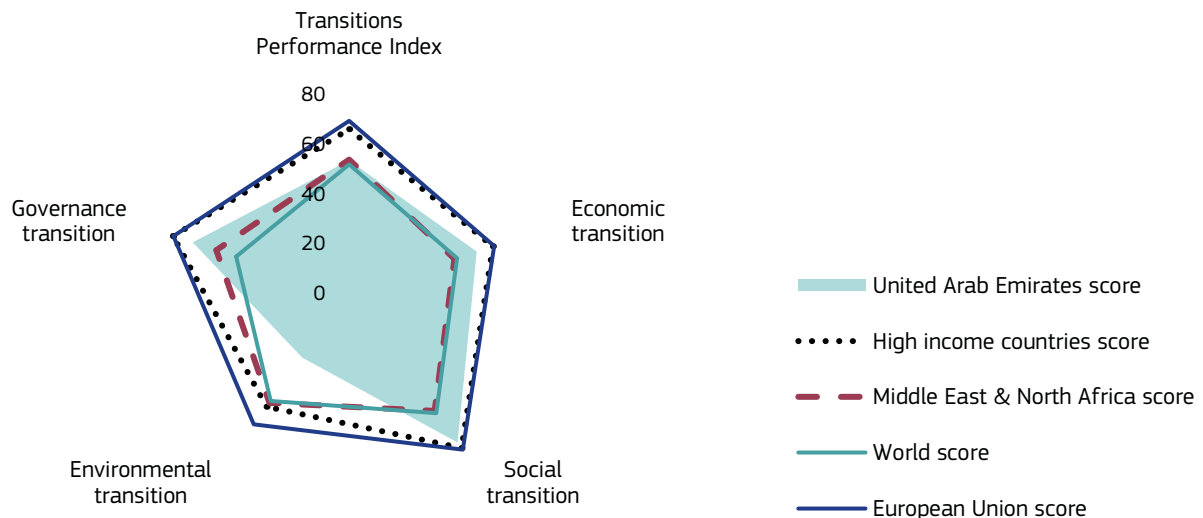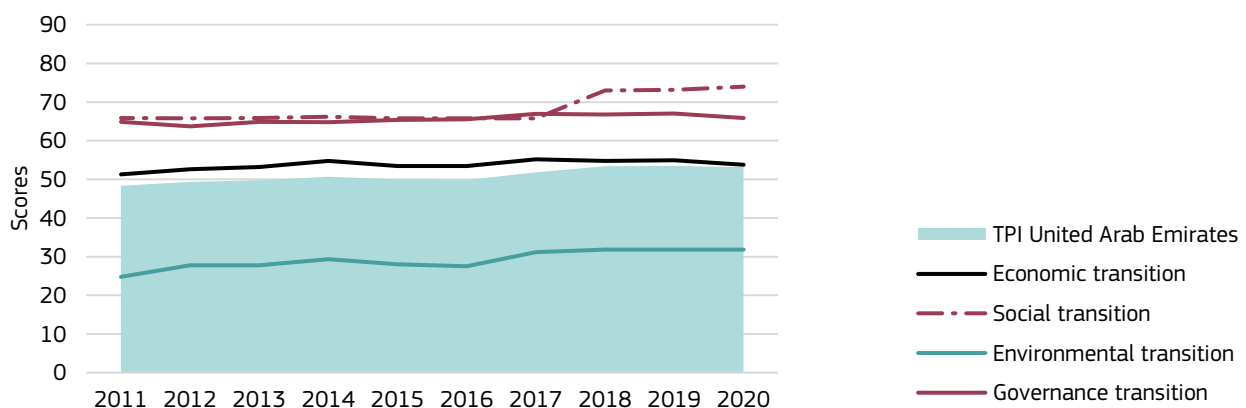
UNITED ARAB EMIRATES

Index	Transitions Performance Index	VALUE	2020 RANK	SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		50	53.2	↗
1.	**Economic transition**		30	53.7	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	67.1	29	67.1	↗
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	12.0	44	48.2	–
1.1.2	Internet users (%)	100.0	1	100.0	↑
1.1.3	Proportion of people with ICT skills (composite)	53.0	19	53.0	↓
1.2	WEALTH: GDP per capita, current dollars (PPP$)	58 753.0	8	78.3	↓
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	45.5	26	45.5	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	98 205.4	20	65.5	↑
1.3.2	Gross expenditure on R&D (% of GDP)	1.3	29	25.6	↑
1.4	INDUSTRIAL BASE	29.5	68	29.5	↑
1.4.1	Gross value added of manufacturing (% of GDP)	8.7	61	29.1	↑
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.1	54	30.2	↑
2.	**Social transition**		30	73.9	↗
2.1	HEALTH: Healthy life expectancy at birth (years)	66.0	55	70.0	–
2.2	WORK AND INCLUSION	68.7	40	68.7	–
2.2.1	Employment rate of the population aged 20-64 (%)	93.3	1	100.0	–
2.2.2	Employment-to-population ratio gender gap 25+ (%)	43.3	65	38.2	↑
2.2.3	Gross enrolment ratio, pre-primary (%)	78.0	47	67.0	↓
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	48.3	55	60.5	–
2.4	EQUALITY	87.5	7	87.5	↑
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	26.0	5	86.7	↑
2.4.2	Income share held by the poorest quintile (%)	9.2	9	90.0	↑
3.	**Environmental transition**		69	31.8	↑
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	27.3	71	–	↓
3.2	BIODIVERSITY	51.6	41	51.6	↑
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	51.6	34	51.6	↑
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	N/A	N/A	N/A	
3.2.3	Pesticide use per area of cropland (kg/ha)	N/A	N/A	N/A	
3.3	MATERIAL USE	25.1	64	25.1	↘
3.3.1	Resource productivity (PPP$ per kg)	3.0	15	50.3	↘
3.3.2	Material footprint (tonnes per capita)	49.1	69	–	↗
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	10.1	46	50.7	↑
4.	**Governance transition**		37	65.9	–
4.1	FUNDAMENTAL RIGHTS	46.9	51	46.9	↗
4.1.1	Voice and accountability index (z-score)	(1.2)	67	11.8	↓
4.1.2	Rule of law Index (z-score)	0.9	30	82.0	↑
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	0.5	5	89.4	–
4.3	TRANSPARENCY	52.9	40	52.9	–
4.3.1	Corruption perceptions index (0-100)	71.0	20	71.0	–
4.3.2	Basel anti-money laundering index (0-10)	5.9	65	40.9	–
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	39.4	13	90.7	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.

Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.

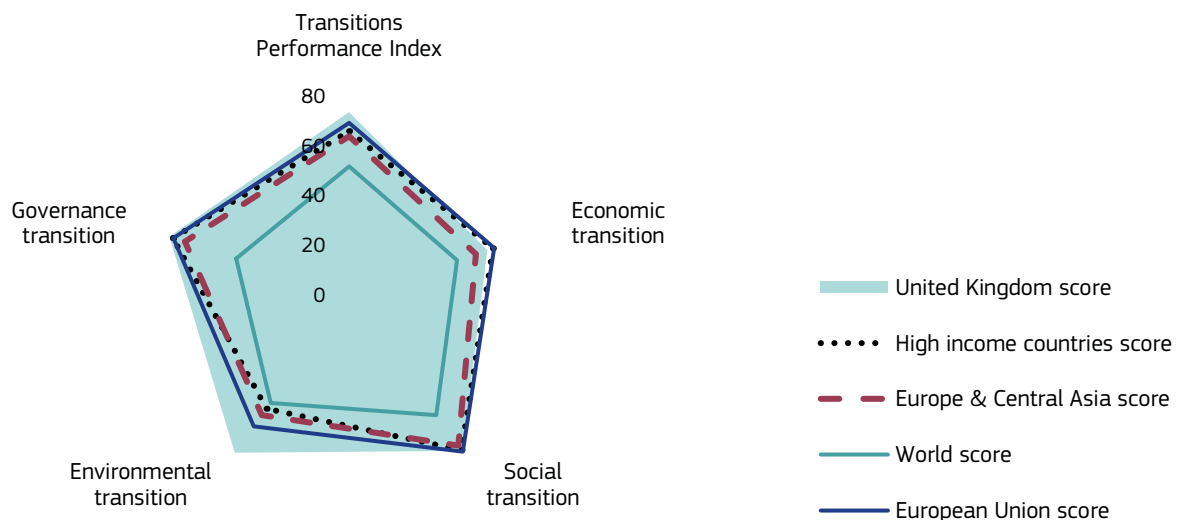*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

UNITED KINGDOM

POPULATION (million inhabitants)	**67.1**	**GDP PER CAPITA** (current PPP$)	**44 116.9**
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	**2 961.9**	**INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0–100)**	**59.0**
EUROPEAN SKILLS INDEX (0–100)	**52.7**		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
United Kingdom ranks	**5**	**22**	**23**	**1**	**18**
United Kingdom score	73.3	58.2	77.1	78.0	75.7
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
Europe & Central Asia score	63.7	53.4	74.5	59.4	69.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- United Kingdom score
- High income countries score
- Europe & Central Asia score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI United Kingdom
- Economic transition
- Social transition
- Environmental transition
- Governance transition

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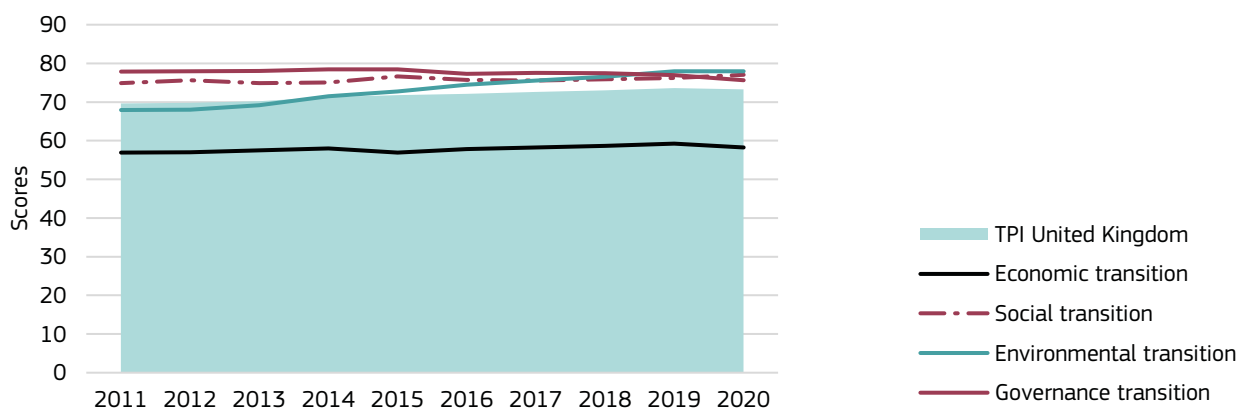
UNITED KINGDOM

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**5**	**73.3**	–
1.	**Economic transition**		**22**	**58.2**	–
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	76.2	14	**76.2**	↘
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	16.8	28	**67.1**	↓
1.1.2	Internet users (%)	94.8	9	**94.8**	↗
1.1.3	Proportion of people with ICT skills (composite)	66.7	8	**66.7**	↘
1.2	WEALTH: GDP per capita, current dollars (PPP$)	44 116.9	21	**58.8**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	48.5	21	**48.5**	–
1.3.1	Output per worker (2011 constant GDP PPP$)	92 646.3	24	**61.8**	–
1.3.2	Gross expenditure on R&D (% of GDP)	1.8	21	**35.2**	↗
1.4	INDUSTRIAL BASE	46.4	33	**46.4**	↘
1.4.1	Gross value added of manufacturing (% of GDP)	8.7	62	**29.0**	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	2.1	19	**72.6**	↘
2.	**Social transition**		**23**	**77.1**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	70.1	28	**83.8**	–
2.2	WORK AND INCLUSION	83.4	9	**83.4**	↑
2.2.1	Employment rate of the population aged 20-64 (%)	77.2	16	**74.5**	↑
2.2.2	Employment-to-population ratio gender gap 25+ (%)	11.1	17	**84.2**	–
2.2.3	Gross enrolment ratio, pre-primary (%)	107.1	1	**100.0**	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	61.0	9	**83.7**	↗
2.4	EQUALITY	64.8	43	**64.8**	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	35.1	41	**66.4**	↘
2.4.2	Income share held by the poorest quintile (%)	6.8	43	**60.0**	↓
3.	**Environmental transition**		**1**	**78.0**	↑
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	7.3	36	**69.6**	↑
3.2	BIODIVERSITY	86.5	9	**86.5**	↘
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	86.4	8	**86.4**	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	91.2	11	**91.2**	–
3.2.3	Pesticide use per area of cropland (kg/ha)	3.2	40	**77.4**	↘
3.3	MATERIAL USE	69.6	1	**69.6**	↑
3.3.1	Resource productivity (PPP$ per kg)	5.7	3	**95.5**	↑
3.3.2	Material footprint (tonnes per capita)	22.5	39	**43.7**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	17.2	6	**86.2**	↑
4.	**Governance transition**		**18**	**75.7**	↘
4.1	FUNDAMENTAL RIGHTS	91.3	15	**91.3**	↘
4.1.1	Voice and accountability index (z-score)	1.2	17	**89.4**	↘
4.1.2	Rule of law Index (z-score)	1.5	17	**93.3**	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.2	31	**78.1**	↘
4.3	TRANSPARENCY	66.5	9	**66.5**	–
4.3.1	Corruption perceptions index (0-100)	77.0	11	**77.0**	–
4.3.2	Basel anti-money laundering index (0-10)	4.1	21	**59.5**	–
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	104.5	60	**48.7**	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

UNITED STATES

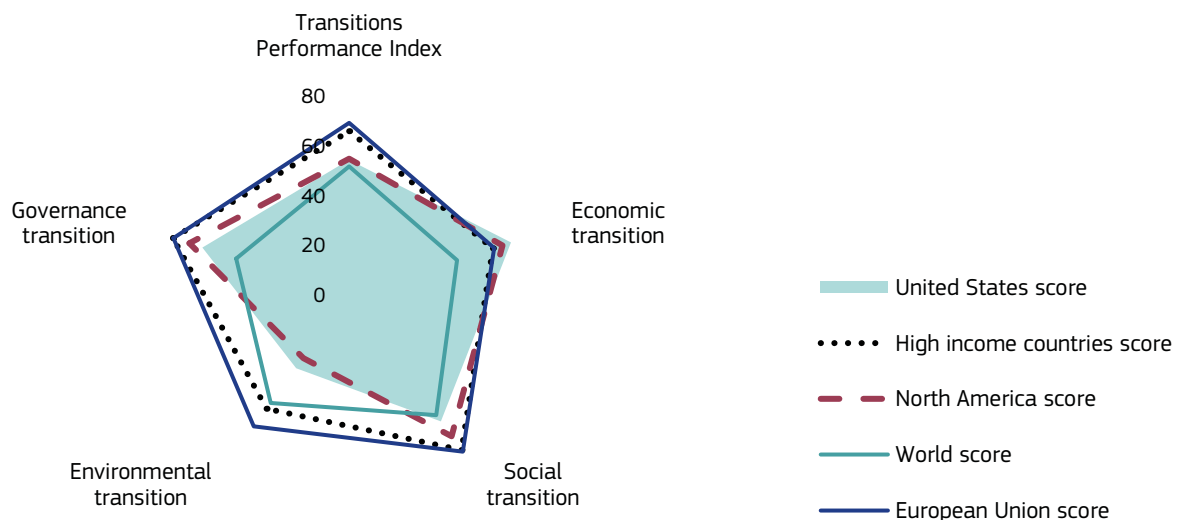| POPULATION (million inhabitants) | 329.5 | GDP PER CAPITA (current PPP$) | 63 416.0 |
| GROSS DOMESTIC PRODUCT (GDP) (billion PPP$) | 20 893.8 | INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX (0-100) | 71.0 |

RANKS AND SCORES

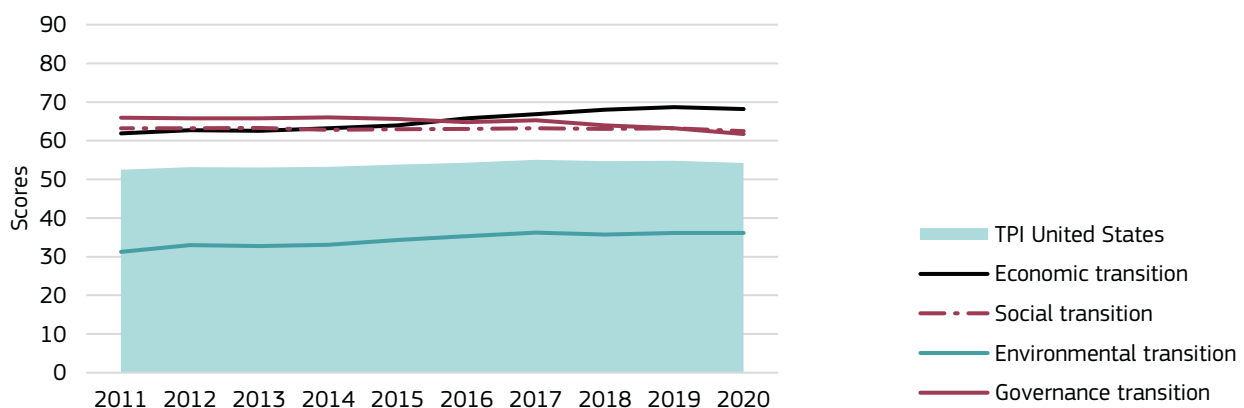| 2020 | TPI | TRANSITIONS | | | |
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
United States ranks	**45**	**11**	**48**	**66**	**42**
United States score	54.2	68.2	62.5	36.1	61.7
World score	51.5	45.4	59.4	53.4	47.6
High income countries score	65.6	60.6	76.6	56.2	74.1
North America score	54.6	64.5	69.8	31.2	67.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

United States score
High income countries score
North America score
World score
European Union score

TRANSITIONS PROGRESS 2011-2020

TPI United States
Economic transition
Social transition
Environmental transition
Governance transition

TRANSITIONS PERFORMANCE INDEX 2021

UNITED STATES

Index	Transitions Performance Index	2020 VALUE	RANK	SCORE	2011–2020 SCORE PROGRESS
	Transitions Performance Index		45	54.2	–
1.	**Economic transition**		11	68.2	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	70.3	24	70.3	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	12.8	40	51.2	↘
1.1.2	Internet users (%)	89.4	23	89.4	↑
1.1.3	Proportion of people with ICT skills (composite)	N/A	N/A	N/A	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	63 416.0	6	84.6	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	70.5	5	70.5	–
1.3.1	Output per worker (2011 constant GDP PPP$)	127 045.6	4	84.7	–
1.3.2	Gross expenditure on R&D (% of GDP)	2.8	10	56.4	–
1.4	INDUSTRIAL BASE	53.5	22	53.5	↘
1.4.1	Gross value added of manufacturing (% of GDP)	10.9	49	36.4	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	3.5	13	79.2	↘
2.	**Social transition**		48	62.5	↘
2.1	HEALTH: Healthy life expectancy at birth (years)	66.1	54	70.4	↘
2.2	WORK AND INCLUSION	66.8	42	66.8	↘
2.2.1	Employment rate of the population aged 20-64 (%)	68.7	40	57.5	↘
2.2.2	Employment-to-population ratio gender gap 25+ (%)	13.7	29	80.4	↘
2.2.3	Gross enrolment ratio, pre-primary (%)	72.1	54	58.2	–
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	54.2	35	71.3	–
2.4	EQUALITY	49.3	63	49.3	↘
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	41.4	61	52.4	↘
2.4.2	Income share held by the poorest quintile (%)	5.2	63	40.0	–
3.	**Environmental transition**		66	36.1	↑
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	18.4	67	23.3	↑
3.2	BIODIVERSITY	41.8	55	41.8	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	34.9	51	34.9	–
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	28.6	56	28.6	–
3.2.3	Pesticide use per area of cropland (kg/ha)	2.5	38	81.9	↘
3.3	MATERIAL USE	34.1	55	34.1	↑
3.3.1	Resource productivity (PPP$ per kg)	3.0	17	49.3	↑
3.3.2	Material footprint (tonnes per capita)	32.4	61	19.0	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	9.1	53	45.3	↑
4.	**Governance transition**		42	61.7	↘
4.1	FUNDAMENTAL RIGHTS	86.1	21	86.1	↘
4.1.1	Voice and accountability index (z-score)	0.9	32	80.8	↘
4.1.2	Rule of law Index (z-score)	1.4	20	91.4	↘
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	5.0	63	50.6	↘
4.3	TRANSPARENCY	59.2	27	59.2	↘
4.3.1	Corruption perceptions index (0-100)	67.0	22	67.0	↘
4.3.2	Basel anti-money laundering index (0-10)	4.6	31	54.0	–
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	133.9	67	29.7	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

VIETNAM

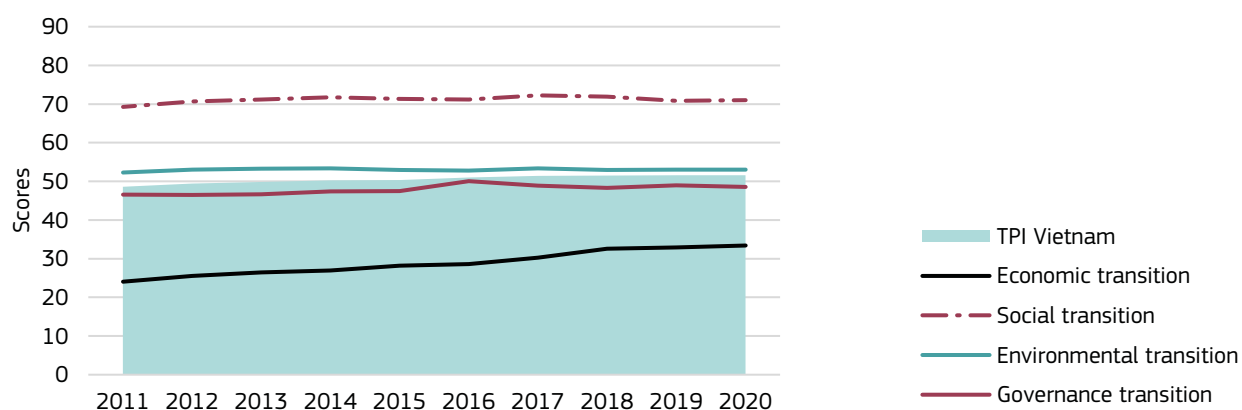|			
POPULATION (million inhabitants)	97.7	**GDP PER CAPITA** (current PPP$)	10 868.9
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	1 061.5		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	**SOCIAL**	**ENVIRONMENTAL**	**GOVERNANCE**
Vietnam ranks	**54**	**59**	**36**	**46**	**60**
Vietnam score	51.6	33.4	71.0	53.0	48.6
World score	51.5	45.4	59.4	53.4	47.6
Lower middle income countries score	49.7	30.5	55.8	59.1	46.8
East Asia & Pacific score	56.8	50.5	69.3	48.1	64.2
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- Vietnam score
- Lower middle income countries score
- East Asia & Pacific score
- World score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI Vietnam
- Economic transition
- Social transition
- Environmental transition
- Governance transition

