Annex
Methods Summary and Data Tables

A.1 Interpreting the SDG Index and Dashboards results

The Sustainable Development Report describes countries' progress towards achieving the SDGs and highlights areas where progress is insufficient. A country's overall SDG Index score and the scores it receives on individual goals represent percentages of optimal performance. The difference between any score and the maximum value of 100 is therefore the distance in percentage points that a country must overcome to reach optimum SDG performance. The same indicators are used for all countries to generate the SDG Index score and rankings.

Substantial differences in rankings may be due to small differences in aggregate SDG Index scores. Differences of two or three places between countries' rankings should not be interpreted as "significant", whereas differences of 10 places or more may show a meaningful distinction. For details, see the statistical audit by Papadimitriou et al. (2019), conducted on behalf of the Joint Research Centre of the European Commission (EU JRC).

The SDG Dashboards provide a visual representation of each country's performance on the 17 SDGs. The "traffic light" color scheme (green, yellow, orange, and red) illustrates how far a country is from achieving a particular goal. As in previous years, the Dashboards and country profiles for OECD members include additional metrics for which data is not available for all countries.

The SDG Trend Dashboards indicate whether a country is on track to achieve a particular goal by 2030, based on recent performance of individual indicators. Indicator trends are then aggregated at the goal level to give an appraisal of how well the country is progressing towards that SDG.

This section provides a brief summary of the methods used to compute the SDG Index and Dashboards. A detailed methodology paper is accessible online (Lafortune et al., 2018). The European Commission Joint Research Centre (JRC) conducted an independent statistical audit of the methodology and results in 2019, reviewing the conceptual and statistical coherence of the index structure. Their audit and additional data tables are available on our website, www.sdgindex.org

This year's edition does not reflect the impact of the war in Ukraine.

A.2 Changes to the 2022 edition and main limitations

Changes to the 2022 SDG Index and Dashboards

The 2022 SDG Index covers 163 countries – two fewer than last year due to missing data (Cabo Verde and Vanuatu). This edition introduces an additional indicator (for SDG 12, see Table A1) to cover a previous data gap. We have also dropped two indicators due to insufficient periodicity of updates to the data and another one due to redundancy. Table A1 also identifies indicators that have been modified or replaced due to changes in methodologies or estimates of data providers. Data for this year's edition were extracted between February and March 2022.

Limitations and data gaps

Due to changes in the indicators and some refinements in the methodology, SDG Index rankings and scores cannot be compared with the results from previous years. However, Part 2 provides time series for the SDG Index, calculated retroactively using this year's indicators and methods. The full time series for the SDG Index are available for download online.

In spite of our best efforts to identify data for the SDGs, several indicator and data gaps persist at the international level (Table A2). Governments and the international community must increase investments in SDG data and

Table A.1

New indicators and modifications

SDG	Indicator	Modification	Source
4	Participation rate in pre-primary organized learning (% of children aged 4 to 6)	Modification, now global indicator	UNESCO
4	Resilient students in science (% of 15-year-olds)	Removed due to redundancy	OECD
5	Gender gap in time spent doing unpaid work (minutes/day)	Removed due to lack of timely data	OECD
6	Scarce water consumption embodied in imports (m^3 H_2O eq/capita)	Modification, now sourced from different Multi-regional input-output database, Gloria.	UNEP
7	Share of renewable energy in total primary energy supply (%)	Modification, now global indicator	OECD
9	Articles published in academic journals (per 1,000 population)	Changed source to Scimago Journal Rank	Scimago Jounal Rank
10	Gini coefficient	Replaces Adjusted Gini Coefficient	World Bank
10	Gini coefficient adjusted for top income	Removed due to insufficient update frequency	Chandy and Seidel (2017)
12	Municipal solid waste (kg/capita/day)	Changed calculation method. Now divided by entire country population since waste collection data covers urban & rural areas	World Bank
12	Production-based SO_2 emissions (kg/capita)	Modification, now sourced from different Multi-regional input-output database, Gloria.	Lenzen et al. (2020)
12	SO_2 emissions embodied in imports (kg/capita)	Modification, now sourced from different Multi-regional input-output database, Gloria.	Lenzen et al. (2020)
12	Exports of plastic waste (kg/capita)	New indicator	UN Comtrade
13	CO_2 emissions embodied in imports (tCO_2/capita)	Modification, now sourced from different Multi-regional input-output database, Gloria.	Lenzen et al. (2020)

Source: Authors' analysis

monitoring systems and build strong data partnerships to support informed SDG decisions and strategies.

To ensure maximum data comparability, we only use data from internationally comparable sources. These sources may adjust national data to ensure international comparability. As a result, some data points presented in this report may differ from data available from national statistical offices or other national sources. Moreover, the length of international organizations' validation processes can lead to significant delays in publishing some data. National statistical offices may therefore have more recent data for some indicators than what is presented in this report.