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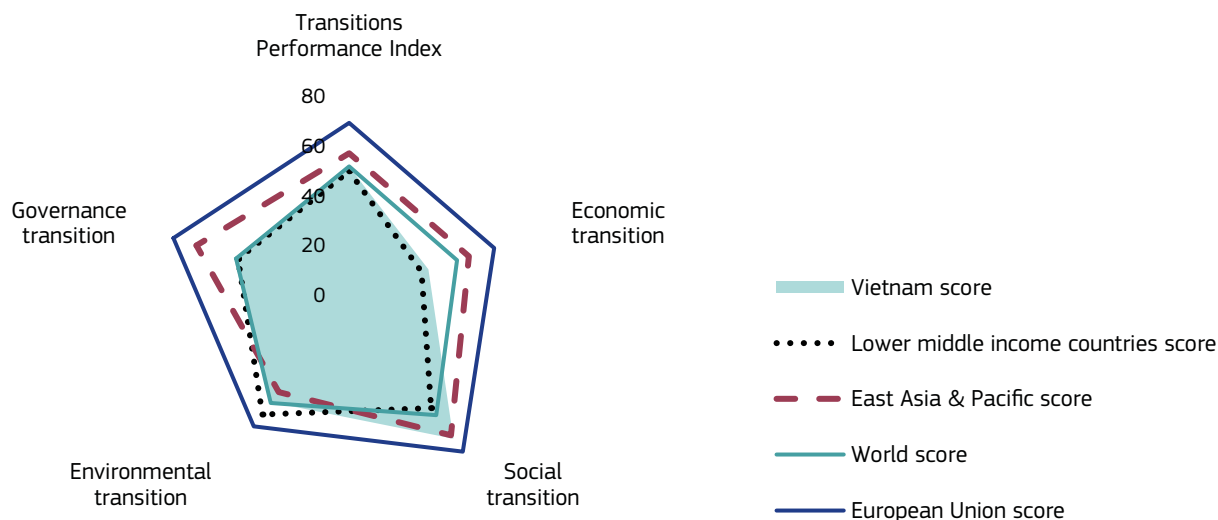
VIETNAM

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**54**	**51.6**	–
1.	**Economic transition**		**59**	**33.4**	↑
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	57.1	49	**57.1**	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	11.0	51	**43.8**	↘
1.1.2	Internet users (%)	70.3	60	**70.3**	↑
1.1.3	Proportion of people with ICT skills (composite)	N/A	N/A	**N/A**	
1.2	WEALTH: GDP per capita, current dollars (PPP$)	10 868.9	66	**14.5**	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	9.9	71	**9.9**	↑
1.3.1	Output per worker (2011 constant GDP PPP$)	13 816.9	71	**9.2**	↑
1.3.2	Gross expenditure on R&D (% of GDP)	0.5	56	**10.5**	↑
1.4	INDUSTRIAL BASE	38.0	53	**38.0**	↑
1.4.1	Gross value added of manufacturing (% of GDP)	16.7	18	**55.7**	↑
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	0.0	67	**11.5**	↘
2.	**Social transition**		**36**	**71.0**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	65.3	59	**67.7**	–
2.2	WORK AND INCLUSION	82.4	11	**82.4**	–
2.2.1	Employment rate of the population aged 20-64 (%)	77.0	19	**73.9**	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	10.3	9	**85.3**	–
2.2.3	Gross enrolment ratio, pre-primary (%)	95.9	17	**93.8**	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	57.2	26	**76.8**	↗
2.4	EQUALITY	63.5	46	**63.5**	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	35.7	45	**65.1**	↘
2.4.2	Income share held by the poorest quintile (%)	6.7	45	**58.8**	–
3.	**Environmental transition**		**46**	**53.0**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	3.9	13	**83.6**	↘
3.2	BIODIVERSITY	48.9	46	**48.9**	↑
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	40.0	42	**40.0**	↑
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	38.2	46	**38.2**	↑
3.2.3	Pesticide use per area of cropland (kg/ha)	1.6	26	**88.4**	–
3.3	MATERIAL USE	39.1	47	**39.1**	↘
3.3.1	Resource productivity (PPP$ per kg)	0.6	70	**10.1**	↑
3.3.2	Material footprint (tonnes per capita)	12.8	21	**68.0**	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	8.1	57	**40.4**	↗
4.	**Governance transition**		**60**	**48.6**	–
4.1	FUNDAMENTAL RIGHTS	26.5	66	**26.5**	↑
4.1.1	Voice and accountability index (z-score)	(1.4)	68	**8.4**	↑
4.1.2	Rule of law Index (z-score)	(0.1)	54	**44.7**	↑
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	1.5	40	**74.3**	–
4.3	TRANSPARENCY	32.3	69	**32.3**	–
4.3.1	Corruption perceptions index (0-100)	36.0	58	**36.0**	↑
4.3.2	Basel anti-money laundering index (0-10)	7.0	70	**29.8**	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	46.3	21	**86.3**	↘

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below –10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
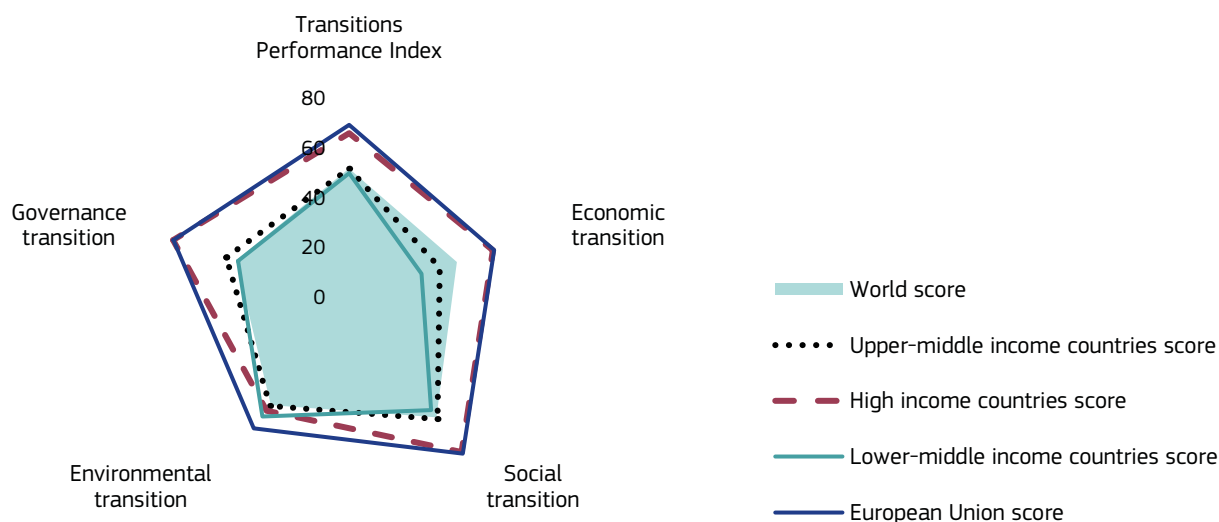*Source: European Commission, Transitions Performance Index 2021.*

TRANSITIONS PERFORMANCE INDEX 2021

WORLD

POPULATION (million inhabitants)	5 900.5	GDP PER CAPITA (current PPP$)	20 376.3
GROSS DOMESTIC PRODUCT (GDP) (billion PPP$)	120 230.4		

RANKS AND SCORES

2020	TPI	TRANSITIONS			
		ECONOMIC	SOCIAL	ENVIRONMENTAL	GOVERNANCE
World ranks	**55**	**42**	**57**	**46**	**61**
World score	51.5	45.4	59.4	53.4	47.6
Lower-middle income countries score	49.7	30.5	55.8	59.1	46.8
Upper-middle income countries score	51.5	38.2	60.3	53.8	51.7
High income countries score	65.6	60.6	76.6	56.2	74.1
European Union score	69.0	61.1	77.5	65.0	74.0

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[

TPI SCORES 2020

- World score
- Upper-middle income countries score
- High income countries score
- Lower-middle income countries score
- European Union score

TRANSITIONS PROGRESS 2011-2020

- TPI World
- Economic transition
- Social transition
- Environmental transition
- Governance transition

WORLD

Index	Transitions Performance Index	2020 VALUE	2020 RANK	2020 SCORE	2011–2020 SCORE PROGRESS
Index	**Transitions Performance Index**		**55**	**51.5**	–
1.	**Economic transition**		**42**	**45.4**	↗
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	48.1	63	48.1	↑
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	10.6	52	42.2	↘
1.1.2	Internet users (%)	65.5	65	65.5	↑
1.1.3	Proportion of people with ICT skills (composite)	36.6	40	36.6	–
1.2	WEALTH: GDP per capita, current dollars (PPP$)	20 376.3	48	27.2	↑
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	33.3	39	33.3	↗
1.3.1	Output per worker (2011 constant GDP PPP$)	43 660.9	50	29.1	↑
1.3.2	Gross expenditure on R&D (% of GDP)	1.9	19	37.5	↗
1.4	INDUSTRIAL BASE	62.9	14	62.9	↘
1.4.1	Gross value added of manufacturing (% of GDP)	16.5	20	55.1	↘
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	2.4	16	74.5	↘
2.	**Social transition**		**57**	**59.4**	–
2.1	HEALTH: Healthy life expectancy at birth (years)	65.2	61	67.2	↗
2.2	WORK AND INCLUSION	49.5	58	49.5	–
2.2.1	Employment rate of the population aged 20-64 (%)	57.8	54	35.7	↓
2.2.2	Employment-to-population ratio gender gap 25+ (%)	30.4	60	56.5	–
2.2.3	Gross enrolment ratio, pre-primary (%)	75.5	51	63.3	↑
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	47.2	58	58.6	–
2.4	EQUALITY	60.0	53	60.0	–
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	38.0	52	60.0	–
2.4.2	Income share held by the poorest quintile (%)	6.8	44	59.9	–
3.	**Environmental transition**		**46**	**53.4**	–
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	7.0	34	70.8	–
3.2	BIODIVERSITY	40.2	60	40.2	–
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	31.6	54	31.6	↗
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	31.1	54	31.1	↗
3.2.3	Pesticide use per area of cropland (kg/ha)	3.4	40	75.6	↘
3.3	MATERIAL USE	50.4	29	50.4	–
3.3.1	Resource productivity (PPP$ per kg)	2.3	27	37.5	↑
3.3.2	Material footprint (tonnes per capita)	14.7	24	63.3	↘
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	10.4	45	52.1	↑
4.	**Governance transition**		**61**	**47.6**	↘
4.1	FUNDAMENTAL RIGHTS	45.7	53	45.7	–
4.1.1	Voice and accountability index (z-score)	(0.3)	58	37.8	↘
4.1.2	Rule of law Index (z-score)	0.1	45	53.5	↗
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	5.4	66	48.8	–
4.3	TRANSPARENCY	44.8	56	44.8	–
4.3.1	Corruption perceptions index (0-100)	44.3	43	44.3	–
4.3.2	Basel anti-money laundering index (0-10)	5.5	60	45.2	↘
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	90.3	59	57.9	↓

■ Transition leader [75-100] ■ Strong transition [65-75[■ Good transition [55-65[■ Moderate transition [45-55[■ Weak transition [0-45[
Progress or decline in scores (2011-2020): ↓ below -10%, ↘ below 0%, – between 0% and 6.5%, ↗ above 6.5%, ↑ above 13%.
Note: Progress lines use automatic scaling and are based on values for indicators and scores for pillar/sub-pillar/index.
Source: European Commission, Transitions Performance Index 2021.

TRANSITIONS PERFORMANCE INDEX 2021

APPENDIX III

SOURCES AND DEFINITIONS

TABLE III.1: List of acronyms

Acronyms	Name
BIG-AML	Basel Institute on Governance, Basel anti-money laundering index
COFOG	UNSD classification of the functions of government
EDGAR	Emission Database for Global Atmospheric Research, edgar.jrc.ec.europa.eu
EEA	European Environment Agency
ESA2010	European System of National and Regional Accounts
Eurostat	European Statistical Office, https://ec.europa.eu/eurostat/
FAOSTAT	Food and Agriculture Organization, Corporate Statistical Database
GMFD	Global Material Flows Database (UNEP-IRP), https://www.resourcepanel.org/global-material-flows-database
IEA-WEB	International Energy Agency, World Energy Balances
ILOSTAT	International Labour Organization database, https://ilostat.ilo.org/data/
IMF-WEO	International Monetary Fund, World Economic Outlook
ISIC	UNSD International Standard Industrial Classification of All Economic Activities
ITU	International Telecommunication Union
IUCN	International Union for Conservation of Nature
JRC	Joint Research Centre of the European Commission
LOCF	Last observation carried forward
FOCB	First observation carried backward
NACE	European Nomenclature of Economic Activities
OECD	Organisation for Economic Cooperation and Development
TCB-TED	The Conference Board, Total Economy Database
TI	Transparency International
UNEP-IRP	United Nations Environment Programme, International Resource Panel
UN-SDGs	United Nations, Global Sustainable Development Goals Indicators Database, https://unstats.un.org/sdgs/indicators/database/
UN-CTS	United Nations Survey of Crime Trends and Operations of Criminal Justice Systems
UNESCO-UIS	United Nations Educational, Scientific and Cultural Organization Institute of Statistics, http://www.uis.unesco.org
UNFCCC	United Nations Framework Convention on Climate Change, https://di.unfccc.int/time_series
UNODC	United Nations Office on Drugs and Crime, https://www.unodc.org/unodc/en/data-and-analysis/crime-and-criminal-justice.html
UNPD	United Nations Population Division, Department of Economic and Social Affairs (2019), World Population Prospects 2019, Online Edition. Rev. 1
UNSD	United Nations Statistics Division
VAB	Value added data collected at basic prices
WB	World Bank
WB-WDI	World Bank World Development Indicators
WB-WGI	World Bank World Governance Indicators
WDPA	World Database on Protected Areas
WHO	World Health Organization
WIPO	World Intellectual Property Organization

This appendix provides all sources and definitions for the different data series. It also includes, in italics, indicator– sub-pillar– or pillar– specific details on computation (see Appendix IV – Technical notes).

PILLAR 1. ECONOMIC TRANSITION

The pillar score is computed as the weighted average of sub-pillar scores.

SUB-PILLAR 1.1. EDUCATION AND DIGITAL SKILLS

The sub-pillar score is computed as a composite (weighted average) of three indicator scores.

1.1.1 Government expenditure in education per student (% of GDP per capita)

The sub-pillar includes one indicator, government expenditure in education per student (% of GDP per capita). This indicator is computed as government expenditure in education as a percentage of GDP divided by student population (population aged 0-24 over total population):

$$\frac{GEE/S}{GEE/POP} * 100 = \frac{GEE/GDP}{S/POP} * 100$$

where:

- *GEE is government expenditure in education;*

- *GDP is gross domestic product;*

- *S is student population defined as population aged 0 to 24 years old;*

- *POP is total population.*

GEE/GDP: The Eurostat series is complemented by the OECD series, the UNESCO UIS series, the World Bank series; and the UNDP series (up to 2012), in that order. A national source is used for Nigeria.[1]

S/POP: UNPD data on population aged 0-24 is divided by UNPD data on total population.

Eurostat: Government expenditure in million euros by function (UNSD COFOG, replicated ESA2010), for Sector S13 General government, Function GF09 Education, Item TE Total general government expenditure, expressed as a percentage of GDP (gov_10a_exp). 2011-2019, LOCF.

OECD: Public spending on education, primary to tertiary (% of GDP). Public spending on education includes direct expenditure on educational institutions as well as educational-related public subsidies given to households and administered by educational institutions. This indicator is shown as a percentage of GDP, divided by primary, primary to post-secondary non-tertiary and tertiary levels. Public entities include ministries other than ministries of education, local and regional governments, and other public agencies. Public spending includes expenditure on schools, universities and other public and private institutions delivering or supporting educational services. This indicator shows the priority given by governments to education relative to other areas of investment, such as health care, social security, defense and security. Education expenditure covers expenditure on schools, universities and other public and private institutions delivering or supporting educational services. Source: Education at a glance: Educational finance indicators. 2011-2019 (LOCF, FOCB).[2]

UNESCO-UIS: Total (current, capital and transfers) general government expenditure on education, expressed as a percentage of GDP. 2011-2019, LOCF, FOCB.

WB-WDI: Government expenditure on education, total (% of GDP), General government expenditure on education (current, capital, and transfers) is expressed as a percentage of GDP. It includes expenditure funded by transfers from international sources to government. General government usually refers to local, regional and central governments. SE.XPD.TOTL.GD.ZS, 2019, LOCF, FOCB.

UNDP: Total public expenditure (current and capital) on education expressed as a percentage of GDP, years 2012 or latest available, International Human Development Indicators.

UNPD: Population aged 0-24 (both sexes combined). 2010, 2015, 2020, interpolation.

UNPD: Total population (both sexes combined). 2011-2020.

1.1.2 Internet users (per 100 inhabitants)

ITU: The indicator proportion of individuals using the Internet is defined as the proportion of individuals who used the Internet from any location in the last three months, per 100 inhabitants. For countries that have not carried out a survey,

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1 https://www.cbn.gov.ng/Out/2020/CCD/BULLION%20Vol.%2044%20No.%202%20April-June,%202020.pdf.
2 https://data.oecd.org/eduresource/public-spending-on-education.htm

data are estimated (by ITU) based on the number of Internet subscriptions and other socioeconomic indicators (GNI per capita) and on the time series data. 2011-2020, LOCF, FOCB.[3]

1.1.3 People with ICT skills (index)

ITU: The indicator is expressed as a percentage. Proportion of people with ICT skills (composite) is a composite of three sub-indicators: Proportion of people with basic ICT skills (%); Proportion of people with standard ICT skills (%), and Proportion of people with advanced ICT skills (%). The proportion of youth and adults with information and communications technology (ICT) skills, by type of skill as defined as the percentage of individuals that have undertaken certain ICT-related activities in the last 3 months. 2014-2019, FOCB (for all of 2011-2013, among others), LOCF (for all of 2020, among others).[3]

The composite follows the scoring proposed by ITU: skills are divided in three groups, Basic (skills 1, 2, 3 and 8); Standard (skills 4, 5, 6 and 7) and Advanced (skill 9). The highest percentage is taken within each group; and these percentages are normalized with reference values (the equivalent of goalposts in this index) of 100% for Basic, 80% for Standard and 20% for Advanced, and equal weights in the aggregate (one third each). This is the list of skills:

1. Basic: Copying or moving a file or folder.

2. Basic: Using copy and paste tools to duplicate or move information within a document.

3. Basic: Sending e-mails with attached files (e.g. document, picture, video).

4. Standard: Using basic arithmetic formulas in a spreadsheet.

5. Standard: Connecting and installing new devices (e.g. a modem, camera, printer).

6. Standard: Finding, downloading, installing and configuring software.

7. Standard: Creating electronic presentations with presentation software (including images, sound, video or charts).

8. Basic: Transferring files between a computer and other devices.

9. Advanced: Writing a computer program using a specialized programming language.

SUB-PILLAR 1.2. WEALTH

The sub-pillar includes a single indicator.

1.2.1 GDP per capita (PPP$)

IMF-WEO: GDP, current prices, expressed in purchasing power parity (PPP) dollars divided by total population. For primary source information for PPP data, please refer to one of the following sources: the OECD, the World Bank, or the Penn World Tables. For further information, see: (i) Box A2 in the April 2004 World Economic Outlook; (ii) Box 1.2 in the September 2003 World Economic Outlook for a discussion on the measurement of global growth; (iii) Box A.1 in the May 2000 World Economic Outlook for a summary of the revised PPP-based weights; and (iv) Annex IV of the May 1993 World Economic Outlook. See also Anne Marie Gulde and Marianne Schulze-Ghattas, 'Purchasing Power Parity Based Weights for the World Economic Outlook', in *Staff Studies for the World Economic Outlook* (Washington: IMF, December 1993), pp. 106-23. Purchasing power parity; international dollars. IMF-WEO October 2021 data and estimates (PPPPC), 2011-2020.

SUB-PILLAR 1.3. LABOUR PRODUCTIVITY AND R&D INTENSITY

The sub-pillar score is computed as a composite (weighted average) of two indicator scores.

1.3.1 Output per worker (2011 constant PPP$ GDP)

ILOSTAT: Output per worker (in 2011 constant PPP$ GDP). Labour productivity is an important economic indicator that is closely linked to economic growth, competitiveness, and living standards within an economy. Labour productivity represents the total volume of output (measured in terms of GDP) produced per unit of labour (measured in the number of employed persons or hours worked) during a given time

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3 https://www.itu.int/en/ITU-D/Statistics/Pages/SDGs-ITU-ICT-indicators.aspx and https://unstats.un.org/sdgs/metadata/files/Metadata-17-08-01.pdf

reference period. The indicator allows data users to assess GDP-to-labour input levels and growth rates over time, thus providing general information about the efficiency and quality of human capital in the production process for a given economic and social context, including other complementary inputs and innovations used in production. Modelled estimates, November 2019, GDP_211P_NOC_NB_A, 2011-2019, LOCF.[4]

1.3.2 Gross expenditure on research and development GERD (% of GDP)

The Eurostat series is complemented by the UNESCO series. For a few countries, other sources are used.

EUROSTAT: Gross expenditure on research and development GERD (% of GDP). Research and experimental development (R&D) comprise creative and systematic work undertaken in order to increase the stock of knowledge – including knowledge of humankind, culture and society – and to devise new applications of available knowledge." (§ 2.5, Frascati Manual, OECD 2015). It is expressed as a percentage of gross domestic product (PC_GDP). 2011-2019, LOCF, FOCB.

UNESCO-UIS: Total intramural expenditure on research and development (R&D) performed in the national territory during a year, expressed as a percentage of the GDP of the national territory (i.e. the sum of gross value added by all resident producers in the economy, including distributive trades and transport, plus any product taxes and minus any subsidies not included in the value of the products) and multiplied by 100. Adapted from OECD (2015), Frascati Manual 2015: *Guidelines for Collecting and Reporting Data on Research and Experimental Developmen*t. 2011-2019, LOCF, FOCB.

SUB-PILLAR 1.4. INDUSTRIAL BASE

The sub-pillar score is computed as a composite (weighted average) of two indicator scores.

1.4.1 Gross value added of manufacturing (% of GDP)

The Eurostat series is complemented by the WB WDI series.

Eurostat: Gross value added of manufacturing, based on NACE category C, Manufacturing, expressed as a percentage of GDP. 2011-2020, LOCF, FOCB.

WB-WDI: Manufacturing value added, expressed as a percentage of GDP. Manufacturing refers to industries belonging to ISIC divisions 15-37. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The origin of value added is determined by ISIC, revision 3. Note: For countries that collect value added at basic prices (VAB countries), gross value added at factor cost is used as the denominator. 2011-2020, LOCF, FOCB. There is a break in series in 2015 for some countries.

1.4.2 Patent families filed in two offices (per billion PPP$ GDP)

Patent families filed in two offices (WIPO) is expressed per billion PPP$ GDP of the same year (IMF-WEO). The indicator value assigned to a given year is computed as a moving average over the given year and the previous two years. Therefore, the data for 2011 is the average of values for years 2009 to 2011, and so forth. The 2017 moving average is carried forward to years 2018 to 2020 (LOCF).

WIPO: Number of patent families filed by residents in at least two offices. A 'patent family' is a set of interrelated patent applications filed in one or more countries or jurisdictions to protect the same invention. Patent families containing applications filed in at least two different offices is a subset of patent families where protection of the same invention is sought in at least two different countries. A 'patent' is a set of exclusive rights granted by law to applicants for inventions that are new, non-obvious, and commercially applicable. A patent is valid for a limited period (generally 20 years), during which patent holders can commercially exploit their inventions on an exclusive basis, and within a limited territory. In return, applicants are obliged to disclose their inventions to the public in a manner that enables others, skilled in the art, to replicate the invention. The patent system is designed to encourage innovation by providing innovators with time-limited exclusive legal rights, thus enabling them to appropriate the returns from their innovative activity. Source: World Intellectual Property Organization, Intellectual Property Statistics. 2009-2017.

IMF-WEO: GDP, current prices, expressed in purchasing power parity (PPP) dollars (PPPGDP). For primary source information for PPP data, please refer to one of the following sources: the

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4 https://www.ilo.org/shinyapps/bulkexplorer46/? lang=en&segment=indicator&id=GDP_211P_NOC_NB_A

OECD, the World Bank, or the Penn World Tables. For further information, see: (i) Box A2 in the April 2004 World Economic Outlook; (ii) Box 1.2 in the September 2003 World Economic Outlook for a discussion on the measurement of global growth; (iii) Box A.1 in the May 2000 World Economic Outlook for a summary of the revised PPP-based weights; and (iv) Annex IV of the May 1993 World Economic Outlook. See also Anne Marie Gulde and Marianne Schulze-Ghattas, 'Purchasing Power Parity Based Weights for the World Economic Outlook', in *Staff Studies for the World Economic Outlook* (Washington: IMF, December 1993), pp. 106-23. Purchasing power parity; international dollars. IMF-WEO October 2021 database and estimates, 2009-2017.

PILLAR 2. SOCIAL TRANSITION

The pillar score is computed as the weighted average of sub-pillar scores.

SUB-PILLAR 2.1. HEALTH

The sub-pillar includes a single indicator.

2.1.1. Healthy life expectancy at birth (years)

WHO: Healthy life expectancy (HALE) at birth is the average number of years that a person can expect to live in 'full health' by taking into account years lived in less than full health due to disease and/or injury. The equivalent lost-healthy-year fractions required for the HALE calculation are estimated as the all-cause years-lost-due-to-disability-(YLD) rate per capita, adjusted for independent comorbidity, by age, sex, and country. Sullivan's method uses the equivalent lost-healthy-year fraction (adjusted for comorbidity) at each age in the current population (for a given year) to divide the hypothetical years of life lived by a period-life-table cohort at different ages into years of equivalent full-health and equivalent lost-healthy years. 2010, 2015-2019, interpolation, LOCF.

SUB-PILLAR 2.2. WORK AND INCLUSION

The sub-pillar score is computed as a composite (weighted average) of indicator scores.

2.2.1. Employment rate of people aged 20-64 (%)

The Eurostat series is complemented by the ILOSTAT series. ILOSTAT computes employment-to-population ratios for age categories 15+, 15-24 and 25+ (see Section 2.2.2), but the age categories do not match Eurostat age categories. Instead, the employment rate is computed from ILOSTAT employment data by age groups (sum for 20-64 years old) divided by UNPD population data (20-64 years old).

Eurostat: The employment rate is calculated by dividing the number of persons aged 20-64 in employment by the total population of the same age group. The indicator is based on the EU labour force survey. The survey covers the entire population living in private households and excludes those in collective households such as boarding houses, halls of residence and hospitals. Employed population consists of those persons who, during the reference week, did any work for pay or profit for at least one hour or were not working but had jobs from which they were temporarily absent. 2011-2020, LOCF, FOCB.[5]

ILOSTAT: Total employment by age categories, sum for 20-64 years old. Employment comprises all persons of working age who during a specified brief period, such as one week or one day, were in the following categories: a) paid employment (whether at work or with a job but not at work); or b) self-employment (whether at work or with an enterprise but not at work). 2011-2020, LOCF, FOCB.[6]

UNPD: Population aged 20-64 (both sexes combined). 2010, 2015, 2020, interpolation.

2.2.2 Employment-to-population ratio gender gap 25+ (%)

ILOSTAT: The gender gap is the difference between the employment-to population ratio for males and the employment-to-population ratio for females. The employment-to-population ratio is the proportion of a country's working-age population that is employed (in this case, persons aged 25 and above). For the definition of employment, see Section 2.2.1. The working-age population is the population above the legal working age, but for statistical purposes it comprises everyone above a specified minimum-age threshold for which an inquiry on economic activity is made. 2011-2019, LOCF.

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5 https://ec.europa.eu/eurostat/databrowser/view/T2020_10/default/table?lang=en
6 https://www.ilo.org/shinyapps/bulkexplorer52/?lang=en&segment=indicator&id=EMP_TEMP_SEX_AGE_NB_A

To promote international comparability, the working-age population is often defined as all persons aged 15 and older, but this may vary from country to country based on national laws and practices. For many countries, this age corresponds directly to societal standards for education and work eligibility. However, in some countries, and developing countries in particular, it is often appropriate to include younger workers because 'working age' can, and often does, begin earlier. Some countries in these circumstances use a lower official bound and include younger workers in their measurements. Similarly, some countries have an upper limit for eligibility, such as 65 or 70 years, although this requirement is imposed rather infrequently.

The population base for employment-to-population ratios can vary across countries for issues other than differences in age limits. In most cases, the resident non-institutional population of working age living in private households is used, excluding members of the armed forces and individuals residing in mental, penal or other types of institutions. However, many countries include the armed forces in the population base for their employment-to-population ratios even when they do not include them in the employment figures. In general, information for this indicator is derived from household surveys, mainly labour force surveys. However, some countries use 'official estimates' or population censuses as the source of their employment figures.

2.2.3 Gross enrolment ratio, pre-primary, both sexes (%)

This indicator has been simplified from the 2020 TPI and is now based on a single indicator. Goalposts have also been redefined (refer to Appendix I Conceptual Framework for details). For Bosnia & Herzegovina, Canada and Singapore, other sources are used.

UNESCO-UIS: Gross enrolment ratio, pre-primary, both sexes (%) is the ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Pre-primary education refers to programmes at the initial stage of organised instruction, designed primarily to introduce very young children to a school-type environment and to provide a bridge between home and school. 2011-2020, LOCF, FOCB.

SUB-PILLAR 2.3. FREE OR NON-REMUNERATED TIME

The sub-pillar includes one indicator, annual free or non-remunerated time of the active population (hours), computed as:

$$FNRT = \frac{A}{P} \frac{(H-T)}{H} = AR \left(1 - \frac{T}{H}\right)$$

Where:

- FNRT is the free and non-remunerated time index (no unit, fluctuates between 0 and 100);

- A is active population or labour force (number);

- P is total population (number);

- AR=A/P is the active population rate (% of population);

- T is the average annual work per worker (hours);

- H is two thirds of the total annual number of hours, i.e. 16 hours times 365 days = 5 840 (hours).

2.3.1 Labour force (% of population aged 20-64)

ILOSTAT: Labour force aged 20-64 (in thousands). The labour force comprises all persons of working age who furnish the supply of labour to produce goods and services during a specified time-reference period. It refers to the sum of all persons of working age who are employed and those who are unemployed. The series is part of the ILO modelled estimates and is harmonized to account for differences in national data and scope of coverage, collection and tabulation methodologies as well as for other country-specific factors. To obtain the active population rate, this indicator is divided by total population aged 20-64 (UNPD). 2011-2019, LOCF (2020).

2.3.2 Average annual work per worker (hours)

To compute the sub-indicator average annual work per worker (hours) The Conference Board series is complemented with the ILOSTAT series mean weekly hours usually worked per employed person by sex, multiplied by a factor of 45.23, which corresponds to the average number of weeks of work weighted by employment for the countries for which both annual and weekly data are available.

TCB: Average annual work per worker (hours). 2011–2020.

ILOSTAT: Mean weekly hours usually worked per employed person by sex. 2011–2020, LOCF, FOCB. For a few countries, data from similar countries was imputed.

SUB-PILLAR 2.4. EQUALITY

The sub-pillar score is computed as a composite (weighted average) of indicator scores.

2.4.1. Gini coefficient of disposable income, post taxes and transfers (0-1 scale)

For a few countries, other sources are used.

WB WDI: The Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. Data are based on primary household-survey data obtained from government statistical agencies and World Bank country departments. World Bank, Development Research Group. For more information and methodology, see PovcalNet.[7] SI.POV. GINI. 2011–2019, LOCF, FOCB.

2.4.2. Income share held by the poorest quintile (%)

WB-WDI: Income share held by lowest 20%. Percentage share of income or consumption is the share that accrues to subgroups of population indicated by deciles or quintiles. Percentage shares by quintile may not sum to 100 because of rounding. Data are based on primary household-survey data obtained from government statistical agencies and World Bank country departments. Data for high-income economies are from the Luxembourg Income Study database. World Bank, Development Research Group. For more information and methodology, see PovcalNet.[7] SI.DST. FRST.20. 2011–2019, LOCF, FOCB.

PILLAR 3. ENVIRONMENTAL TRANSITION

The pillar score is computed as the simple average of sub-pillar scores.

SUB-PILLAR 3.1. EMISSIONS REDUCTION

The sub-pillar includes a single indicator.

3.1.1. Gross greenhouse-gas emissions (tonnes per capita)

For this indicator, EEA-Eurostat data are complemented by WB-WDI total greenhouse-gas-emissions data (kt of CO_2 equivalent) divided by population (UNPD).

EEA-Eurostat: Greenhouse-gas emissions in tonnes per capita; for all sectors and indirect CO_2 (excluding land use, land-use change and forestry (LULUCF) and memo items, including international aviation). The EU as a party to the United Nations Framework Convention on Climate Change (UNFCCC) reports annually its greenhouse-gas inventory for the year t-2 and within the area covered by its Member States. The inventory contains data on carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3). The EU inventory is fully consistent with national greenhouse-gas inventories compiled by the EU Member States. This indicator is used to measure progress on SDG 13: Take urgent action to combat climate change and its impacts. (Source: EEA). 2011–2019, LOCF.

WB-WDI: Total greenhouse-gas emissions (kt of CO_2 equivalent), EN.ATM.GHGT.KT.CE. Total greenhouse gas emissions in kt of CO_2 equivalent are composed of CO_2 totals excluding short-cycle biomass burning (such as agricultural waste burning and savanna burning) but including other biomass burning (such as forest fires, post-burn decay, peat fires and decay of drained peatlands), all anthropogenic CH4 sources, N_2O sources and F-gases (HFCs, PFCs and SF_6). Data from 1990 are CAIT data: Climate Watch. 2020. GHG Emissions. Washington, DC: World Resources Institute. 2011–2018, LOCF for 2019–2020.[8]

UNPD: Total population (both sexes combined). 2011–2020.

SUB-PILLAR 3.2. BIODIVERSITY

The sub-pillar score is computed as a composite (weighted average) of indicator scores.

3.2.1. Terrestrial key biodiversity areas protected (%)

UN SDGs: Proportion of important sites for terrestrial biodiversity that are covered by protected areas. SDGs database, Indicator 15.1.2 by ecosystem type, 2011-2020.

3.2.2. Freshwater key biodiversity areas protected (%)

UN SDGs: Proportion of important sites for freshwater biodiversity that are covered by protected areas. SDGs database, Indicator 15.1.2 by ecosystem type, 2011-2020.

3.2.3. Pesticide use per area of cropland (kg/ha)

FAOSTAT: Agri-environmental indicator on the use of pesticides per area of cropland (which is the sum of arable land and land under permanent crops) at national level, expressed in kg/ha. 2011-2019, LOCF (noting that LOCF is performed at the source by FAO).[9]

SUB-PILLAR 3.3. MATERIAL USE

The sub-pillar score is computed as a composite (weighted average) of indicator scores.

3.3.1. Resource productivity (PPP$ per kg)

Resource productivity is a measure of the total amount of materials directly used by an economy, i.e. GDP per unit of domestic material consumption of raw materials. The indicator is defined as PPP$ GDP divided by domestic material consumption (DMC). PPP$ GDP is taken from the IMF WEO series, divided by DMC from Eurostat, complemented by the UNEP-IRP-GMFD series.

TABLE III.2: Four category and 13 subcategory classifications of domestic extraction

MFA4	MFA13
Biomass	Crops
Biomass	Crops Residues
Biomass	Grazed biomass and fodder crops
Biomass	Wood
Biomass	Wild catch and harvest
Metal ores	Ferrous ores
Metal ores	Non-ferrous ores
Non-medical minerals	Non-medical minerals – construction dominant
Non-medical minerals	Non-medical minerals – industrial or agricultural dominant
Fossil Fuels	Coal
Fossil Fuels	Petroleum
Fossil Fuels	Natural gas
Fossil Fuels	Oil shale and tar sands

Source: UNEP, Technical Annex for Global Material Flows Database (January 2018)

Eurostat: DMC expressed in tonnes. DMC measures the total amount of materials directly used by an economy. It is defined as the annual quantity of raw materials extracted from the domestic territory of the local economy, plus all physical imports minus all physical exports. The term 'consumption', as used in DMC, denotes apparent consumption and not final consumption. DMC does not include upstream flows related to imports and exports of raw materials and products originating outside of the local economy. 2011-2020, LOCF, FOCB.[10]

UNEP-IRP-GMFD: Domestic material consumption (DMC, all products, in tonnes) is defined as domestic extraction (DE) plus physical imports (IM) minus physical imports (EX), based on Material Flow Accounts (MFA) categories and subcategories (**Table III.2**).

The database reports material extraction, trade, material footprints and material intensity. Data from 2012 on contain an increasing portion of projected data, such that by 2017 the data is entirely based on projection from earlier years; therefore the last year which should be used for regression analyses and similar is 2012. 2011-2017, LOCF.[11]

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9 The data points for Malta correspond to the 2014 value found in the publication: Malta's National Action Plan for the Sustainable Use of Pesticides 2019 - 2023.

10 https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Resource_productivity; https://ec.europa.eu/eurostat/databrowser/view/env_ac_mfa/default/table?lang=en.

11 https://www.resourcepanel.org/global-material-flows-database

IMF-WEO: GDP, current prices, expressed in purchasing power parity (PPP) dollars (PPPGDP). For primary source information for PPP data, please refer to one of the following sources: the OECD, the World Bank, or the Penn World Tables. For further information, see: (i) Box A2 in the April 2004 World Economic Outlook; (ii) Box 1.2 in the September 2003 World Economic Outlook for a discussion on the measurement of global growth; (iii) Box A.1 in the May 2000 World Economic Outlook for a summary of the revised PPP-based weights; and (iv) Annex IV of the May 1993 World Economic Outlook. See also Anne Marie Gulde and Marianne Schulze-Ghattas, 'Purchasing Power Parity Based Weights for the World Economic Outlook', in *Staff Studies for the World Economic Outlook* (Washington: IMF, December 1993), pp. 106-23. Purchasing power parity; international dollars. 2011-2020.

3.3.2. Material footprint (tonnes per capita)

Material footprint is a measure of the total amount of materials consumed by a population, i.e. material footprint in tonnes divided by population. The indicator is defined as material footprint divided by population. Material footprint is taken from UNEP-IRP-GMFD and is divided by population taken from UNPD data.

UNEP-IRP-GMFD: Material footprint (MF, all products, in tonnes) is defined as domestic extraction (DE) plus raw material equivalent of imports (RMEIM) minus raw material equivalent of exports (RMEEX), based on the same MFA4 categories as resource productivity (see indicator 3.3.1). Material footprinting involves apportioning physical domestic extraction accounts, to attribute the extracted materials on a consumption rather than production basis.

This is achieved via a series of interlinked national financial input – output tables. This system of input-output table is known as a multi-regional input-output table (MIOT), and the particular MIOT used for this work is the EORA MRIO ran by Sydney University.[12] 2011-2017, LOCF for 2018-2020.

UNPD: Total population (both sexes combined). 2011-2020.

SUB-PILLAR 3.4 ENERGY PRODUCTIVITY

The sub-pillar includes a single indicator.

3.4.1. Energy productivity (PPP$ per kg of oil equivalent, koe)

IEA-WEB: Division of GDP (2015 constant PPP$ GDP) by total energy supply for a given calendar year. Energy productivity measures the productivity of energy consumption, and provides a picture of the degree of decoupling of energy use from growth in GDP. It is equivalent to the inverse of energy efficiency. Total energy supply is made up of production, plus imports, minus exports, minus international marine bunkers, minus international aviation bunkers, plus/minus stock changes. Source: International Energy Agency (IEA), World Energy Balances, 2020, all rights reserved. 2011-2019, LOCF.[13]

PILLAR 4. GOVERNANCE TRANSITION

The pillar score is computed as the weighted average of sub-pillar scores.

SUB-PILLAR 4.1. FUNDAMENTAL RIGHTS

The sub-pillar score is computed as a composite (weighted average) of indicator scores.

4.1.1. Voice and accountability (z-score)

WB-WGI: 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. 2011-2020, LOCF.[14]

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12 http://www.worldmrio.com/
13 https://www.iea.org/subscribe-to-data-services/world-energy-balances-and-statistics
14 https://info.worldbank.org/governance/wgi/pdf/va.pdf

4.1.2. Rule of law (z-score)

WB-WGI: Perceptions of: (i) the extent to which respondents 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; and (ii) the likelihood of crime and violence. 2011-2020.[15]

SUB-PILLAR 4.2. SECURITY

The sub-pillar score includes a single indicator.

4.2.1. Homicide rate (per 100 000 inhabitants)

UNODC: Victims of intentional homicide, rates per 100 000 population. 2011-2018, LOCF, FOCB.[16]

SUB-PILLAR 4.3. TRANSPARENCY

The sub-pillar score is computed as a composite (weighted average) of indicator scores.

4.3.1. Corruption perceptions index (CPI) (0-100)

TI: Perceived levels of public-sector corruption, as determined by expert assessments and opinion surveys. The CPI is a composite index based on a combination of surveys and assessments of corruption from 13 different sources. It scores and ranks countries based on how corrupt a country's public sector is perceived to be, with a score of 0 representing a high level of corruption and a score of 100 representing a 'clean' country. The sources of information used for the 2017 CPI are based on data gathered in the 24 months preceding the publication of the index. The CPI includes only sources that provide a score for a set of countries/territories and that measure perceptions of corruption in the public sector. For a country/territory to be included in the ranking, it must be included in a minimum of three of the CPI's data sources. Transparency International.[17] 2012-2020, LOCF, interpolation, FOCB (for 2011 and a few data points).

4.3.2. Basel anti-money laundering index (0-100)

BIG-AML: The Basel anti-money laundering (AML) index measures the risk of money laundering and terrorist financing (ML/TF) in countries by using data from publicly available sources such as the Financial Action Task Force (FATF), Transparency International, the World Bank and the World Economic Forum. It aggregates into one overall risk score 15 indicators of countries: (i) adherence to regulations to prevent money laundering and counter the financing of terrorism (AML/CFT); (ii) levels of corruption; (iii) financial standards; (iv) political disclosure; and (v) commitment to the rule of law. By combining these data sources, the overall risk score represents a holistic assessment addressing structural as well as functional aspects of the country's resilience against ML/TF. The Basel AML index does not measure the actual amount of money laundering or terrorist financing activity, but rather is designed to assess the risk of such activity. ML/TF risk is understood as a broad risk area in relation to a country's vulnerability to ML/TF and its capacities to counter it. Source: Public Edition of the Basel AML index.[18] Scores from 2012-2017 and 2017-2018 are all comparable, there was a recalculation in 2017 (two data series for 2017). The data from before 2016 are computed again by adjusting the series to the recalculation of 2017, following a rule of three. 2012-2020, LOCF, FOCB.

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15 https://info.worldbank.org/governance/wgi/pdf/rl.pdf

16 https://dataunodc.un.org/content/data/homicide/homicide-rate

17 https://www.transparency.org/cpi2018

18 2018 data: https://www.baselgovernance.org/basel-aml-index/public-ranking; data since 2012: https://www.baselgovernance.org/basel-aml-index

SUB-PILLAR 4.4. SOUND PUBLIC FINANCES

The sub-pillar includes a single indicator.