A.3 Methodology (overview)

The SDR2022 provides a comprehensive assessment of distance to targets based on the most up-to-date data available covering all 193 UN Member States. This year's report includes 94 global indicators as well as 26 additional indicators specifically for OECD countries (due to better data coverage).

The following sections provide an overview of the methodology for indicator selection, normalization, and aggregation and for generating indications on trends. Additional information including raw data, additional data tables, and sensitivity tests are available online.

4. SDG Data Systems and Statistics

A. Data selection

Where possible, the SDR2022 uses official SDG indicators endorsed by the UN Statistical Commission. Where there are data gaps or insufficient data available for an official indicator, we include other metrics from official and unofficial providers. Five criteria for indicator selection were used to determine suitable metrics for inclusion in the report:

1. Global relevance and applicability to a broad range of country settings.

2. Statistical adequacy: the indicators selected represent valid and reliable measures.

3. Timeliness: the indicators selected are up to date and published on a reasonably prompt schedule.

Table A.2

Major indicator and data gaps for the SDGs

SDG	Issue	Desired metrics
2	Agriculture and nutrition	Food loss and food waste Greenhouse gas emissions from land use Global yield gap statistics
3	Health	Health care system resilience and preparedness to face global health risks Internationally comparable survey data on unmet care needs
4	Education	Internationally comparable primary and secondary education outcomes Early childhood development (access and quality)
5	Women empowerment	Gender pay gap and other empowerment measures Violence against women
6	Water	Quality of drinking water and surface waters
8	Decent work	Decent work Child labor and modern slavery embodied into trade
10	Inequality	Wealth inequality Vertical mobility
12	Sustainable consumption and production	Environmental impact of transboundary physical flows (e.g. air pollution through wind, water pollution through rivers) Recycling and re-use (circular economy) Chemicals
13	Climate Action	Robust indicators of climate adaptation
14	Marine ecosystems	Maximum sustainable yields for fisheries Impact of high-sea and cross-border fishing Protected areas by level of protection
15	Terrestrial ecosystems	Leading indicators for ecosystem health Trade in endangered species Protected areas by level of protection
16	Peace and justice	Violence against children
17	Means of implementation	Climate finance Development impact of trade practices

Source: Authors' analysis

4. Coverage: data must be available for at least 80 percent of the UN Member States with a population greater than one million people.[1]

5. Capacity to measure distance to targets: optimal performance can be determined.

Data sources

The data included in the SDR2022 come from a mix of official and non-official data sources. Most of the data (around two-thirds) come from international organizations (including FAO, ILO, OECD, UNICEF, WHO, and the World Bank,) which have extensive and rigorous data validation processes. Other data sources (around a third) come from less traditional statistics: including household surveys (Gallup World Poll); civil society organizations and networks (such as Oxfam, Reporters sans Frontières, the Tax Justice Network, and the World Justice Project); and peer-reviewed journals (for example, to track international spillovers). The full list of indicators and data sources is available online.

B. Missing data and imputations

The Sustainable Development Report's purpose is to provide robust data that can guide countries in determining their SDG priorities. To minimize biases due to missing data, the SDG Index only includes countries for which data is available for at least 80% of the variables included in the global SDG. The list of countries not included in the SDG Index due to insufficient data availability is presented in Table A3. All UN Member States are included in both the SDG Dashboards and the country profiles – which also indicate any data gaps for each country.

Considering that many SDG priorities lack accepted statistical models that could be used to impute country-level data, missing data was only imputed or modelled in a few particular instances. The list of indicators for which imputations were performed is available online.

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1. There are two exceptions to this rule: (i) Exports of hazardous pesticides; (ii) Children involved in child labor

C. Method for constructing the SDG Index and Dashboards

The procedure for calculating the SDG Index comprises three steps: (i) establish performance thresholds and remove extreme values from the distribution of each indicator; (ii) rescale the data to ensure comparability across indicators (normalization); (iii) aggregate the indicators within and across SDGs.

Establishing performance thresholds

To make the data comparable across indicators, each variable was rescaled from 0 to 100 with 0 denoting worst possible performance and 100 describing optimum performance. Rescaling is usually very sensitive to the choice of limits and to extreme values (outliers) at both ends of the distribution. These outliers can become unintended thresholds and introduce spurious variability to the data. Consequently, the choice of upper and lower bounds can affect the relative ranking of countries in the index.

The upper bound for each indicator was determined using a five-step decision tree:

1. Use absolute quantitative thresholds in SDGs and targets: for example, zero poverty, universal school completion, universal access to water and sanitation, full gender equality.

2. Where no explicit SDG target is available, apply the principle of "leave no one behind" in setting the upper bound to universal access or zero deprivation.

3. Where science-based targets exist that must be achieved by 2030 or later, use these to set the upper bound (for example, zero greenhouse gas emissions from CO_2 by 2050 required for global warming to stay within 1.5°C, 100% sustainable management of fisheries).

4. Where several countries already exceed an SDG target, use the average of the top five performers (for example, child mortality).