4.4.1. General government gross debt (% of GDP)

IMF-WEO: General government gross debt, expressed as a percentage of GDP. Gross debt consists of all liabilities that require payment or payments of interest and/or principal by the debtor to the creditor at a date or dates in the future. This includes debt liabilities in the form of special drawing rights (SDRs); currency and deposits; debt securities loans; insurance; pensions and standardised guarantee schemes; and other accounts payable. Thus, all liabilities in the GFSM 2001 system are debt, except for: (i) equity and investment fund shares; (ii) financial derivatives; and (iii) employee stock options. Debt can be valued at current market, nominal, or face values (GFSM 2001, paragraph 7.110). IMF-WEO October 2021 data and estimates (GGXWDG_ NGDP), 2011-2020 (including IMF estimates).

Table III.3 presents all indicator sources, dates of data points, and imputation methods used.

TABLE III.3: TPI sources and imputation

Transitions Performance Index		SOURCE	DATES	IMPUTATION
	Income group (GNI per capita in US$ (Atlas methodology)	WB	2011-2019	None
	Cropland area (ha)	FAOSTAT	2011-2019	LOCF
	Region aggregates	Developers	N/A	N/A
1.	**Economic transition**			
1.1	EDUCATION, INTERNET USE, ICT SKILLS			
1.1.1	Total general government expenditure in education, general government (% of GDP)	Eurostat	2011-2019	LOCF
	Public spending on education, primary to tertiary (% of GDP)	OECD	2011-2019	LOCF, FOCB
	Government expenditure on education (% of GDP)	UNESCO	2011-2019	LOCF, FOCB
	Government expenditure on education (% of GDP)	WB-WDI	2019	LOCF, FOCB
	Total public expenditure (current and capital) on education (% of GDP)	UNDP-HDI	2012	LOCF, FOCB
	Population 0-24 (both sexes combined)	UNPD	2010, 2015, 2020	Interpolation
	Total population (both sexes combined)	UNPD	2011-2020	
1.1.2	Internet users (per 100 inhabitants)	ITU	2011-2020	LOCF, FOCB
1.1.3	Proportion of people with ICT skills (%)	ITU	2014-2019	LOCF, FOCB
1.2	WEALTH			
	GDP per capita, current dollars (PPP$)	IMF-WEO	2011-2020	IMF estimates
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY			
1.3.1	Output per worker (2011 constant GDP PPP$)	ILOSTAT	2011-2019	LOCF
1.3.2	Gross expenditure on R&D (% of GDP)	Eurostat	2011-2019	LOCF, FOCB
	Total intramural expenditure on R&D (% of GDP)	UNESCO	2011-2019	LOCF, FOCB
1.4	INDUSTRIAL BASE			
1.4.1	Gross value added, manufacturing (% of GDP)	Eurostat	2011-2020	LOCF, FOCB
	Gross value added, manufacturing (% of GDP)	WB-WDI	2011-2020	LOCF, FOCB
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	WIPO	2009-2017	LOCF
2.	**Social transition**			
2.1	HEALTH			
	Healthy life expectancy at birth (years)	WHO	2010, 2015, 2019	Interpolation, LOCF
2.2	WORK AND INCLUSION			
2.2.1	Employment rate of population 20-64 (%)	Eurostat	2011-2020	LOCF, FOCB
	Employment 20-64	ILOSTAT	2011-2020	LOCF, FOCB
	Population 20-64	UNPD	2010, 2015, 2020	Interpolation
2.2.2	Employment-to-population ratio gender gap 25+ (%)	ILOSTAT	2011-2019	LOCF
2.2.3	Gross enrolment ratio, pre-primary, both sexes (%)	UNESCO	2013-2020	LOCF, FOCB
2.3	FREE OR NON-REMUNERATED TIME			
2.3.1	Labour force 20-64	ILOSTAT	2011-2019	LOCF for 2020
2.3.2	Average annual hours worked per worker	TCB-TED	2011-2020	None
	Mean weekly hours usually worked per employed person by sex	ILOSTAT	2011-2020	LOCF, FOCB
2.4	EQUALITY			
2.4.1	Gini index (World Bank estimate, 0-100)	WB-WDI	2011-2019	LOCF, FOCB
2.4.2	Income share held by the poorest quintile (%)	WB-WDI	2011-2019	LOCF, FOCB
3.	**Environmental transition**			
3.1	EMISSION REDUCTION	Eurostat	2011-2017	LOCF
3.1.1	Greenhouse gas emissions (tonnes per capita)	EEA-Eurostat	2011-2019	LOCF
	GHG total without LULUCF (kt CO_2 equivalent)	WB-WDI-CAIT	2011-2018	LOCF for 2019-2020
	Total population (both sexes combined)	UNPD	2011-2020	None

(Continued)

3.2	**BIODIVERSITY**			
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	UN-SDGs	2011-2020	None
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	UN-SDGs	2011-2020	None
3.2.3	Pesticides use per area of cropland (kg/ha)	FAOSTAT	2011-2019	LOCF
3.3	**MATERIAL USE**			
3.3.1	Resource productivity and domestic material consumption (kg)	Eurostat	2011-2020	LOCF, FOCB
	Domestic material consumption, by type of raw material (tonnes)	UNEP-IRP	2011-2017	LOCF
	Gross domestic product (current prices $PPP)	IMF-WEO	2011-2020	IMF estimates
3.3.2	Material footprint (tonnes per capita)	UNEP-IRP	2011-2017	LOCF
	Total population (both sexes combined)	UNPD	2011-2020	None
3.4	**ENERGY PRODUCTIVITY**			
3.4.1	GDP over total energy supply (2015 PPP$ per koe)	IEA-WEB	2011-2019	LOCF
4.	**Governance transition**			
4.1	**FUNDAMENTAL RIGHTS**			
4.1.1	Voice and accountability index (index)	WB-WGI	2011-2019	LOCF
4.1.2	Rule of law Index (index)	WB-WGI	2011-2019	LOCF
4.2	**SECURITY**			
	Homicide rate (per 100,000 inhabitants)	UNODC	2011-2018	LOCF, FOCB
4.3	**TRANSPARENCY**			
4.3.1	Corruption Perceptions Index (0-100)	TI	2012-2020	LOCF, interpolation, FOCB
4.3.2	Basel Money Laundering Index (0-10)	BIG-AML	2012-2020	FOCB, adjustment 2012-2016
4.4	**SOUND PUBLIC FINANCES**			
4.4.1	Government gross debt (% of GDP)	IMF-WEO	2011-2020	IMF estimates

Source: European Commission, Transitions Performance Index 2021.

APPENDIX IV

TECHNICAL NOTES

1. INTRODUCTION

This appendix presents the succession of methodological choices and computations performed in constructing the Transitions Performance Index (TPI). The appendix is comprehensive, in the sense that details are aimed at the replicability of computations.

The first section presents the criteria behind the selection of indicators, and contains details on the types of indicators. The subsequent sections present: (i) technical decisions, each one with possible alternatives that would affect numerical results (scores and rankings); and (ii) the indicators' development over time and across countries.

2. CONSULTATIONS

The conceptual framework (Appendix I) and the selection of indicators (Appendix III) were discussed with experts and stakeholders in the areas being measured. The overall structure of the index, i.e. its decomposition into pillars, sub-pillars and indicators, was a top-down process driven by experts in the multi-dimensional phenomenon under measurement. The final choice of elementary indicators corresponding to each pillar followed a bottom-up approach driven by the availability of relevant data and proxies; and statistical considerations.

The criteria that have guided indicator choices are as follows

- PARSIMONY, DISTINCTIVENESS AND NON-REDUNDANCY: The index developers aimed at a reduced number of four pillars to avoid 'drowning' the different elements in the mass. In addition, a sub-pillar within a pillar is measured by one to three indicators reflecting specific priorities.

- RELEVANCE TO THE TOPIC: The chosen elementary indicators must 'represent' the associated dimension as described in words, and must also develop in a statistically similar way to the dimension – they are 'proxies' for the dimension. Adding indicators would imply building a dashboard. This route was ruled out, as many dashboards already exist, which the present index aims to complement.

- INTERNATIONAL COMPARABILITY: Beyond being good proxies, indicators must pass the test of international availability and comparability, which implies following international classifications and indicators; national statistics were used only marginally to impute missing data points.

- HARD DATA PREFERRED OVER SOFT DATA: The chosen indicators must be as objective and robust as possible. For that reason, hard data and recognised composite indicators were preferred, and perception surveys were avoided as much as possible.

- OUTPUT INDICATORS PREFERRED OVER INPUT INDICATORS: In principle, the focus is on output indicators, with few exceptions. The role of the index is not to be prescriptive in terms of choice of policy mix, but to monitor the state of the countries (or regions) in terms of outcomes.

- Other criteria that were taken into consideration:

  - global coverage (for global roll-out);
  - significance to global initiatives (for instance the UN sustainable development goals);
  - effectiveness in advancing the transition performance agenda, in terms of objectives, priorities and strategies;
  - cross-validation in previous theoretical or empirical research on transition performance;
  - the credibility and expertise of sources, accuracy in measurement, and access to – and affordability of – data (open-source data preferred over proprietary data);
  - the need to address a recognised weakness of gross domestic product (GDP) measurement.

3. SELECTION OF INDICATORS

This section presents the final indicators used in the index, ordered by type, and including details on scaling.

3.1 COMPUTATION OF VALUES AND SCALING

A total of 24 hard-data indicators were selected from Eurostat and a variety of international organisations and NGOs.

Raw indicators are usually highly correlated with population or gross domestic product (GDP), and require scaling by some relevant metric so they can be compared internationally.

International organisations usually provide scaled versions of raw indicators. Units of measurement provided for each indicator reflect the chosen metric. Examples include patent families filed in two offices (per billion purchasing power parity dollars (PPP$) GDP), energy productivity (PPP$ per kilogram of oil equivalent), and homicide rate (per 100 000 inhabitants).

Two indicator values are computed with specific formulas specified under sources and definitions: 1.1.1 – Government expenditure in education per student (% of GDP per capita); and 2.3 – Free or non-remunerated time of the active population (%).

Four composite indicators are included in the index, computed by a series of specialised international organisations (such as the World Bank) and NGOs. To avoid the risk of duplicating indicators, only tightly defined composite indicators were considered, aimed at capturing multi-dimensional phenomena for which hard data are not available at the global level.

The EU-27 data considers the current 27 Member States of the European Union over the entire 2011-2020 decade (i.e. the United Kingdom is not included). The World data considers the 72 countries included in the index. For these two country aggregates (EU-27 and World), the computation of values is performed based on the following rules.

1. When the data point for a particular indicator is available for EU-27, for example in Eurostat, then that data point is used.

2. For indicators not scaled, such as 2.1 – Healthy life expectancy at birth (years) or 4.1.2 – Rule of law index, or scaled by population, such as 1.2 – GDP per capita, current dollars (PPP$), country aggregates are computed as weighted averages of country values, weighted by countries' population. Population is the default weight for country aggregates.

3. For indicators scaled by GDP, such as 4.4 – Government gross debt (% of GDP), country aggregates are weighted by PPP$ GDP. This concerns indicators 1.3.2, 1.4.1, 1.4.2, 3.4.1, and 4.4.1.

4. For indicator 3.2.3 Pesticide use per area of cropland (kg/ha), country aggregates are weighted by area of cropland (ha).

3.2 COVERAGE

The index has been computed annually for 10 years, covering the period 2011-2020.

Similarly to the first edition (2020), the index covers 72 countries and the EU. These countries were selected based on the following criteria: EU Member States, associated countries, Organisation for Economic Co-operation and Development (OECD) member countries, countries with at least 40 million inhabitants and a GDP per capita higher than USD 2 000 (IMF current dollar estimates). EU-associated country the Faroe Islands had to be left out of the index due to missing data.

The rationale for this choice was to have wide economic coverage, but also to avoid a comparison between countries with large differences, for which diverse capabilities to address transitions may imply prioritising indicators and weights differently. Moreover, data were missing more frequently for several countries with GDP per capita lower than USD 2 000.

The index developers consulted with the Joint Research Centre to establish criteria for inclusion of additional countries. Two criteria were suggested:

● A maximum of three missing data points out of 28 (10.7 %); and

● A maximum of one missing data point per pillar.

Of the 72 countries, all countries fulfilled the first criterium, whereas only Singapore and the United Arab Emirates did not fulfil the second criterium, with a maximum of two missing data points per pillar. These countries were kept in the index nonetheless.

In this year's edition, the choice was made to keep the same geographical coverage as last year to ensure a certain stability in the framework. Nevertheless, the JRC's criteria for inclusion of additional countries suggest that the geographical coverage of the TPI could be expanded up significantly (additional 38 countries) in the next editions. In a special focus on a larger sample of countries, the JRC audit finds that "the use of a larger set of data does not seem to impact the general structure significantly (Appendix V, Section 6.3).

3.3 IMPUTATION OF MISSING DATA

Missing data was imputed based on time trends, according to the following three rules.

1. Linear forecasting between two data points, whenever data were available for a few years only. Example: Population aged 0-24 is available only for years 2010, 2015 and 2020.

2. Last observation carried forward (LOCF) coupled with first observation carried backward (FOCB). This is a transparent and commonly used method; the main drawback is that time trends are not accounted for.

3. Data points from national or other sources were used in a few cases.

Whenever missing data points remain, there is an implicit imputation at the score level, which is equivalent to the score of the given country in the dimension in which that indicator is included (more on this below).

Missing data can also be imputed by using data from similar countries (such as nearest-neighbour techniques) or by statistical inference (such as imputation of the sample average score). The choice was made not to use these techniques.

4. NORMALISATION

After data treatment and imputation, a third decision is related to the distribution of indicators and the treatment of outliers. This has an impact on normalisation bounds and country scores.

4.1 NORMALISATION BOUNDS AND TREATMENT OF OUTLIERS

Indicators that strongly depart from normal distributions are assessed by a combination of moments (mean, variance, skewness, kurtosis) and quartiles (1st, median, 3rd). Outliers are potential candidates for winsorisation (for example through 'goalposts'), or transformation (for instance by taking logs).

For this index, two indicators with absolute skewness greater than 2 and kurtosis greater than 3.5 (Groeneveld and Meeden, 1984) required transformation: 1.4.2 – Patent families filed in two offices (per billion PPP$ GDP) and 4.2.1 – Homicide rate (per 100 000 inhabitants). The transformation used is:

$$\text{transformed value} = \ln(\text{original value} * f + 1)$$

Where f is an adjustment factor, a multiple of 10 aimed at achieving average, skewness and kurtosis within the expected ranges (f is 100 for 1.4.2 and 1 for 4.2.1).

In addition, 'goalposts' (upper and lower normalisation bounds) were set for all indicators (including the transformed indicators), based on the following three criteria.

1. Original value bounds were preserved for composite indicators and some percentages.

2. For indicator 1.1.3 – Proportion of people with Information and Communication Technology (ICT) skills (composite) the scoring follows a proposal by the International Communication Union (ITU). Nine ICT Skills are divided into three groups: Basic (skills 1, 2, 3 and 8), Standard (skills 4, 5, 6 and 7) and Advanced (skill 9). The highest value is taken within each group. Then, each group has its own goalposts: 0-100 % for Basic; 0-80 % for Standard and 0-20 % for Advanced. The final indicator is computed as the simple arithmetic average of the three scores.

Skills are:

● Basic: % copying or moving a file or folder

● Basic: % using copy and paste tools to duplicate or move information within a document

● Basic: % sending e-mails with attached files

● Standard: % using basic arithmetic formula in a spreadsheet

● Standard: % connecting and installing new devices

● Standard: % finding, downloading, installing and configuring software

● Standard: % creating electronic presentations with presentation software

● Basic: % transferring files between a computer and other devices

- Advanced: % writing a computer program using a specialized programming language

3. For five indicators, goalpost ranges (lower and upper values) were set based on EU targets.

- 1.1.2 – Internet users per 100 inhabitants: The European Union has a goal of 100% of connectivity, therefore the goalpost range is 0-100%.[1]

- 2.2.1 – Employment rate of population 20-64 (%): the goalpost range was set around the EU target of at least 75% of the employment rate, with a lower bound at 40% and an upper bound at 90%.

- 2.2.3 – Gross enrolment ratio, pre-primary (%): According to the UNESCO strategy on "Education 2030", "By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education". In addition, for early childhood care and education, the EU has an objective of 95% of attendance for children above 4 years by 2020, with an objective of one third of for children below years. Accordingly, the goalpost range has a lower bound at 33% and an upper bound at 100%.

- 3.1 – Gross greenhouse-gas (GHG) emissions (tonnes per capita): the bounds were set at 0 and 24 tonnes per capita, in line with the EU target of a 40% cut in GHG emissions from 1990 levels by 2030, as applied to EU Member States (bounds rounded to the closest integers). This being a negative indicator (higher values indicate worse performance), any value at 0 tonnes per capita gets a score of 100, and any value above or at 24 tonnes per capita gets a score of 0.

- 3.4 – Energy productivity (PPS€ per koe): as was the case with indicator 3.1, bounds were set at 0 and 20, in line with the two EU targets below.

  - The EU target of a 20% increase in energy efficiency by 2020 was meant to imply a target for the EU-27 of 1 479 Mtoe by 2020.[2]
  - The EU target of a further 32.5% increase in energy efficiency by 2030 implies a target for the EU-27 of 998 Mtoe by 2030.
  - With a value of 8.9 PPS€ per koe in 2018, and a GDP of 13.5 billion PPS€ in 2018, and assuming average annual GDP growth of 1%, the two targets combined imply target values for energy productivity of approximately 8.4 and 14 PPS€ per koe in 2020 and 2030 respectively. This implies that the 2020 target was already met in 2018, and therefore the 2030 bound is kept (14 implies a score of 100), with 0 as the lower bound (score of 0).

4. For the remaining indicators, goalpost ranges were set based on public-policy considerations, statistical requirements (winsorisation of outliers), or a combination of the two.

TABLE IV.1: Energy productivity EU target analysis for goalposts

	2018		2020		2030
EU-27 GDP (billion PPS€)	13.5	1% annual growth	13.8	1% annual growth	15.5
EU primary energy consumption (Mtoe)	1 376.0	EU 2020 target	1 479.0	32.5% reduction	998.0
EU average energy productivity (PPS€ per koe)	8.9		8.4		14.0
• Iceland (min)	2.1				3.4
• Ireland (max)	18.7				29.7

Source: European Commission, Transitions Performance Index 2020.

1 2030 Digital Compass: the European way for the Digital Decade.
2 https://ec.europa.eu/eurostat/databrowser/view/t2020_33/default/table?lang=en

4.2 SCORING

The numerical score attributed to a country for an elementary indicator value results from normalisation, i.e. translating the initial numbers into a 0-100 scale. There are several ways to perform this normalisation, which affect the relative indicator values and the countries' index scores and rankings. In turn, these indicator values, index scores and rankings affect the de facto statistical balance among elementary indicators, and could therefore affect the determination of weights and the development of the index over time.

The choice was made to score countries in the 0-100 range with goalpost normalisation. Goalposts are lower and upper bounds that reflect the range of values deemed optimal from a public-policy perspective. For an indicator for which higher values indicate better outcomes (a positive indicator), this implies that any value above the upper bound scores 100, and any value below the lower bound scores 0; the contrary is true for a negative indicator.

This normalisation method has many advantages: (i) stable scores over the ten-year coverage period; (ii) stable scores in future editions; (iii) potential outliers are taken care of; and (iv) goalposts signal expected outcomes.

Scores are then computed as follows:

● Positive indicators, i.e. indicators for which higher values indicate better outcomes and higher scores:

$$score = \frac{value - lower\ bound}{upper\ bound - lower\ bound} * 100$$

● Negative indicators, i.e. indicators for which higher values indicate worse outcomes and lower scores:

$$score = \frac{upper\ bound - value}{upper\ bound - lower\ bound} * 100$$

There are two exceptions to this rule: indicator 4.1.1 – Voice and accountability index and indicator 4.1.2 – Rule of law index. These are World Bank worldwide governance indicators (WGI) computed as standardised scores. The corresponding score in the 0-100 range is computed as the one-tailed probability from the standardised normal distribution corresponding to the score (Excel NORMSDIST function) multiplied by 100. Z-scores of 0, -1 and 1 (mean; minus one standard deviation; and plus one standard deviation) score 50, 15.87 and 84.13, respectively.

5. AGGREGATION

Elementary indicators are aggregated into sub-pillars, pillars, and the index in three steps, by means of weighted arithmetic averages.

5.1 WEIGHTS

Indicator, sub-pillar and pillar weights were initially set based on some prior expert opinion on the required balance between indicators within the sub-pillar. These weights were then adjusted at the pre-audit stage, but only when necessary to increase the robustness of scores and rankings.

Weights have a theoretical meaning as so-called importance coefficients, and a statistical meaning as so-called scaling coefficients (Paruolo et al. 2013). For instance, two indicators each capturing marginal but important differences, when strongly correlated, need to be weighted down to increase the overall statistical balance of the sub-pillar. It is both expected and desirable for the overall robustness of the index that indicators and pillars be mostly positively – but not strongly – correlated.

5.2 AGGREGATION RULES

There are 16 sub-pillars. Aggregation of indicators into sub-pillars follows the following rules:

● seven sub-pillar scores are computed from a single indicator following the normalisation formulas already specified: 1.2, 2.1, 2.3, 3.1, 3.4, 4.2 and 4.4;

● the remaining nine sub-pillar scores are computed as weighted arithmetic averages of indicator scores: 1.1, 1.3, 1.4, 2.2, 2.4, 3.2, 3.3, 4.1, and 4.3.

There are four pillars in total; each composed of four sub-pillars. Pillar scores are computed as weighted arithmetic averages of sub-pillar scores.

The index score is computed as the weighted arithmetic average of pillar scores.

Table IV.2: Transitions Performance Index 2021 modelling choices

CODE	NAME (INDICATORS)	TYPE	EFFECT	MINIMA	MAXIMA	CRITERIA	LOWER	UPPER	INDEX WEIGHT
Index	Transition Performance Index								
1.	Economic transition								0.20
1.1	EDUCATION, INTERNET USE AND ICT SKILLS	Index	Positive	15.7	89.4	Composite	0.0	100.0	0.30
1.1.1	Gov. expenditure in education per student (% of GDP per capita)	Hard	Positive	4.4	26.2	Goalpost range	0.0	25.0	0.33
1.1.2	Internet users (%)	Hard	Positive	8.8	100.0	Percentage	0.0	100.0	0.33
1.1.3	Proportion of people with ICT skills (composite)	Hard	Positive	5.8	86.1	Percentage	0.0	100.0	0.33
1.2	WEALTH: GDP per capita, current dollars (PPP$)	Hard	Positive	2,664.9	120,490.8	Goalpost range	0.0	75,000.0	0.20
1.3	LABOUR PRODUCTIVITY & R&D INTENSITY	Index	Positive	5.0	81.6	Composite	0.0	100.0	0.20
1.3.1	Output per worker (2011 constant GDP PPP$)	Hard	Positive	8,715.0	249,867.8	Goalpost range	0.0	150,000.0	0.50
1.3.2	Gross expenditure on R&D (% of GDP)	Hard	Positive	0.1	4.9	Goalpost range	0.0	5.0	0.50
1.4	INDUSTRIAL BASE	Index	Positive	7.4	95.3	Composite	0.0	100.0	0.30
1.4.1	Gross value added of manufacturing (% of GDP)	Hard	Positive	3.7	39.6	Goalpost range	0.0	30.0	0.60
1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	Hard	Positive	-	15.3	Goalpost range	0.0	7.4	0.40
2.	Social transition								0.20
2.1	HEALTH: Healthy life expectancy at birth (years)	Hard	Positive	50.5	74.1	Goalpost range	45.0	75.0	0.25
2.2	WORK AND INCLUSION	Index	Positive	7.7	90.4	Composite	0.0	100.0	0.20
2.2.1	Employment rate of the population aged 20-64 (%)	Hard	Positive	28.0	93.3	Goalpost range	40.0	90.0	0.40
2.2.2	Employment-to-population ratio gender gap 25+ (%)	Hard	Negative	-	69.7	Goalpost range	0.0	70.0	0.40
2.2.3	Gross enrolment ratio, pre-primary (%)	Hard	Positive	12.5	167.0	Goalpost range	33.3	100.0	0.20
2.3	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	Hard	Positive	28.2	66.9	Goalpost range	15.0	70.0	0.20
2.4	EQUALITY	Index	Positive	4.6	93.3	Composite	0.0	100.0	0.35
2.4.1	Gini coefficient disposable income post taxes and transfers (0-100)	Hard	Negative	24.0	63.0	Goalpost range	20.0	65.0	0.75
2.4.2	Income share held by the poorest quintile (%)	Hard	Positive	1.2	10.5	Goalpost range	2.0	10.0	0.25
3.	Environmental transition								0.35
3.1	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	Hard	Negative	1.5	29.9	Goalpost range	0.0	24.0	0.25
3.2	BIODIVERSITY	Index	Positive	7.7	96.6	Composite	0.0	100.0	0.25
3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	Hard	Positive	-	97.2	Percentage	0.0	100.0	0.40
3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	Hard	Positive	-	100.0	Percentage	0.0	100.0	0.40
3.2.3	Pesticide use per area of cropland (kg/ha)	Hard	Negative	0.0	20.8	Goalpost range	0.0	14.0	0.20
3.3	MATERIAL USE	Index	Positive	8.8	69.6	Composite	0.0	100.0	0.25
3.3.1	Resource productivity (PPP$ per kg)	Hard	Positive	0.5	6.8	Goalpost range	0.0	6.0	0.50
3.3.2	Material footprint (tonnes per capita)	Hard	Negative	0.6	109.4	Goalpost range	0.0	40.0	0.50
3.4	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	Hard	Positive	2.5	30.8	Goalpost range	0.0	20.0	0.25
4.	Governance transition								0.25
4.1	FUNDAMENTAL RIGHTS	Index	Positive	10.1	96.8	Composite	0.0	100.0	0.30
4.1.1	Voice and accountability index (z-score)	Index	Positive	(1.9)	1.7	z-score	(1.9)	1.7	0.50
4.1.2	Rule of law Index (z-score)	Index	Positive	(1.2)	2.1	z-score	(1.2)	2.1	0.50
4.2	SECURITY: Homicide rate (per 100,000 inhabitants)	Hard	Negative	-	36.4	Goalpost range	0.0	36.0	0.30
4.3	TRANSPARENCY	Index	Positive	17.4	87.1	Composite	0.0	100.0	0.30
4.3.1	Corruption perceptions index (0-100)	Index	Positive	25.0	92.0	Index bounds	0.0	100.0	0.40
4.3.2	Basel anti-money laundering index (0-10)	Index	Negative	1.5	8.8	Index bounds	0.0	10.0	0.60
4.4	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	Hard	Negative	1.6	254.1	Goalpost range	25.0	180.0	0.10

Source: European Commission, Transitions Performance Index 2021.

6. STATISTICAL PRE-AUDIT

The JRC has experience in assessing composite indicators, and has co-authored with the OECD the *Handbook on Constructing Composite Indicators: Methodology and User Guide*, whose methodology has been used for the present analysis (OECD/EC JRC, 2008).

A first version of the index was submitted to the statistical auditing tool developed by the Joint Research Centre (JRC) of the European Union, known as the COIN tool (Becker et al. 2019) in October 2021. The COIN tool was adapted to consider each country-year set of values (such as France – 2013) as a single separate unit, so that the analysis was based on a total of 74 units, including the World and the European Union (EU-27).

The auditing tool of the JRC is designed to help index designers assess: (i) the conceptual and statistical coherence of the index; (ii) the impact of modelling assumptions on the robustness of scores and rankings; and (iii) challenges related to the comparability and availability of data.

The TPI results suggest that the conceptual framework is statistically coherent, with a relatively balanced structure. In most cases, country rankings are robust to changes in methodological assumptions.

6.1 CONCEPTUAL AND STATISTICAL COHERENCE

The adoption of modelling choices (Table IV.2) followed an iterative process of fine-tuning aimed at constructing a balanced index. The main refinements were on goalposts and indicator weights. The iterative process involved the following four steps.

Step 1: Conceptual consistency (see Appendix I – Conceptual framework). Indicators were chosen for their relevance and availability, and were treated so that international comparisons would be valid.

Step 2: Data checks. The most recent data were used with a cut-off at 2011 (with few exceptions specified in Appendix III – Sources and definitions). Countries with three or less missing values and less than one missing value per pillar were included, with the exceptions of countries included in the 2020 edition that did not fulfil these criteria Singapore

and United Arab Emirates in pillar 3). Data values outside the 2.0 interquartile range were checked for errors. Potential outliers were detected for indicators with absolute skewness greater than 2 and kurtosis greater than 3.5. Indicators 1.4.2 and 4.2.1 were log-transformed, whereas other potential outliers were treated through the goalposts.

Step 3: Statistical coherence. At the indicator level, between two indicators in the same sub-pillar of strong collinearity (i.e. Pearson correlation coefficients greater than 0.92), Gini coefficient and income share held by the poorest quintile; and there is one case of negative correlation, resource productivity and material footprint. Pearson correlations of indicators and corresponding sub-pillar or pillar are above 0.30 with the exception of 1.4.1, 3.1, 3.2.3, 3.3.1 and 4.4.1. The indicator structure was maintained on the theoretical complementary of indicators.

In terms of overall balance, the statistical analysis with the TPI 2020 weights suggested that no changes were required:

- Pillar 1 – Economic transition: Starting from the TPI 2020 weights, Pearson correlations of sub-pillar scores with the pillar scores ranged between 0.74 and 0.95; 2020 weights were maintained.

  The example of sub-pillar 1.2 – Wealth, expressed by the single indicator of GDP per capita in PPP$ can be used to illustrate the concept of weights as 'scaling' coefficients, as opposed to weights as 'importance' coefficients. This is an indicator highly correlated with most indicators, implying that wealth is an important determinant of transition performance in all domains. The wealth dimension is therefore already captured indirectly by most other indicators included in the index. It could therefore be potentially 'overrepresented' with equal weights, compared to other indicators that provide useful marginal information, and has therefore a lower weight (0.2).

- In Pillar 2 – Social transition: Starting from the 2020 weights, correlations are above and therefore weights were maintained.

- Pillar 3 – Environmental transition, had Pearson correlation between 0.53 and 0.69 with equal weights and between 0.62 and 0.7 with 2020 weights, which were maintained.

- Pillar 4 – In Governance transition, sub-pillar 4.4 – Sound public finances, has a negative Pearson correlation that is even more problematic this year, both due to the pandemic and the addition of countries to the index. The sub-pillar has a single indicator, debt-to-GDP ratio, which is negatively correlated with most index indicators and with the other three pillars. Similarly to TPI 2020, the sub-pillar was kept on conceptual grounds, but with a lower weight of 0.1, while the other three pillars have weights of 0.3.

- On the balance of pillars with the index, correlations with the index score ranged between 0.45 for Environmental transition (0.76 in TPI 2020) and 0.87 for governance transition (0.93 in TPI 2020), in spite of the higher weight for the environmental pillar (0.35).

Step 4: Qualitative review. Finally, index results – including the overall country classification and relative transition performance – were evaluated to verify that results are consistent with the existing research literature in terms of theory and empirical evidence.

6.2 IMPACT OF MODELLING ASSUMPTIONS AND ROBUSTNESS OF RESULTS

Scores and rankings depend on modelling choices: the pillar and sub-pillar structure; treatment of indicators; imputation of missing data; normalisation; goalpost bounds; weights; and aggregation methods. These choices are based on expert opinion, common practice, statistical analysis, or simplicity.

The aim of the robustness analysis is to assess to what extent these choices might affect rankings. This analysis is based on a multi-modelling approach to calculate scores and rankings under conditions of uncertainty (Saisana et al., 2005 and 2011).

The modelling variations in the JRC auditing tool result in 35 different rankings as set out below.

1. A total of 30 fully modelled alternatives as follows.
   - Five normalisation methods: (i) min-max normalisation (bound values set at the sample indicator minima and maxima over the ten-year period for all countries); (ii) data-max (i.e. same as min-max, but with the lower bound set at zero); (iii) goalposts (chosen method); (iv) median-min-max (min-max normalisation with transformation so that the median value scores 50 for all indicators); and (v) z-scores (standardised scores, with an average of 0 and a standard deviation of 1).
   - Three sets of weights: adjusted scores, equal weights (simple averages), and random weights (weights defined randomly within a pre-specified range).
   - Two types of aggregation at the index level (i.e. aggregation of pillar scores into the index score): arithmetic (fully compensatory) and geometric (partially compensatory).

2. Two sets of data rankings: rankings based on median ranks (median of indicator ranks) and rankings based on average ranks (average of indicator ranks).

3. Two sets of Borda rankings: Borda ranks with adjusted weights and equal weights. The Borda method is an alternative way of aggregating indicators, based on ranks. It does not take the structure of the index into account: indicators are directly aggregated into an index. For N units in a sample, for each indicator the top-ranked country gets N-1 points, the second-ranked country gets N-2 points and so on. The last-ranked country gets 0 points; each unit then receives an overall score, which is the sum (simple or weighted) of indicator points. Units are ranked by their overall score.

4. Rankings based on the Copeland rule, itself based on the outranking matrix at the pillar level. Pillar scores are compared pairwise, say France and Chile. France is assigned a score equivalent to the sum of the weights of the pillars where it has a higher value than the other unit (say three pillars, 0.75), the same for Chile (0.25, the sum of points is one by construction). Under 'dominance', i.e. when a country scores 1 pairwise (meaning it scores higher than the other country in the four pillars), there is no way that methodological choices can affect their relative standing in the ranking. The greater the dominance, the more robust country ranks are to methodological assumptions.

6.3 UNCERTAINTY ANALYSIS RESULTS

The 35 sets of rankings are synthesised in three indicators: median rank (for example 64), interval of ranks ([58, 66]) and trimmed interval of ranks (five lowest and highest ranks left out ([61, 66]). The main result of the robustness analysis is shown in Figure 1. Error bars represent, for each country, the range of ranks under all 35 models (trimmed from the five lowest and highest ranks).

TPI ranks are rather robust, as shown by the relatively tight ranges of ranks for each country in the trimmed interval. 33.8% of countries shift three positions or less in 2020, and 71.6% shift six positions or less.

Ranks are particularly robust for EU-27 countries, for which these percentages are 48.1% for three or less shifts and 88.9% for six or less shifts. This could be due to several possible reasons, such as: (i) better indicator coverage; (ii) the use of Eurostat series (with values based on similar methodologies that are therefore, presumably, more comparable to scores based on international series that could embed slight differences in classifications or data collection); (iii) the impact of exchange-rate fluctuations in the stability of some indicators, etc. The choice of country coverage was partly aimed at avoiding these concerns.

In addition, countries outside the EU have relatively more missing values (missing values are distorting for any composite indicator).

FIGURE IV.1: Robustness of goalpost ranks, 2020
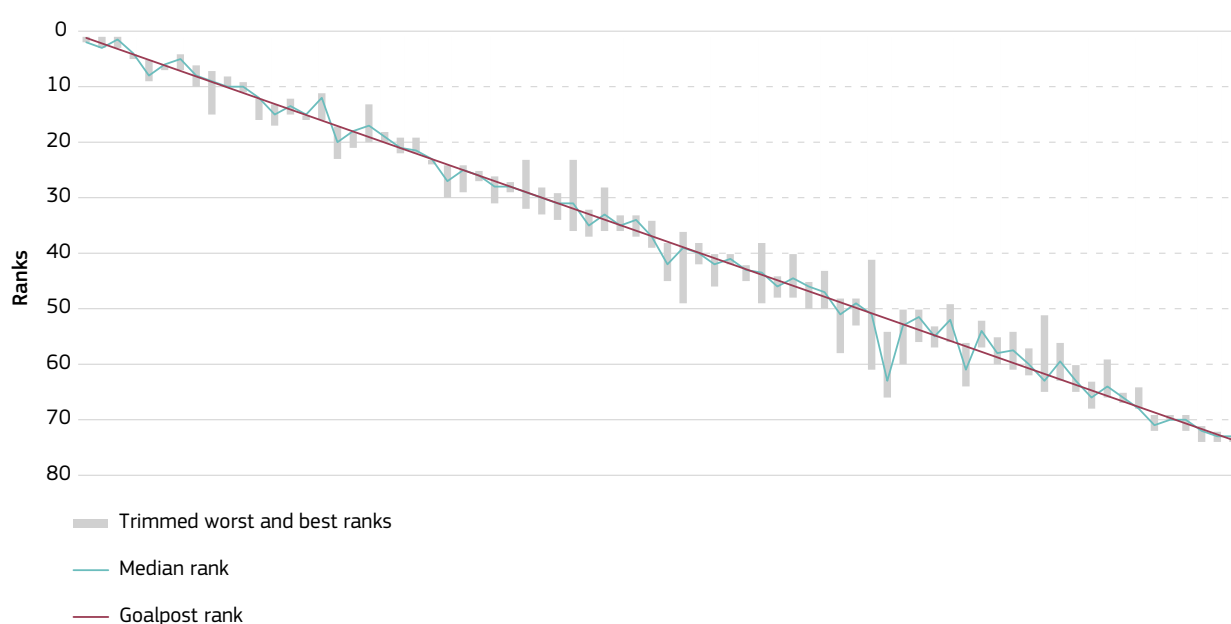
Source: European Commission, Transitions Performance Index 2021.

6.4 SENSITIVITY ANALYSIS RESULTS

Complementary to the uncertainty analysis, sensitivity analysis is used to identify which of the modelling assumptions have the highest impact on certain country ranks (Saltelli et al., 2008). Although imputation of missing data is usually the main problem for any index, this analysis has been performed only marginally at the pre-audit stage.

Results show that the main impact in rankings originates in the setting of goalposts, followed by changes in weights, and the aggregation method. Sensitivity analysis also provides insights into what is affecting scores the most for each country.

7. INDEPENDENT STATISTICAL AUDIT BY THE JRC

The TPI benefited from additional tests that the JRC was asked to perform. The JRC performed a full audit, including: (i) principal component analysis to assess to what extent the statistical approach supports the conceptual framework; (ii) Monte Carlo simulations with random weights; and (iii) imputation of missing data with nearest neighbours (**Appendix V**).

In general, the audit confirms that the TPI is reliable, with a good, statistically coherent framework. The audit also acknowledges the important efforts of the developer team to obtain a balanced and transparent result.

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APPENDIX V

JRC STATISTICAL AUDIT OF THE TRANSITIONS PERFORMANCE INDEX

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ABSTRACT

The Transitions Performance Index (TPI) is a multi-dimensional index which ranks 72 countries plus the world and EU-27 aggregates for their progress along four dimensions of sustainability: economic, social, environmental and governance.

The European Commission's Competence Centre on Composite Indicators and Scoreboards (COIN) at the Joint Research Centre (JRC) in Ispra, Italy, was invited by the developers of the index to audit the TPI for the second time. JRC-COIN aims to help ensure the transparency of the index methodology and the reliability of its results. This JRC-COIN audit focuses on data quality, the statistical soundness of the multi-level structure of the index, and the impact of key modelling assumptions on the results.

The analysis suggests that meaningful inferences can be drawn from the index. The TPI is reliable and the framework has good statistical coherence, while special care is suggested for the interpretation of the Environmental pillar's role. TPI ranks are shown to be representative of a plurality of scenarios, and robust to changes in the aggregation and imputation methods and the pillar weights. Even though the TPI has many good statistical properties, JRC-COIN has made some suggestions for possible refinements.

The JRC statistical audit also includes a specific focus covering the potential extension of the index to a larger sample of countries. This focus has been requested by the developers to explore the impact of this potential extension on some of the characteristics of the index and its structure.

1. INTRODUCTION

The Transitions Performance Index (TPI) aims at measuring countries' transitions to sustainable development. It is a multidimensional index composed of 28 indicators organised into 16 different sub-pillars. Each of these sub-pillars are themselves aggregated into four pillars. Each of these pillars corresponds to a dimension of sustainability: the Economic Transition; the Social Transition; the Environmental Transition; and the Governance Transition.

This structure aims to respond to the policy priorities of the EU, with each pillar representing an independent dimension with a strong and clear meaning, so that it can be used in a stand-alone analysis.

The TPI framework is well constructed, and a lot of thought has clearly been put into it. However, conceptual and practical challenges are inevitable when trying to summarise with a single composite indicator the complexity of a multidimensional phenomenon. An analysis is needed to ensure and validate the statistical soundness of any composite index. The analysis performed in this audit – and discussed in this report – aims to help policymakers derive more accurate and meaningful conclusions form the Transitions Performance Index, and to potentially guide their choices on priority setting and policy formulation.

In general, statistical soundness should be regarded as a necessary but insufficient condition for a sound index. This is because the correlations underpinning most of the statistical analyses carried out in this report need not necessarily represent the real influence of the individual indicators on the phenomenon being measured. The development of any index must therefore be nurtured by a dynamic, iterative dialogue between the principles of statistical and conceptual soundness.

The JRC assessment of the TPI presented here focuses on two main issues: the statistical coherence of the structure, and the impact of key modelling assumptions on the TPI ranks. The statistical analysis is based on: (i) the adequacy of aggregating indicators into pillars, and pillars into the overall index; (ii) the multidimensional structure of the TPI; and (iii) the specific impact of each element used in the aggregation. Finally, the JRC analysis complements the reported country rankings for the TPI with estimated intervals, in order to better appreciate the robustness of these ranks to the modelling choices.

2. CONCEPTUAL FRAMEWORK

The TPI is based on four pillars, each of which relates to one area found to be critical in sustainable development: an Economic pillar; a Social pillar; an Environmental pillar and a Governance pillar. Each of these pillars contains

4 sub-pillars, making 16 sub-pillars in total. These 16 sub-pillars are built using 28 indicators (**TABLE V.1**). The index is based on these 28 indicators and aggregated at each level using a weighted arithmetic average. Some of the indicators are already composite indicators; this may lead to some repetition of information and a lack of clarity in the framework. Nonetheless, the developers declared that every composite indicator included in the framework was selected to exclude or reduce this risk to the minimum. Moreover, all the composite indicators are well flagged (see the index in **TABLE V.1**) and are all used in the same pillar (Governance).

TABLE V.1: Conceptual framework of the TPI

Pillar	Sub-pillar	Ind. code	Indicator name	Ind. number	Direction
ECONOMIC TRANSITION	EDUCATION, INTERNET USE AND ICT SKILLS	1.1.1	Gov. expenditure in education per student (% of GDP per capita)	ind.01	1
		1.1.2	Internet users (%)	ind.02	1
		1.1.3	Proportion of people with ICT skills (composite)	ind.03	1
	WEALTH: GDP per capita, current dollars (PPP$)	1.2	GDP per capita, current dollars (PPP$)	ind.04	1
	LABOUR PRODUCTIVITY & R&D INTENSITY	1.3.1	Output per worker (2011 constant GDP PPP$)	ind.05	1
		1.3.2	Gross expenditure on R&D (% of GDP)	ind.06	1
	INDUSTRIAL BASE	1.4.1	Gross value added of manufacturing (% of GDP)	ind.07	1
		1.4.2	Patent families filed in two offices (per billion PPP$ GDP)	ind.08	1
SOCIAL TRANSITION	HEALTH: Healthy life expectancy at birth (years)	2.1	Healthy life expectancy at birth (years)	ind.09	1
	WORK AND INCLUSION	2.2.1	Employment rate of population 20-64 (%)	ind.10	1
		2.2.2	Employment-to-population ratio gender gap 25+ (%)	ind.11	-1
		2.2.3	Gross enrolment ratio, pre-primary, both sexes (%)	ind.12	1
	FREE OR NON-REMUNERATED TIME: Free or non-remunerated time (%)	2.3	Free time of the active population (AR * (1 – T/H))	ind.13	1
	EQUALITY	2.4.1	Gini coefficient disposable income, after taxes and transfers (0-100)	ind.14	-1
		2.4.2	Income share held by the poorest quintile (%)	ind.15	1
ENVIRON-MENTAL TRANSITION	EMISSIONS REDUCTION: Gross greenhouse gas emissions (tonnes per capita)	3.1	Gross GHG emissions (tonnes per capita)	ind.16	-1
	BIODIVERSITY	3.2.1	Terrestrial key biodiversity areas (KBAs) protected (%)	ind.17	1
		3.2.2	Freshwater key biodiversity areas (KBAs) protected (%)	ind.18	1
		3.2.3	Pesticide use per area of cropland (kg/ha)	ind.19	-1
	MATERIAL USE	3.3.1	Resource productivity (PPP$ per kg)	ind.20	1
		3.3.2	Material footprint (tonnes per capita)	ind.21	-1
	ENERGY PRODUCTIVITY: Energy productivity (PPP$ per koe)	3.4	Energy productivity (2015 PPP$ per koe)	ind.22	1
GOVERNANCE TRANSITION	FUNDAMENTAL RIGHTS	4.1.1	Voice and accountability index (z-score)	ind.23	1
		4.1.2	Rule of law index (z-score)	ind.24	1
	SECURITY: Homicide rate (per 100,000 inhabitants)	4.2	Homicide rate (per 100,000 inhabitants)	ind.25	-1
	TRANSPARENCY	4.3.1	Corruption perceptions index (0-100)	ind.26	1
		4.3.2	Basel anti-money laundering index (0-10)	ind.27	-1
	SOUND PUBLIC FINANCES: Government gross debt (% of GDP)	4.4	Government gross debt (% of GDP)	ind.28	-1

Source: Developers of the index and the European Commission's Joint Research Centre, 2021.

3. DATA QUALITY AND AVAILABILITY

3.1 MANAGEMENT OF MISSING DATA

The data used to construct the TPI are based on a time series from 2011 to 2020. Whenever data were missing, the developer followed these three rules (the order reflects the priority among the rules):

1. interpolation between time points – whenever data are available for a few years only, the intermediate years are linearly interpolated;

2. last observation carried forward (LOCF) and first observation carried backwards (FOCB);

3. data points obtained preferably from national institutions or international organisations (details in the TPI report).

The data used in this audit are the result of this first step of data imputation performed by the developers. They are based on time series and refer only to the most recent year (2020). Many values used for 2020 are based on LOCF of 2019 or older data. In this situation, it is common practice to use the last available year accepting the unavoidable delay in the preparation of international data.

For remaining missing values, the developers opted for an implicit imputation at the aggregate level. In practice, the choice was to not impute the values. Because of this, the score of the aggregate containing the missing value is based on the other elements which are observed. This approach is usually selected to improve transparency and avoid any methodological black box. In the audit of the previous edition, the JRC-COIN checked the effect of this choice on the results.

In the final data set, only the countries with a maximum of three missing values (out of 28) are included. All the 72 countries included in this analysis fulfilled this criterion. There are five indicators that contain between one and three missing values, and only two indicators show five or more missing data points: indicators 1.1.3 (Proportion of people with ICT skills), and 3.2.3 (Pesticide use per area of cropland, **TABLE V.2**). The Governance pillar has the best coverage among the pillars with no missing values.

3.2 TREATMENT OF OUTLIERS

The audit also investigated the presence of outliers that could potentially bias the effect of the indicators on the aggregates. The JRC recommends an approach for outlier identification based on skewness and kurtosis values[1], i.e. when the variables simultaneously have absolute skewness higher than 2.0 and kurtosis higher than 3.5. The developers followed the same approach in the construction of the TPI, identifying indicators 1.3.2 (Gross expenditure on R&D), 3.3.2 (Material footprint) and 4.2 (Homicide rate). Indicators 1.4.2 and 4.2 are log-transformed, while indicator 3.3.2 is winsorised as an effect of the normalisation based on goalposts. In fact, the normalisation method based on goalposts can be effective in reducing outliers. **TABLE V.2** offers summary statistics for the normalised indicators included in the TPI.

3.3 NORMALISATION

The indicators are rescaled to a 0-100 scale, with 0 as the lowest score achieved by countries, and 100 as the highest. This is a common – and usually desired – practice in the construction of composite indicators. The developers set minimum and maximum values for each indicator, called goalposts. In this approach, if a value is lower than the lower goalpost it has the value 0 assigned, while if the value is higher than the higher goalpost the assigned value is 100. Moreover, all the intermediate values are computed with the following two formulas:

For a positive indicator:

$$score = \frac{value - lower\ bound}{upper\ bound - lower\ bound} * 100$$

For a negative indicator:

$$score = \frac{upper\ bound - value}{upper\ bound - lower\ bound} * 100$$

An indicator is intended to be positive when higher values indicate better performance (it is negative if higher values indicate worse performance). The direction of all the indicators is represented in **TABLE V.1.** Indicators 4.1.1 and 4.1.2 are World Bank worldwide governance indicators (Voice and accountability index, and Rule of law index), and are normalised following a slightly different procedure described in the technical report of the TPI.

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1 Groeneveld, R. A. and Meeden, G., 'Measuring Skewness and Kurtosis', The Statistician, No 33, 1984, pp. 391-399.

TABLE V.2: Summary statistics of the indicators included in the TPI

	Ind. number	Indicator	N. missing	Missing (%)	Mean	Min	Max	Range	Skew	Kurtosis
ECONOMIC TRANSITION	ind.01	1.1.1	3	4.05	58.97	20.47	96.51	76.04	0.05	-1.06
	ind.02	1.1.2	0	0	80.1	22.57	100	77.43	-1.54	3.28
	ind.03	1.1.3	17	22.97	45.17	5.77	78.59	72.82	-0.04	-0.41
	ind.04	1.2	0	0	44.24	6.57	100	93.43	0.44	-0.72
	ind.05	1.3.1	0	0	47.28	6.57	100	93.43	0.3	-0.84
	ind.06	1.3.2	1	1.35	27.76	3.14	98.82	95.68	1.22	1.33
	ind.07	1.4.1	0	0	46.14	12.33	100	87.67	0.65	0.5
	ind.08	1.4.2	0	0	50.1	0	97.83	97.83	-0.06	-1.11
SOCIAL TRANSITION	ind.09	2.1	0	0	76.47	31.3	96.97	65.67	-1.13	1.76
	ind.10	2.2.1	1	1.35	53.25	0	100	100	-0.61	-0.72
	ind.11	2.2.2	0	0	70.79	7.19	100	92.81	-1.74	2.51
	ind.12	2.2.3	2	2.7	70.92	0	100	100	-1.17	0.43
	ind.13	2.3	0	0	68.01	30.55	94.28	63.73	-0.78	0.12
	ind.14	2.4.1	0	0	66.72	4.44	89.78	85.34	-1.27	2.89
	ind.15	2.4.2	0	0	63.96	0	100	100	-0.64	0.62
ENVIRONMENTAL TRANSITION	ind.16	3.1	0	0	64.35	0	93.61	93.61	-1.29	1.57
	ind.17	3.2.1	0	0	52.77	0	97.24	97.24	0.04	-1.25
	ind.18	3.2.2	3	4.05	56.49	0	99.96	99.96	0.02	-1.24
	ind.19	3.2.3	5	6.76	75.27	6.64	99.93	93.29	-1.35	1.4
	ind.20	3.3.1	0	0	38.62	9.38	100	90.62	1.21	0.86
	ind.21	3.3.2	0	0	49.42	0	93.24	93.24	-0.14	-0.89
	ind.22	3.4	0	0	57.36	15.74	100	84.26	0.16	-0.32
GOVERNANCE TRANSITION	ind.23	4.1.1	0	0	63.71	4.96	95.77	90.81	-0.73	-0.67
	ind.24	4.1.2	0	0	66.06	19.29	98.12	78.83	-0.28	-1.4
	ind.25	4.2	0	0	69.16	0	95.98	95.98	-1.75	2.98
	ind.26	4.3.1	0	0	54.92	25	88	63	0.29	-1.18
	ind.27	4.3.2	0	0	52.54	12.4	76.6	64.2	-0.91	2.17
	ind.28	4.4	0	0	70.3	0	100	100	-1.18	1.14

Note: The cell with the percentage of missing values exceeding 10% are shaded in light red. The values of skewness and kurtosis if any exceeding the thresholds are written in red.

Source: European Commission's Joint Research Centre, 2021.

4. STATISTICAL COHERENCE

The assessment of statistical coherence consists of a multi-level analysis of the correlations of variables, and a comparison of TPI rankings with their constituent pillars.

4.1 CORRELATION ANALYSIS

The statistical coherence of an index should be considered a necessary but insufficient condition for a sound index. Given that the statistical analysis is mostly based on correlations, the correspondence of every index to a real-world phenomenon needs to be critically addressed by developers and experts, because 'correlations do not necessarily represent the real influence of the individual indicators on the phenomenon being measured' (OECD & JRC, 2008)[2].

This influence relies on the interplay between both conceptual and statistical soundness. The degree of coherence between the conceptual framework and the statistical structure of the data is an important factor for the reliability of an index.

The correlation analysis is used to assess the extent to which the observed data support the conceptual framework. Ideally, there should be positive significant correlations within every level of the index. This effectively ensures that the overall index scores adequately reflect the underlying indicator values.

Redundancy, which could be identified by very high correlations (>0.92), should be avoided in the framework. This is because if two indicators are collinear, this may amount to double counting (and therefore over-weighting) of the same phenomenon.

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2 OECD/EC-JRC (Organisation for Economic Co-operation and Development/European Commission, Joint Research Centre), Handbook on Constructing Composite Indicators: Methodology and User Guide, OECD Publishing, Paris, 2008.
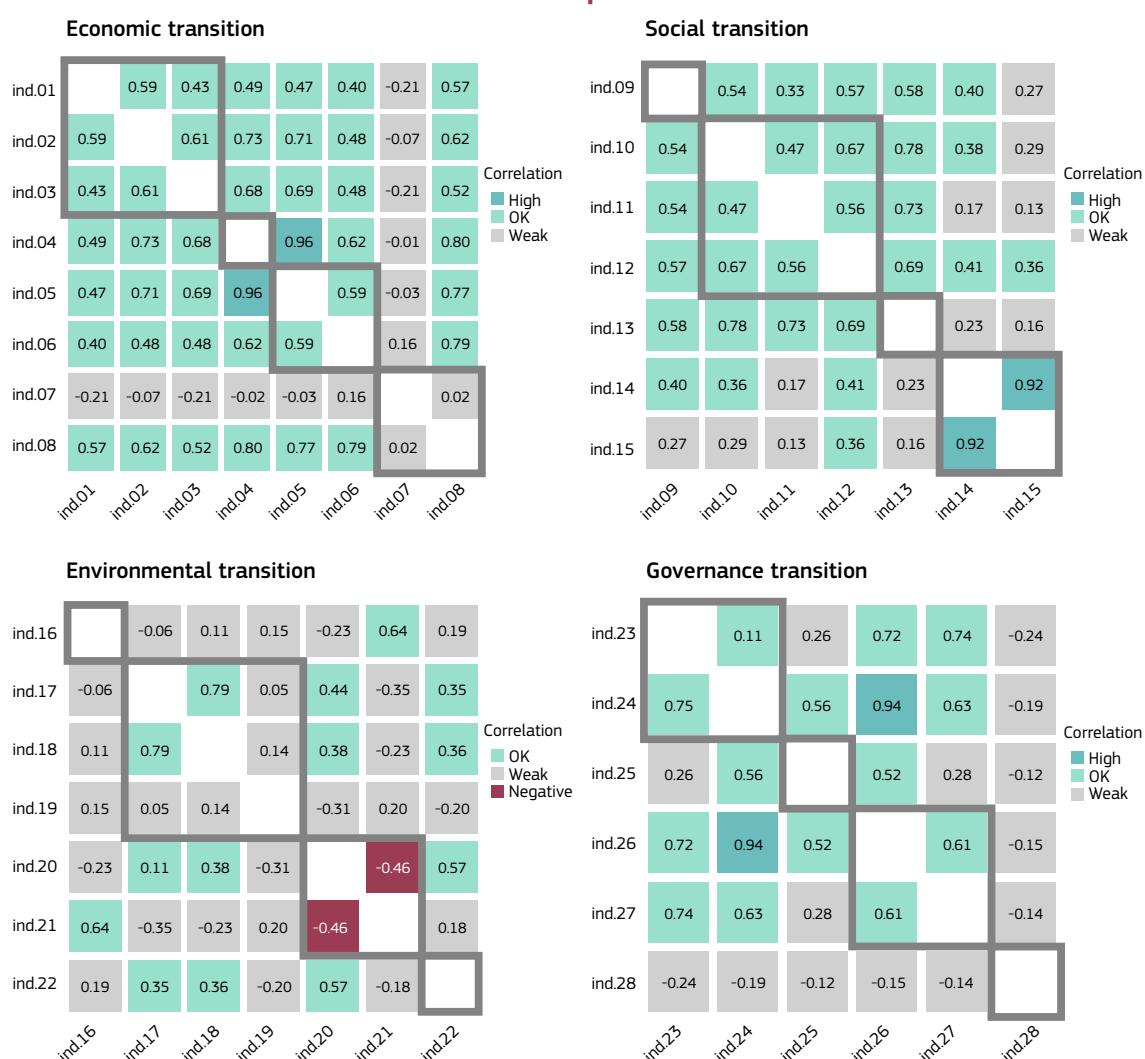
Correlation analysis between indicators and aggregates

Table V.3 shows the correlation coefficients between indicators and sub-pillars belonging to the same pillar. Most correlations are significant and positive (>0.30). However, a few problematic cases are identified in the paragraphs below.

- Indicators 7 (1.3.1, Gross value added of manufacturing), 8 (1.3.2, Gross expenditure on R&D), 19 (3.2.3, Pesticide use per area of cropland), 20 (3.3.1, Resource productivity) and 21 (3.3.2, Material footprint) show shallow, when not negative, correlations with the other indicators in their sub-pillars. This may suggest that these indicators do not entirely cooperate with the others, and this may cause a conflict in results and reduce the impact of the aggregate to which they belong in the following aggregations.

- Among the indicators which make up a sub-pillar on their own, indicators 16 (3.1, Gross GHG emissions), 22 (3.4, Energy productivity) and 28 (4.4, Government gross debt) show generally low correlations. This will be further analysed in the next paragraph.

- As a consequence, among the indicators mentioned above, indicators 7, 16, 19, 21, and 28 show low correlations with the TPI. In particular, indicator 21 is proven to be negatively correlated with the TPI (a correlation of -0.59, see **TABLE V.4**).

- Indicator 19 is the only low-correlated indicator in a group of three. As a result, indicators 17 and 18 (3.2.1 and 3.2.2, Terrestrial and Freshwater key biodiversity areas protected) dominate the sub-pillar (correlation with sub-pillar 0.3 vs 0.91 and 0.93). This is probably the reason why indicator 19 is weakly correlated with higher aggregates (see **TABLE V.4**).

TABLE V.3: Correlations between indicators in the same pillar

Economic transition / Social transition / Environmental transition / Governance transition correlation matrices

Note: Numbers represent the Pearson correlation coefficients. Good correlations (i.e. Pearson correlation coefficients greater than or equal to 0.30 and lower than 0.92) are highlighted in light green. Correlations with low values (lower than 0.30) are written in grey. Correlations at risk of redundancy (greater than or equal to 0.92) are written in darker green. Correlations with meaningful negative value (lower than -0.35) are highlighted in red. Squares in dark grey represent sub-pillars.
Source: European Commission's Joint Research Centre, 2021.

TABLE V.4: Correlations between indicators and their aggregates

	Sub-pillar	Pillar	Index
ind.01	0.84	0.61	0.67
ind.02	0.82	0.77	0.57
ind.03	0.83	0.69	0.52
ind.04	1.00	0.93	0.73
ind.05	0.91	0.90	0.71
ind.06	0.88	0.78	0.54
ind.07	0.71	0.16	0.07
ind.08	0.72	0.90	0.71
ind.09	1.00	0.76	0.74
ind.10	0.88	0.78	0.66
ind.11	0.79	0.59	0.45
ind.12	0.84	0.77	0.65
ind.13	1.00	0.78	0.68
ind.14	0.99	0.74	0.57
ind.15	0.96	0.65	0.47
ind.16	1.00	0.66	-0.13
ind.17	0.91	0.53	0.65
ind.18	0.93	0.65	0.61
ind.19	0.30	0.10	-0.14
ind.20	0.41	0.39	0.71
ind.21	0.62	0.28	-0.59
ind.22	1.00	0.70	0.58
ind.23	0.94	0.76	0.76
ind.24	0.93	0.91	0.80
ind.25	1.00	0.75	0.62
ind.26	0.91	0.88	0.75
ind.27	0.88	0.70	0.60
ind.28	1.00	-0.06	-0.13

Correlation
- High
- OK
- Weak
- Negative

Note: Numbers represent the Pearson correlation coefficients. Good correlations (i.e. Pearson correlation coefficients greater than or equal to 0.30 and lower than 0.92) are highlighted in light green. Correlations with low values (lower than 0.30) are written in grey. Correlations at risk of redundancy (greater than or equal to 0.92) are written in darker green. Correlations with meaningful negative value (lower than -0.35) are highlighted in red. Dark grey borders represent sub-pillars, pillars and index.
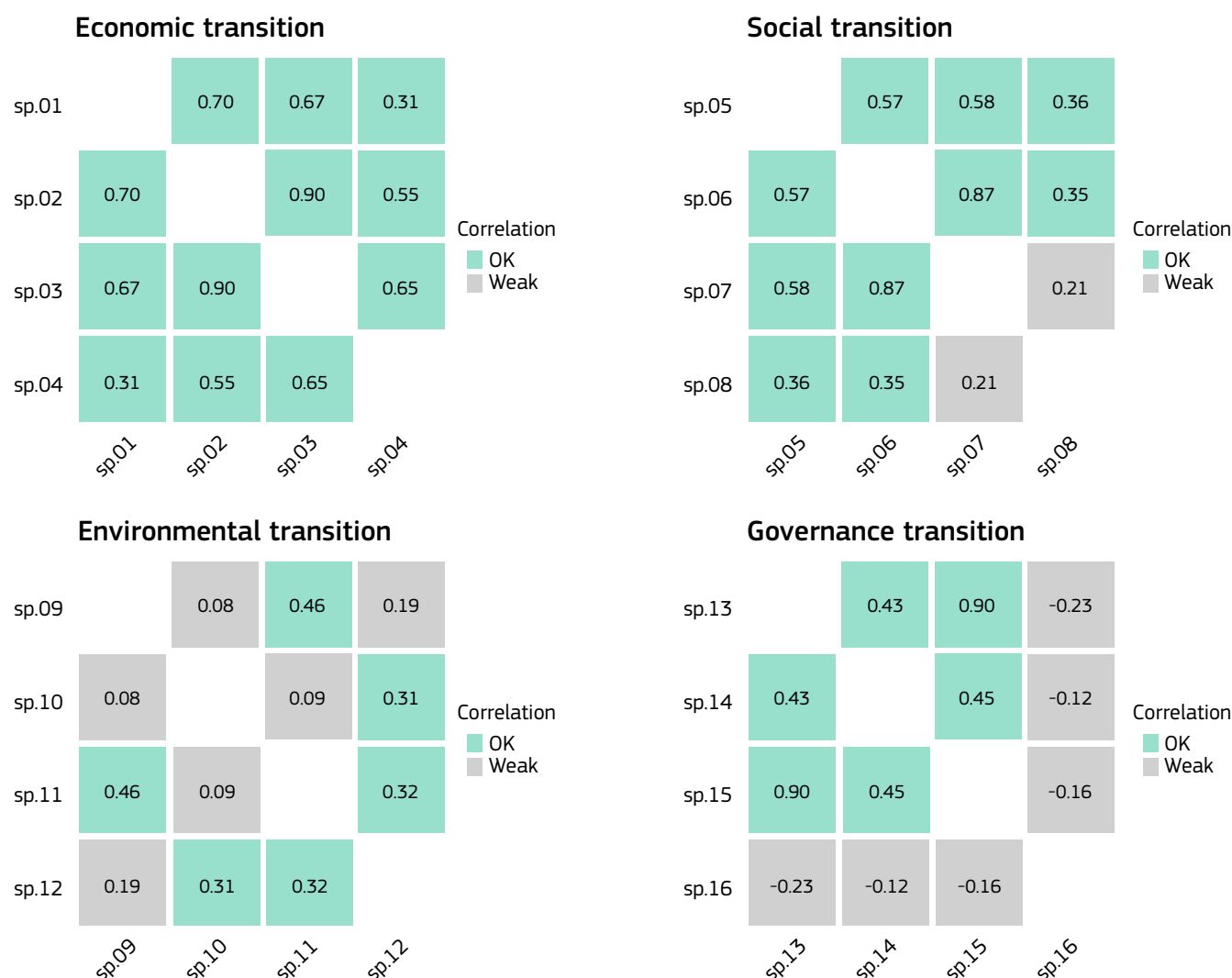*Source: European Commission's Joint Research Centre, 2021.*

A suggestion would be to keep monitoring these specific indicators and their position in the framework for future editions of the TPI in order to check their behaviour and modify them if appropriate.

Correlation analysis between sub-pillars

Table V.5 shows the correlation coefficients between sub-pillars belonging to the same pillar. A few cases, which need specific attention, are identified in the points below.

- In both the Economic and the Social pillars most correlations are significant and positive (>0.30). Only sub-pillar 8 (2.4, Equality) shows a lower but not critical lack of correlation with sub-pillar 7 (Free or non-remunerated time).

- The Environmental pillar shows a lack of internal relation, only three correlations are above the threshold. This may weaken the pillar with respect to the other three when they are aggregated.

Economic transition

	sp.01	sp.02	sp.03	sp.04
sp.01		0.70	0.67	0.31
sp.02	0.70		0.90	0.55
sp.03	0.67	0.90		0.65
sp.04	0.31	0.55	0.65	

Correlation
- OK
- Weak

Social transition

	sp.05	sp.06	sp.07	sp.08
sp.05		0.57	0.58	0.36
sp.06	0.57		0.87	0.35
sp.07	0.58	0.87		0.21
sp.08	0.36	0.35	0.21	

Correlation
- OK
- Weak

Environmental transition

	sp.09	sp.10	sp.11	sp.12
sp.09		0.08	0.46	0.19
sp.10	0.08		0.09	0.31
sp.11	0.46	0.09		0.32
sp.12	0.19	0.31	0.32	

Correlation
- OK
- Weak

Governance transition

	sp.13	sp.14	sp.15	sp.16
sp.13		0.43	0.90	-0.23
sp.14	0.43		0.45	-0.12
sp.15	0.90	0.45		-0.16
sp.16	-0.23	-0.12	-0.16	

Correlation
- OK
- Weak

Note: Numbers represent the Pearson correlation coefficients. Good correlations (i.e. Pearson correlation coefficients greater than or equal to 0.30 and lower than 0.92) are highlighted in light green. Correlations with low values (lower than 0.30) are written in grey.
Source: European Commission's Joint Research Centre, 2021.

- In the Governance pillar, there is a satisfying relation among the first three sub-pillars. Nevertheless, sub-pillar 16 (Sound public finances) seems to describe a slightly different concept in respect to the others. This may be reflected in the role and representation of this pillar in the final aggregation.

Correlation analysis between aggregates and the index

The values in **TABLE V.6** represent the correlation between the aggregates (sub-pillars or higher). This level of aggregation is the most important as it represents the consistency of the general concepts.

All the sub-pillars appear consistent and well allocated within their pillar, with very satisfying correlation levels. The only exception is sub-pillar 16 (Sound public finances), which shows a slightly negative correlation with its pillar. This is a direct effect of the low relation of this sub-pillar with the other elements of the same pillar. The same sub-pillar, along with sub-pillars 9 (Emissions reduction) and 11 (Material use) are also not positively correlated with the overall index. This result suggests that these three sub-pillars are not sufficiently represented in the overall aggregate. Sub-pillars 2 (Wealth) and 3 (Labour productivity and R&D intensity) show a very high correlation with their pillar (0.93 and 0.95 respectively), with a risk of being

TABLE V.6: Correlations of sub-pillars with pillars and the index

	Pillar	Index
sp.01	0.78	0.64
sp.02	0.93	0.73
sp.03	0.95	0.71
sp.04	0.74	0.55
sp.05	0.76	0.74
sp.06	0.85	0.69
sp.07	0.78	0.68
sp.08	0.73	0.55
sp.09	0.66	-0.13
sp.10	0.63	0.61
sp.11	0.62	0.02
sp.12	0.70	0.58
sp.13	0.89	0.83
sp.14	0.75	0.62
sp.15	0.88	0.76
sp.16	-0.06	-0.13

Correlation
- High
- OK
- Weak

Note: Numbers represent the Pearson correlation coefficients. Good correlations (i.e. Pearson correlation coefficients greater than or equal to 0.30 and lower than 0.92) are highlighted in light green. Correlations with low values (lower than 0.30) are written in grey. Correlations at risk of redundancy (greater than or equal to 0.92) are written in darker green.
Source: European Commission's Joint Research Centre, 2021.

redundant at pillar level. This is nevertheless mitigated at the index level with the two sub-pillars showing good positive correlations, without exceeding the 0.92 set threshold (0.73 and 0.71 respectively).

The direct correlation among pillars and with the index **(TABLE V.7)** illustrates the balance at the top level of aggregation. Pillars are positively correlated, except for pillar 3 (Environmental transition), which is the only pillar that has a low correlation with the other pillars. The weak correlation is also evident at index level where, despite having a larger weight, the Environmental pillar has a more moderate correlation to the index than the other pillars. This is further investigated in the following section.

TABLE V.7: Correlations between the pillars and with the index
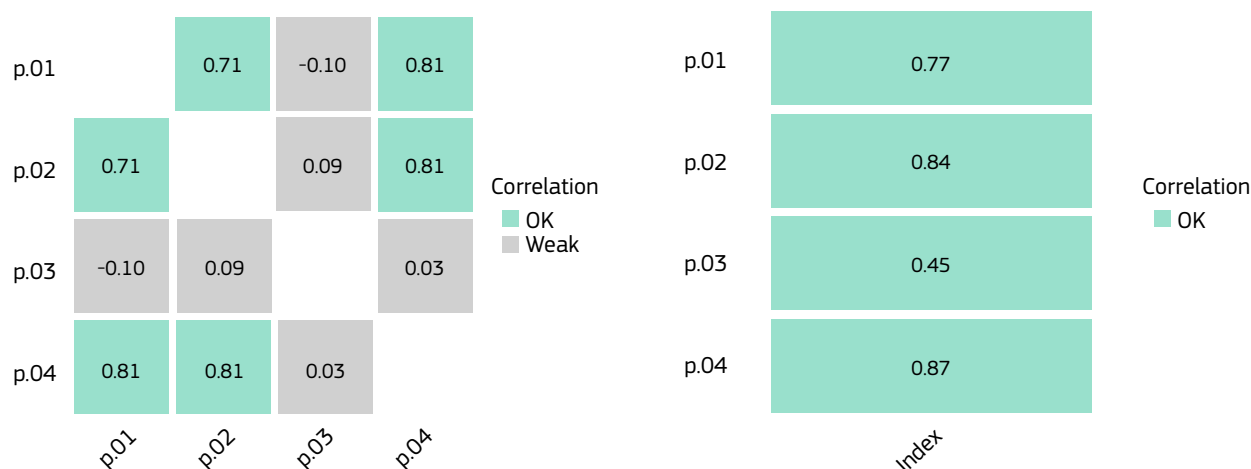
	p.01	p.02	p.03	p.04
p.01		0.71	-0.10	0.81
p.02	0.71		0.09	0.81
p.03	-0.10	0.09		0.03
p.04	0.81	0.81	0.03	

Correlation
- OK
- Weak

	Index
p.01	0.77
p.02	0.84
p.03	0.45
p.04	0.87

Correlation
- OK

Note: Numbers represent the Pearson correlation coefficients. Good correlations (i.e. Pearson correlation coefficients greater than or equal to 0.30 and lower than 0.92) are highlighted in light green. Correlations with low values (lower than 0.30) are written in grey.
Source: European Commission's Joint Research Centre, 2021.

4.2 PRINCIPAL COMPONENTS ANALYSIS OF THE TPI

As a further step in the analysis of statistical coherence, principal components analysis (PCA) was used to confirm the presence of one single statistical dimension among the four TPI pillars. Technically, the expectation here is that there is only one principal component with an eigenvalue greater than 1, or explaining more than 70% of the variance. In practice, the achievement of these thresholds suggests the presence of a common, unidimensional phenomenon underlying the pillars.

In the case of the TPI, the first principal component (PC1 or Dim 1) is the only principle component with an eigenvalue significantly higher than 1 (PC1 = 2.55, PC2 = 1.02) and explains about 64% of the total variation (68% in the previous edition), while the second principal component explains an additional 26%, as compared to 22% in the previous edition. Thus the first two principal components explain nearly all variance in the data (90% of the total variance). Figure V.1 illustrates the projections of the TPI pillars onto the plane spanned by the first two principal components in a 'factor map'.

The correlation between each TPI dimension and the principal component is given by the projection of the TPI pillar vector onto the component axis. The Economic, Social and Governance pillars (p.01, p.02, and p.04) all correlate highly with the first principal component.

The correlations are all above 0.90 except for the Environmental pillar (p.03, correlation 0.01, as compared to 0.43 of the previous edition), which shows a clear unicity, pointing in a different direction than the other pillars.

The second principal component is much less influential than the first and only accounts for one fourth of the total variance, mainly because it explains one of four pillars. Despite being less influential, PC2 is useful to evaluate the differences between the environmental and the other pillars. This difference is illustrated in Figure V.1, where pillars 1, 2 and 4 are not correlated with PC2, while pillar 3 is highly correlated with – and explained by – that principal component (i.e. the correlation between the pillar and PC2 is close to 1).

The results of the PCA suggest the possible bi-dimensional structure of the TPI. The Environmental pillar tells a different story in respect to the other three pillars. Therefore, JRC-COIN suggests keeping it under strict monitoring since it is clearly describing something that is related to the overall concept from a different perspective in respect to the other pillars. This is a common result for environmental aspects included in social and economic composite indicators. The

PCA graph of variables
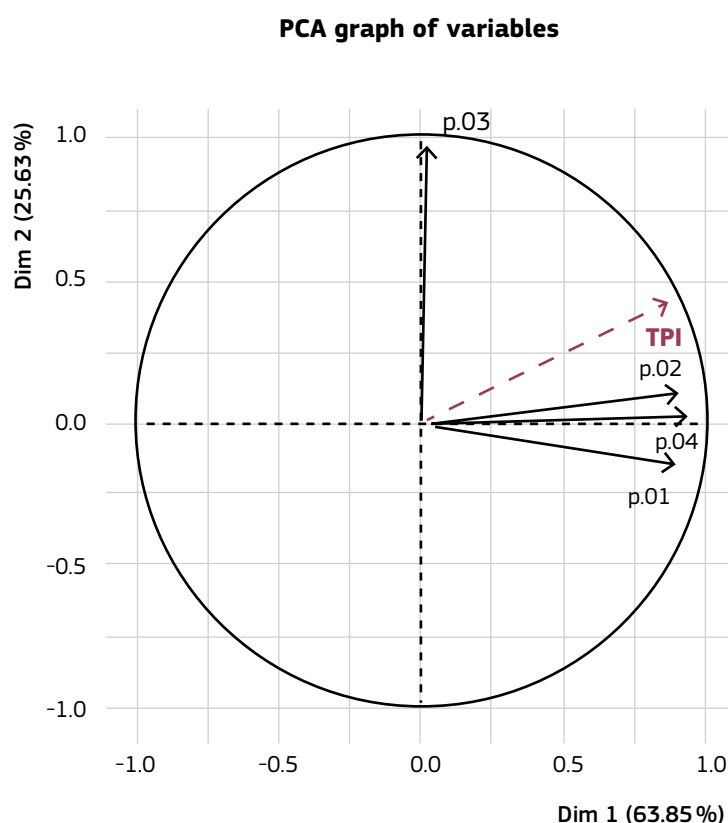
Source: European Commission's Joint Research Centre, 2021.

JRC-COIN team suggests to highlight the specificity of the Environmental pillar when describing the TPI. Further analysis may be useful to highlight the different scores (and ranks) deriving from the Environmental pillar and from the aggregation of the other three.

The PCA within the pillars shows some possible limitations in the structure of the Environmental and Governance pillars. Practically, sub-pillar 16 (Sound public finances) is not aligned with the other sub-pillars and the principal component. As for the Environmental pillar, the first principal component explains about 44% of the total variation, while the second principal component explains around 22% of the total variation. These results are in line with those obtained in the correlation analysis.

4.3 ADDED VALUE OF THE TPI

Sometimes a high statistical association among the main components of an index can be due to the redundancy of information. This is not the case with the TPI. The TPI ranking

(and any of the four pillar rankings) differ by 15 positions or more for at least 12% of the countries included in the TPI (see **TABLE V.8**). This result suggests that the TPI ranking highlights aspects of countries' efforts that do not emerge by looking at the four pillars separately. In particular, pillar 3 is confirmed to be the least aligned of the components. Almost 47% of the countries show a difference in rank of at least 15 positions in respect to the TPI.

4.4 IMPACT OF THE COMPONENTS OF THE TPI

The study of the impact of the components (the underlying indicators or aggregates) on the index is conducted by observing alternative simulated rankings based on the omission of one component at a time. One would typically expect to find some variability in rankings in such simulations. Otherwise, the omitted component would be proven to be irrelevant, adding no significant valuable information to the index.

Figure V.2 outlines the average shifts in the TPI country rankings when one element is omitted at a time.

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TABLE V.8: Distribution of rank differences between pillar and TPI rankings

Shift in respect to TPI	Pillar 1	Pillar 2	Pillar 3	Pillar 4
More than 30 positions	4.1%	1.4%	20.3%	2.7%
15-29 positions	23.0%	17.6%	27.0%	9.5%
More than 15 positions	27.1%	19.0%	47.3%	12.2%
5-14 positions	52.7%	39.2%	33.8%	45.9%
Fewer than 5 positions	17.6%	39.2%	16.2%	39.2%
0 positions	2.7%	2.7%	2.7%	2.7%

Source: European Commission's Joint Research Centre, 2021.

● Among the elementary indicators, 20 (3.3.1, Resource productivity), 22 (3.4, Energy productivity), and 25 (4.2, Homicide rate) have the most significant impacts on the rankings, with an average shift of the absolute rank of 2.6, 2.8 and 2.5 positions respectively. The omission of one of these indicators would cause a relevant change in the rankings of countries[3]. But, while indicators 22 and 25 are also sub-pillars, indicator 20's effect is reduced by the aggregation into sub-pillar 11 (Material use), which exclusion would cause an average change of 1.9. The only sub-pillar with larger impact than the above three indicators is sub-pillar 10 (Biodiversity).

● The Environmental pillar proves its specificity again by causing an average rank change of 7.4 positions and a maximum shift of 27[4]. This result classifies the Environmental pillar unequivocally as impactful, and it is due to the diversity of this pillar compared to the rest of the TPI. No pillar causes an average rank shift lower than 3.

FIGURE V.2: Average shifts in TPI country rankings when one element is omitted at a time (pillars, sub-pillars and indicators)
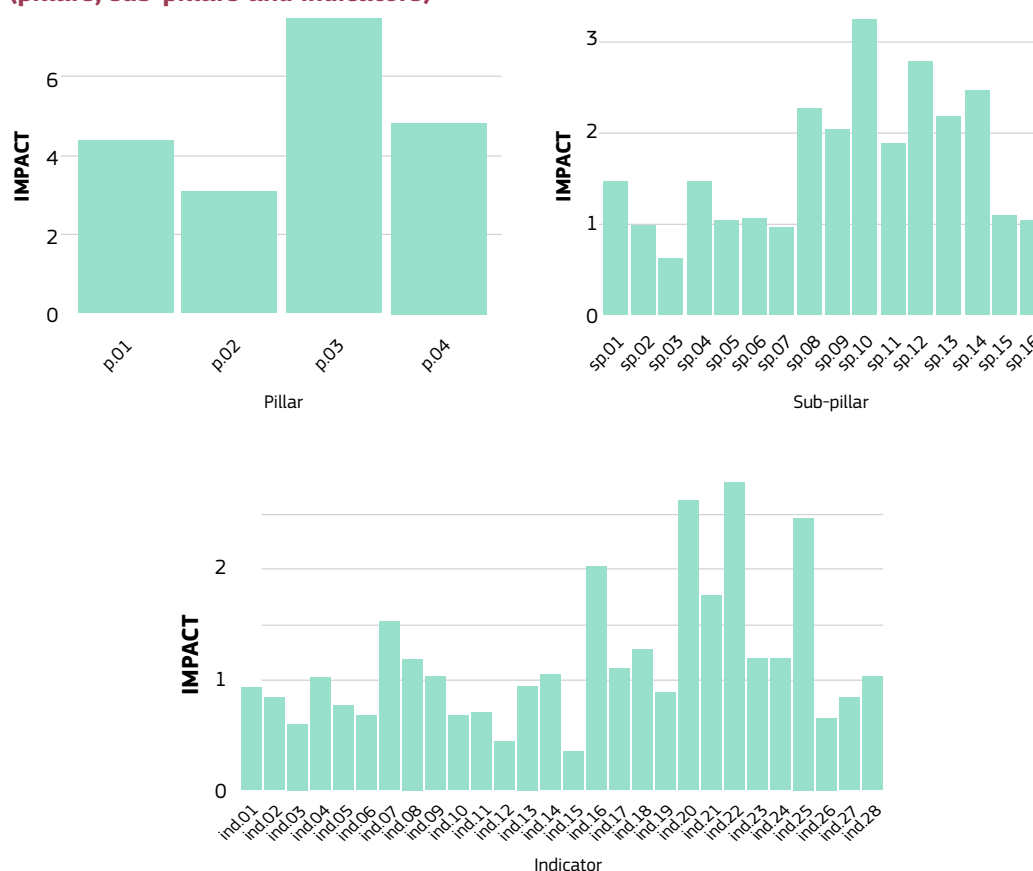
Source: European Commission's Joint Research Centre, 2021.

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3 Looking at the maximum rank shift observed when omitting an element, indicators 16 (Gross GHG emissions) and 21 (material footprint) show a significant impact on a country's rank.

4 Iceland would be the most affected by the exclusion of pillar 3, gaining 27 positions, followed by Australia and Canada, which would both gain 21 positions.

5. IMPACT OF MODELLING ASSUMPTIONS ON THE TPI RESULTS

A fundamental step in the statistical analysis of a composite indicator is to assess the effect of different modelling assumptions on the country rankings. Despite the efforts in the development process, there is an unavoidable subjectivity (or uncertainty) in the resulting choices. This subjectivity can be explored by comparing the results obtained under different – alternative – assumptions.

The literature on this topic[5] suggests assessing the robustness of the index by means of a Monte Carlo simulation and by applying a multi-modelling approach. This also assumes 'error-free' data as possible errors have already been corrected in the preliminary stage of the index construction before the audit.

The TPI, like most composite indicators, is the outcome of several choices. Among other things, these choices include: (i) the underlying theoretical framework; (ii) the indicators selected; (iii) the imputation of missing values; (iv) the weights assigned; and (v) the aggregation method. Some of these choices may be based on expert opinion or other considerations driven by statistical analysis or the need to ease communication or draw attention to specific issues.

This section aims to test the impact of varying some of these assumptions within a range of plausible alternatives in an uncertainty analysis. The objective is therefore to try to quantify the uncertainty in the ranks of the TPI, which can demonstrate the extent to which countries can be differentiated by their scores.

The modelling issues considered in the robustness assessment of the TPI are the aggregation formula, the imputation of missing data and the pillars' weights. The following paragraphs deal with each of these in turn.

● The TPI team opted for the arithmetic averaging of the four pillars, which implies a strong compensability, allowing for an outstanding performance in some aspects to balance weaknesses in others and vice-versa. This approach puts countries that have both high and low results at the same level, with more 'balanced' countries showing average results. To assess the impact of this choice, the JRC included

in the analysis a comparison with the geometric mean. The comparison of the two aggregation approaches should be able to highlight countries with unbalanced profiles, since the geometric mean tends to penalise low values, especially in the presence of other values that are not so low (unbalanced profiles).

● The missing values in the TPI are not numerous. Namely only those remaining after the imputation performed by the developers and based on the observations of the previous years. The TPI team opted to avoid imputation. As a comparison, the JRC-COIN included the imputation of the remaining missing values using the Expectation-Maximisation method.

● Our Monte Carlo simulation comprised 1 000 runs of different sets of weights for the four pillars constituting the TPI. The weights are the result of a random extraction based on uniform continuous distributions centred in the reference values[6] plus or minus 20 % of these values.

Four models were tested that combined the different aggregation formulas and imputation methods, which resulted in a total of 4 000 runs of simulations (1 000 simulated sets of weights for each combination of aggregation and imputation).

TABLE V.9: Alternative assumptions considered in the robustness analysis

	Reference	Alternative
I. Aggregation formula	Arithmetic average	Geometric average
II. Imputation of missing data	No imputation	Expectation-Maximisation
III. Weighting system of pillars	Fixed weights	Varying up to 20 %
Economic	0.20	U[0.16;0.24]
Social	0.20	U[0.16;0.24]
Environmental	0.35	U[0.28;0.42]
Governance	0.25	U[0.20;0.30]

Source: European Commission's Joint Research Centre, 2021.

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5 Saisana, M., D'Hombres, B., and Saltelli, A., 'Rickety Numbers: Volatility of University Rankings and Policy Implications', Research Policy, No 40, 2011, pp. 165-177. Saisana, M., Saltelli, A., and Tarantola, S., 'Uncertainty and Sensitivity Analysis Techniques as Tools for the Analysis and Validation of Composite Indicators', Journal of the Royal Statistical Society, A 168 (2), 2005, pp. 307-323.
6 Weights of the pillars: 0.20, 0.20, 0.35, 0.25.

The main results obtained from the robustness analysis are shown in Figure V.3, with median ranks and 90% intervals computed across the 4000 Monte Carlo simulations. Countries are ordered from worst to best according to their original TPI rank, where each blue dot represents the median rank among the iterations for each country, and error bars represent the 90% interval across all simulations, i.e. from the 5th to the 95th percentile.

TPI ranks are shown to be representative of a plurality of scenarios and robust to changes in the aggregation method, imputation and pillar weights for most of the countries. Suppose one considers the median rank across the simulated scenarios as being representative of these scenarios. In this case, the fact that the TPI rank is close to the median rank (less than three positions away) for 93% of the countries suggests that the TPI represents a suitable summary measure of the four scenarios tested. Furthermore, the reasonable narrow intervals for most of the countries' ranks (less than 10 positions for about 90% of countries) imply that the ranks are also, for most countries, robust to changes in the pillars' weights and other modelling assumptions (**Table V.10**).

Only seven countries show a simulated interval larger than – or equal to – 10 positions: Australia, Canada, Colombia, Iceland, the Philippines, the United Arab Emirates and the United States. Probably, this is due to the lack of balance among their values on the three pillars. When a country shows unbalanced values, it is particularly penalised by the geometric mean. This aspect is investigated in the following paragraphs.

Overall, country ranks in TPI are very robust to changes in the pillar weights, imputation method, and aggregation formula for most of the countries considered. These ranks are robust enough to allow for meaningful inferences to be drawn. For full transparency and information, **TABLE V.9** reports the country ranks together with the simulated intervals (central 90 percentiles observed among the 4000 scenarios) to appreciate better the robustness and behaviour of specific countries with respect to perturbations.

FIGURE V.3: Robustness analysis on ranks (TPI rank vs median rank and 90% intervals)
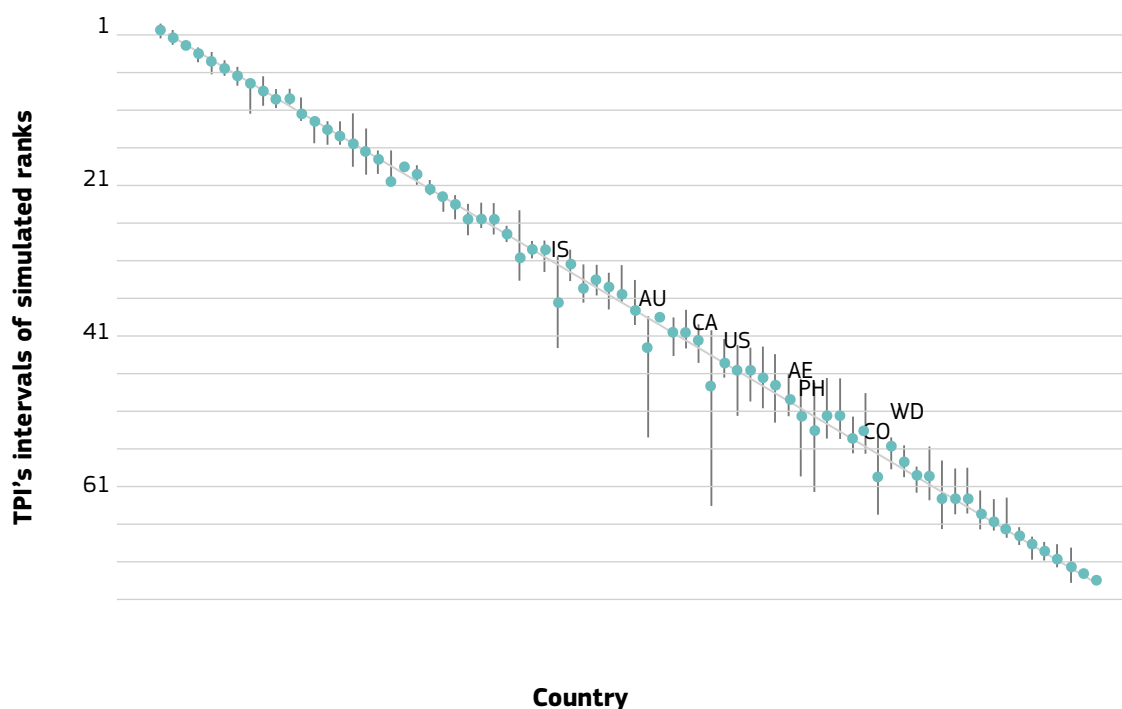
Note: Labelled countries show a shift of at least ten positions between the two aggregation formulas.
Source: European Commission's Joint Research Centre, 2021.

The uncertainty analysis is also complemented by a sensitivity exercise, in which the TPI rankings are compared with the rankings resulting from specific changes in the modelling assumptions. In Figure V.4, it is possible to compare the ranks derived from the TPI with the ranks that would have been obtained by changing the aggregation procedure from arithmetic to geometric mean. This comparison makes it possible to inquire whether the variability in the rank intervals originates from the modelling assumptions underlying the aggregation procedure. In the figure, the countries placed under the diagonal decrease in rank positions with the geometric mean. They are probably penalised by the geometric mean for their unbalanced profiles. Many countries with a larger interval in the robustness analysis are influenced by the

aggregation formula. In particular, Australia, Canada, Colombia, and Iceland show at least five positions of difference when comparing the two alternative formulas.

Similarly, using Figure V.4 it is possible to compare the original TPI ranks with the ranks that would have been obtained by changing the imputation method. This comparison makes it possible to further investigate the source of the variability in the rank intervals. The TPI is not influenced by the imputation of the remaining missing values, probably because of the small number of such values. No country shows any shift of position in this comparison.

FIGURE V.4: Sensitivity analysis: comparison of ranks according to arithmetic and geometric means
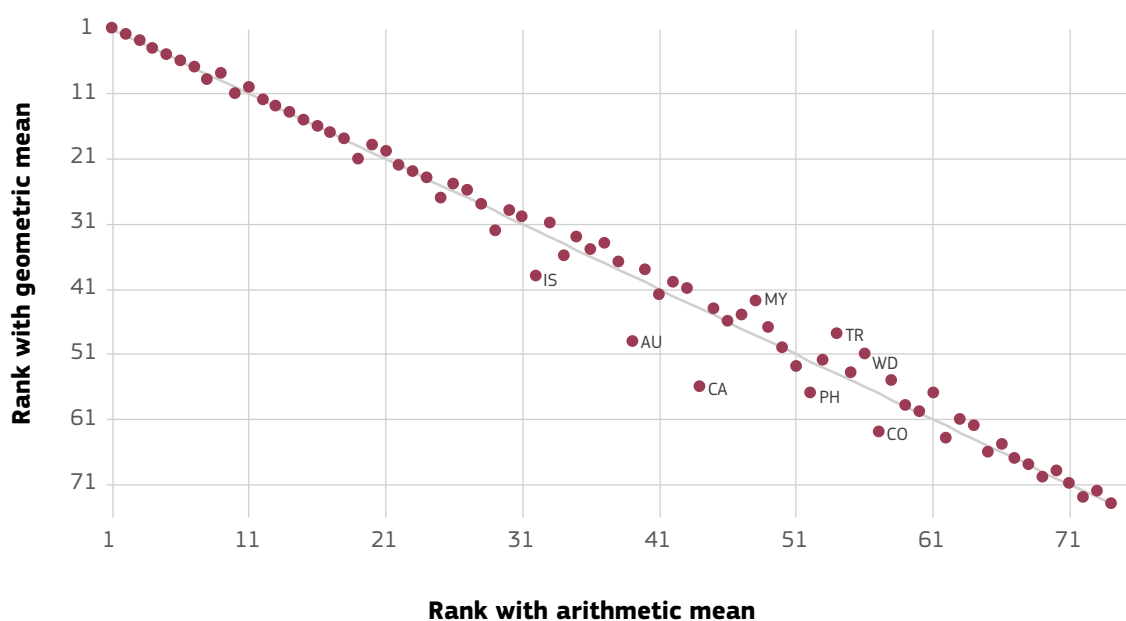
Note: Labelled countries show a shift of at least five positions between the two aggregation formulas.
Source: European Commission's Joint Research Centre, 2021.

TABLE V.10: TPI ranks and 90% intervals

ISO2	TPI Rank	Interval	ISO2	TPI Rank	Interval	ISO2	TPI Rank	Interval
CH	1	[1-2]	PL	26	[24-27]	AE	51	**[46-60]**
DK	2	[1-2]	HU	27	[24-28]	PH	52	**[48-62]**
IE	3	[3-3]	LT	28	[27-29]	DZ	53	[49-55]
NL	4	[4-5]	KR	29	[25-34]	TR	54	[47-55]
GB	5	[4-7]	IL	30	[29-31]	VN	55	[52-57]
DE	6	[5-6]	GR	31	[29-33]	WD	56	[49-57]
SE	7	[6-8]	IS	32	**[30-43]**	CO	57	**[54-65]**
NO	8	[8-12]	RO	33	[30-34]	MD	58	[54-59]
MT	9	[7-11]	NZ	34	[32-37]	BA	59	[56-60]
SI	10	[9-11]	CY	35	[32-36]	ME	60	[59-62]
AT	11	[9-11]	SG	36	[33-38]	AR	61	[56-63]
FR	12	[10-13]	BG	37	[32-37]	CN	62	[58-67]
EU-27	13	[13-16]	AL	38	[34-40]	RS	63	[59-65]
BE	14	[13-16]	AU	39	**[38-55]**	EG	64	[59-65]
CZ	15	[13-16]	MK	40	[37-41]	IN	65	[62-67]
LU	16	[12-19]	ID	41	[39-44]	UA	66	[63-67]
IT	17	[14-20]	CL	42	[38-43]	MX	67	[63-68]
JP	18	[17-20]	TH	43	[39-45]	SA	68	[67-69]
FI	19	[17-21]	CA	44	**[40-64]**	KE	69	[68-71]
ES	20	[17-20]	AM	45	[43-47]	BR	70	[69-71]
PT	21	[19-21]	US	46	**[42-52]**	RU	71	[69-72]
EE	22	[21-22]	TN	47	[43-50]	NG	72	[70-74]
SK	23	[23-25]	MY	48	[43-51]	IR	73	[72-73]
LV	24	[23-26]	MA	49	[44-53]	ZA	74	[73-74]
HR	25	[24-28]	GE	50	[47-52]			

Note: In bold 90% confidence intervals of 10 or more positions.

Source: European Commission's Joint Research Centre, 2021.

6. SPECIAL FOCUS: LARGER SAMPLE OF COUNTRIES

The JRC statistical audit also includes a specific focus covering the potential extension of the TPI to a larger sample of countries (by adding 39 new countries). This focus has been requested by the developers to explore the impact of this potential extension on some of the characteristics of the index and its structure. The following sections analyses in brief the main features of the data, the statistical coherence and the changes that the choice to extend the sample of observations would imply in terms of rankings.

6.1 DATA QUALITY AND AVAILABILITY

Following the same approach of the original data set, only the countries with a maximum of three missing values (out of 28) are included. All the 113 entities included in this analysis fulfilled this criterion.

TABLE V.11: Summary statistics of the indicators included in the TPI (extended data set)

	Ind. number	Indicator	N. missing	Missing (%)	Skew	Kurtosis
ECONOMIC TRANSITION	ind.01	1.1.1	4	3.54	0.29	-0.97
	ind.02	1.1.2	0	0	-0.83	-0.55
	ind.03	1.1.3	42	37.17	-0.06	-0.50
	ind.04	1.2	0	0	0.82	-0.26
	ind.05	1.3.1	0	0	0.64	-0.54
	ind.06	1.3.2	5	4.42	1.54	2.30
	ind.07	1.4.1	0	0	0.54	0.49
	ind.08	1.4.2	0	0	0.41	-1.08
SOCIAL TRANSITION	ind.09	2.1	0	0	-0.76	-0.21
	ind.10	2.2.1	1	0.88	-0.34	-1.02
	ind.11	2.2.2	0	0	-1.35	1.53
	ind.12	2.2.3	5	4.42	-0.42	-1.39
	ind.13	2.3	1	0.88	-0.59	-0.16
	ind.14	2.4.1	1	0.88	-0.83	0.48
	ind.15	2.4.2	0	0	-0.38	-0.31
ENVIRONMENTAL TRANSITION	ind.16	3.1	0	0	-1.31	1.64
	ind.17	3.2.1	0	0	0.19	-1.15
	ind.18	3.2.2	5	4.42	0.16	-1.07
	ind.19	3.2.3	9	7.96	-1.50	1.90
	ind.20	3.3.1	0	0	1.42	1.69
	ind.21	3.3.2	0	0	-0.52	-0.90
	ind.22	3.4	5	4.42	0.24	-0.50
GOVERNANCE TRANSITION	ind.23	4.1.1	0	0	-0.18	-1.35
	ind.24	4.1.2	0	0	0.14	-1.36
	ind.25	4.2	5	4.42	-0.98	0.35
	ind.26	4.3.1	0	0	0.60	-0.75
	ind.27	4.3.2	0	0	-0.45	-0.04
	ind.28	4.4	1	0.88	-1.17	1.33

Note: The cell with the percentage of missing values exceeding 10% are shaded in light red. The values of skewness and kurtosis exceeding the threshold (if any) are written in red.
Source: European Commission's Joint Research Centre, 2021.

Only two indicators contain more than five missing values (at least 96% of coverage): indicators 1.1.3 (Proportion of people with ICT skills), and 3.2.3 (Pesticide use per area of cropland, **TABLE V.2)**. Despite the indicators with missing values being the same as in the main database, the proportion of missing values in indicator 1.1.3 increases to 37% (22% in the original data set). With respect to the detection of outliers, no further comments are needed for the extended data set.

6.2 STATISTICAL COHERENCE

Most of the characteristics of the TPI's structure are not particularly affected by the addition of almost forty countries. The tables are not reproduced for the sake of simplicity. A summary is included below:

- Correlation among indicators of the same sub-pillars and pillars, do not significantly change in any group. In respect to the original results (**TABLE V.3**), the indicators of the sub-pillar 6 lose some of their relative correlations, without reaching worrying levels.

- The general relation of the elementary indicators with the aggregates is not changed significantly (as compared to **TABLE V.4**). Among the indicators already showing a weak relation with the structure, indicator 7 shows a slight improvement, while 19 and 21 seem to deteriorate their relation with the overall index (see Section 4.1 for reference).

- As for the relation between sub-pillars of the same pillar, the elements of the Economic pillar show slightly stronger relations, while those in the Social pillar have slightly weakened. In particular, sub-pillar 7 and sub-pillar 8 have a correlation of -0.21 in the larger data set. Environmental transition shows an even weaker structure of correlation among its sub-pillars than that observed in the original data (respect to **TABLE V.5**). For instance, none of the correlations is higher than 0.3 except for the one between sub-pillar 9 and sub-pillar 11.

- In the analysis of the correlation between sub-pillars and the higher aggregates, the only relevant difference is observed in sp.09 which sees its relation with the overall index deteriorate to a significant -0.33 (respect to -0.13 in **TABLE V.6**).

- The Environmental pillar increases its specificity, further weakening its role in the overall aggregation. The correlation of the third pillar with the other three pillars is between -0.21 and -0.1. This is weaker than those observed in the left side of **TABLE V.7**. Moreover, the final correlation with the TPI is 0.26, which can definitely be considered very unbalanced and low as compared to the other three pillars (showing values between 0.82 and 0.88).

6.3 RANKINGS OF THE ADDED COUNTRIES

TABLE V.12 shows the ranks observed in the extended data set and which entities would change their rank in case of inclusion in a wider data set. The first 38 entities in the ranking would not change their position if compared to the original sample. An impact is visible starting at position 39 in the ranking, in which the newly added entities take a higher position than some of the entities originally considered. Nevertheless, it is possible to observe that a relevant proportion of the new countries (32 out of 39) position themselves in the bottom half of the overall ranking. The Diff column shows the exact rank loss for each of the entities observed in the original data set.

6.4 FINAL REMARKS

The use of a larger set of data does not seem to impact the general structure significantly. The main issues are observed among the elements of the Environmental pillar and in the relation of this pillar with the other pillars. The general distance observed between the Environmental pillar and the rest of the structure increases when the additional observations are included.

TABLE V.12: Ranking of the entities (extended data set)

Country	TPI rank	Diff	Country	TPI rank	Diff	Country	TPI rank	Diff
Switzerland	1	0	Dominican Republic	39		Serbia	77	14
Denmark	2	0	Costa Rica	40		Egypt	78	14
Ireland	3	0	Australia	41	2	Myanmar	79	
Netherlands	4	0	North Macedonia	42	2	India	80	15
United Kingdom	5	0	Sri Lanka	43		El Salvador	81	
Germany	6	0	Indonesia	44	3	Namibia	82	
Sweden	7	0	Mauritius	45		Ukraine	83	17
Norway	8	0	Panama	46		Mexico	84	17
Malta	9	0	Chile	47	5	Botswana	85	
Slovenia	10	0	Thailand	48	5	Paraguay	86	
Austria	11	0	Canada	49	5	Uganda	87	
France	12	0	Peru	50		Kyrgyzstan	88	
EU-27	13	0	Belarus	51		Côte d'Ivoire	89	
Belgium	14	0	Armenia	52	7	Saudi Arabia	90	22
Czechia	15	0	United States	53	7	United Republic of Tanzania	91	
Luxembourg	16	0	Tunisia	54	7	Kazakhstan	92	
Italy	17	0	Malaysia	55	7	Nicaragua	93	
Japan	18	0	Morocco	56	7	Kenya	94	25
Finland	19	0	Georgia	57	7	Tajikistan	95	
Spain	20	0	United Arab Emirates	58	7	Honduras	96	
Portugal	21	0	Philippines	59	7	Brazil	97	27
Estonia	22	0	Algeria	60	7	Russia	98	27
Slovakia	23	0	Turkey	61	7	Nigeria	99	27
Latvia	24	0	Uruguay	62		Pakistan	100	
Croatia	25	0	Vietnam	63	8	Togo	101	
Poland	26	0	Burkina Faso	64		Mongolia	102	
Hungary	27	0	World	65	9	Ethiopia	103	
Lithuania	28	0	Senegal	66		Niger	104	
South Korea	29	0	Rwanda	67		Angola	105	
Israel	30	0	Colombia	68	11	Guatemala	106	
Greece	31	0	Moldova	69	11	Zimbabwe	107	
Iceland	32	0	Ecuador	70		Iran	108	35
Romania	33	0	Bosnia and Herzegovina	71	12	Mozambique	109	
New Zealand	34	0	Jordan	72		Iraq	110	
Cyprus	35	0	Montenegro	73	13	Zambia	111	
Singapore	36	0	Argentina	74	13	South Africa	112	38
Bulgaria	37	0	Gambia	75		Mauritania	113	
Albania	38	0	China	76	14			

Note: The newly added entities are highlighted in light grey. The Diff columns show the ranks loss for each entity of the original data set.

Source: European Commission's Joint Research Centre, 2021.

7. CONCLUSIONS

The JRC statistical audit delves into the extensive work carried out by the developers of the TPI with the aim of suggesting improvements in terms of data characteristics, structure and methods used. The analysis aims to ensure the transparency of the index methodology and the reliability of the results.

The data coverage of the framework is very good. Most indicators contain no missing values for 2020 because the developers imputed the data from previous years. The use of 2019 data is a perfectly acceptable lag for the TPI considering the international coverage of the index.

A few indicators present outliers that are implicitly treated with goalpost normalisation by the developers. The analysis suggests that, mostly, the TPI is statistically well balanced within its pillars. There are mostly positive correlations between indicators and their corresponding sub-pillar, thus suggesting that most of the indicators provide meaningful information on the variation of the scores. Special care is suggested in the report for some indicators, especially in the Environmental pillar.

The results of the statistical coherence analysis suggest a structure of the TPI that is not strictly unidimensional. The Environmental pillar shows an apparently independent behaviour in respect to the other three. As a consequence, the Environmental pillar contributes less to the index than the other three pillars. Further analysis by the developers may be useful to highlight the different scores (and ranks) deriving from the Environmental pillar and from the aggregation of the other three.

Secondly, indicators 7 (1.3.1, Gross value added of manufacturing), 16 (3.1, Gross GHG emissions), 19 (3.2.3, Pesticide use per area of cropland), 20 (3.3.1 Resource productivity), 21 (3.3.2, Material footprint), and 28 (4.4, Government gross debt) show very low, when not negative, correlations with the other indicators in their sub-pillars and pillars. This may suggest that these indicators do not entirely fit within their group, and this may cause a conflict between results and reduce the significance of the aggregate to which they belong.

The JRC analysed a series of different choices that were made during the construction of the TPI. The results of the uncertainty analysis reveal that the TPI is a robust summary measure for almost all countries. The simulated intervals are narrow enough for meaningful inferences to be drawn from the index for 96 % of the units observed; there is a shift of less than 10 positions for about 90 % of the countries included in the index. Nevertheless, there are seven countries with 90 % confidence interval widths of at least 10 positions. Thus, their ranks vary significantly with changes in weights and aggregation method, as observed also in the sensitivity analysis.

The JRC-COIN team suggests keeping the Environmental pillar under strict monitoring since it is clearly describing something that is related to the overall concept from a different perspective in respect to the other pillars. It is a common result for environmental aspects included in social and economic composite indicators. The JRC-COIN team suggests to highlight the specificity of the Environmental pillar when describing the TPI.

Considering the specificity of the Environmental pillar, this audit confirms that the TPI is reliable, and that the framework has a good statistical coherence. The audit also acknowledges the significant efforts by the developers to obtain a balanced and transparent result.

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APPENDIX VI

ABOUT THE AUTHORS

Sabine Prevost is a policy officer at the European Commission in the Directorate-General for Research and Innovation (DG RTD). Before joining the European Commission, Sabine worked at the French embassy in Sofia (Bulgaria) as an economist. When joining DG RTD in 2008, she first worked on financial and budgetary matters. She then worked on the ex-post evaluation of the 7th Framework Programme and on the mid-term evaluation of Horizon 2020, and on different studies. In particular, she coordinated a study on frugal innovation, which led to the development of the inducement prize 'EIC Horizon Prize for Affordable High-Tech for Humanitarian Aid'. She designed and managed this prize until the award in September 2020. She holds a Bachelor in Economics and a Master in Banking, Finance and Insurance (Paris-Dauphine University).

Alexis Stevenson is an economist. He is currently working as a trainee at the European Commission in DG RTD, in the Economic and Social Transitions Unit. He is a final-year PhD student in Economics jointly at Hanken School of Economics in Finland and KU Leuven in Belgium. His research explores how the design of patent systems affect the incentives to innovate, with a particular focus on current institutional changes in the European patent system. Before starting his PhD, he worked as an economist at the French embassy in Helsinki (Finland) and as a research assistant in France and Australia. Alexis holds a Master in Economics (Toulouse School of Economics) and is a former student of ENS Cachan (Department of Economics).

Daniela Benavente is an international consultant specialised in dashboards and composite indicators. In this field, she developed the first edition of the Transitions Performance Index (2020) and she has collaborated with the European Union (JRC, REA Horizon 2020, Cedefop), the OECD, the World Bank, the Inter-American Development Bank, the United Nations (WIPO, FAO, ITC, ITU, IFAD, UNDP), ICTSD/WEF and INSEAD. Recently, her work has focused on climate change, first as executive coordinator of the Scientific Committee for the Chilean Presidency of COP25 (2019) and then as metrics officer for the Race to Resilience campaign launched in 2021 by the United Nations High Level Climate Action Champions office. She is an economist from Universidad Católica in Chile, with MAs from Columbia University and Sciences Po Paris, and a PhD in international economics from the Graduate Institute of International and Development Studies in Geneva.

Giulio Caperna is a researcher and statistician at the JRC in Ispra, Italy. He joined the JRC in 2017, starting his work in the Competence Centre on Composite Indicators and Scoreboards (COIN). As of today, he has supported the development of more than fifty composite indicators and scoreboards, interacting with many European and International institutions. Before joining the JRC, Giulio worked at the University of Padua as a postdoctoral researcher. He taught statistics and the methodology behind composite indicators. Before taking his PhD in statistical science at the University of Padua, he worked as a data manager and data analyst in a medical department in Rome. His main research interests include the methodology of composite indicators and its implications when describing complex concepts.

Francesco Panella is a policy assistant at the European Commission's Joint Research Centre (JRC). He has a background in humanities and in cultural policy and management. Before working for the JRC, he worked in different organisations on international projects and relations as well as in research projects related to the cultural and creative sectors in the urban environment. His research interests comprise spatial analysis, open data and cultural policy. Francesco has been working for the Competence Centre on Composite Indicators and Scoreboards (COIN) since 2017.

The Transitions Performance Index (TPI) 2021 is the second edition of a new composite indicator, which measures the performance of countries along four transitions: economic, social, environmental and governance. Most of the TPI indicators are outcome-oriented in order to present to the public and policymakers the combined impact of the policy mix implemented in each country. Using comparable international data, the TPI covers countries representing 76% of the total population. Using a 'beyond GDP' approach, it enables a comparison of country performances in progressing towards fair, equitable and sustainable prosperity.

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