5. For all other indicators, use the average of the top performers.

Table A.3

Countries excluded from the 2022 SDG Index due to insufficient data

Country	Missing Values	Percentage of Missing Values
Andorra	48	54%
Antigua and Barbuda	33	35%
Bahamas, The	22	23%
Cabo Verde	20	21%
Comoros	22	23%
Dominica	47	50%
Equatorial Guinea	29	31%
Eritrea	25	27%
Grenada	39	41%
Guinea-Bissau	22	23%
Kiribati	37	39%
Korea, Dem. Rep.	29	31%
Libya	23	24%
Liechtenstein	59	66%
Marshall Islands	52	55%
Micronesia, Fed. Sts.	44	47%
Monaco	59	63%
Nauru	51	54%
Palau	51	54%
Samoa	26	28%
San Marino	57	61%
Seychelles	30	32%
Solomon Islands	28	30%
St. Kitts and Nevis	47	50%
St. Lucia	25	27%
St. Vincent and the Grenadines	33	35%
Timor-Leste	25	27%
Tonga	33	35%
Tuvalu	51	54%
Vanuatu	23	24%

Source: Authors' analysis

These principles interpret the SDGs as "stretch targets" and focus attention on the indicators on which a country is lagging. The lower bound was defined at the 2.5th percentile of the distribution. Each indicator distribution was censored, so that all values exceeding the upper bound scored 100, and values below the lower bound scored 0.

Normalization

After establishing the upper and lower bounds, variables were transformed linearly to a scale between 0 and 100 using the following rescaling formula for the range [0; 100]:

$$x' = \frac{x - min.(x)}{max.(x) - min.(x)} \times 100$$

where x is the raw data value; max/min denote the upper and lower bounds, respectively; and x' is the normalized value after rescaling.

The rescaling equation ensured that all rescaled variables were expressed as ascending variables (higher values denoted better performance). In this way, the rescaled data became easy to interpret and compare across all indicators: a country that scores 50 on a variable is half-way towards achieving the optimum value, while one with a score of 75 has covered three-quarters of the distance from worst to best.

Weighting and aggregation

Several rounds of expert consultations on earlier drafts of the SDG Index made it clear that there was no consensus across different epistemic communities on assigning higher weights to some SDGs over others. As a normative assumption, we therefore opted to give fixed, equal weight to every SDG, reflecting the commitment of policymakers to treat all SDGs equally as part of an integrated and indivisible set of goals. To improve their SDG Index score, countries need to place attention on all goals, albeit with a particular focus on those they are furthest from achieving and where incremental progress might be expected to be fastest.

To compute the SDG Index, we first estimate a country's scores on each goal using the arithmetic mean of its scores on the goal indicators. These scores are then averaged across all 17 SDGs to obtain the country's 2022 SDG Index score. Various sensitivity tests are made available online, including Monte Carlo simulations and comparisons of arithmetic mean versus geometric mean at both the Index and goal levels. Monte Carlo simulations call for prudence in interpreting small differences in the Index scores and rankings between countries, as they may be sensitive to the weighting scheme used.

Dashboards

We also introduced quantitative thresholds for each indicator, to group countries into a "traffic light" table. Thresholds have been established via statistical techniques supported by various rounds of consultations with experts since 2016.

Averaging across all indicators for an SDG might hide areas of policy concern if a country performs well on most indicators but faces serious shortfalls on one or two metrics within the same SDG (often called the "substitutability" or "compensation" issue). This applies particularly to high-income and upper-middle-income countries that have made significant progress on many SDG dimensions but may face serious shortfalls on individual variables.

As a result, the SDG Dashboards focus exclusively on the two variables on which a country performs worst. We applied the added rule that a red rating is given only if the country scores red on *both* of its worst-performing indicators for that goal. Similarly, to score green, both of these indicators had to be green. More details on the construction of the Dashboards are accessible online.

SDG Trends

Using historic data, we estimate how fast a country has been progressing towards an SDG and determine whether – if extrapolated into the future – this pace will be sufficient to achieve the SDG by 2030. For each indicator, SDG achievement is defined by the green

4. SDG Data Systems and Statistics

threshold set for the SDG Dashboards. The difference in percentage points between the green threshold and the normalized country score denotes the gap that must be closed to meet that goal. To estimate trends at the indicator level, we calculated the linear annual growth rates (annual percentage improvements) needed to achieve the target by 2030 (from 2015–2030), which we compared to the average annual growth rate over the most recent period since the adoption of the SDGs in 2015 (for example, 2015–2020). Progress towards achievement on a particular indicator is described using a four-arrow system (Figure A1). Figure A2 illustrates the methodology graphically.

Since the projections are based on average growth rate over recent years, a country might have observed a decline in performance over the past year (for instance due to the impact of COVID-19) but still be considered as being on track. This methodology emphasizes long-term structural changes over time since the adoption of the SDGs in 2015, with less emphasis given to annual changes that may be cyclical or temporary.
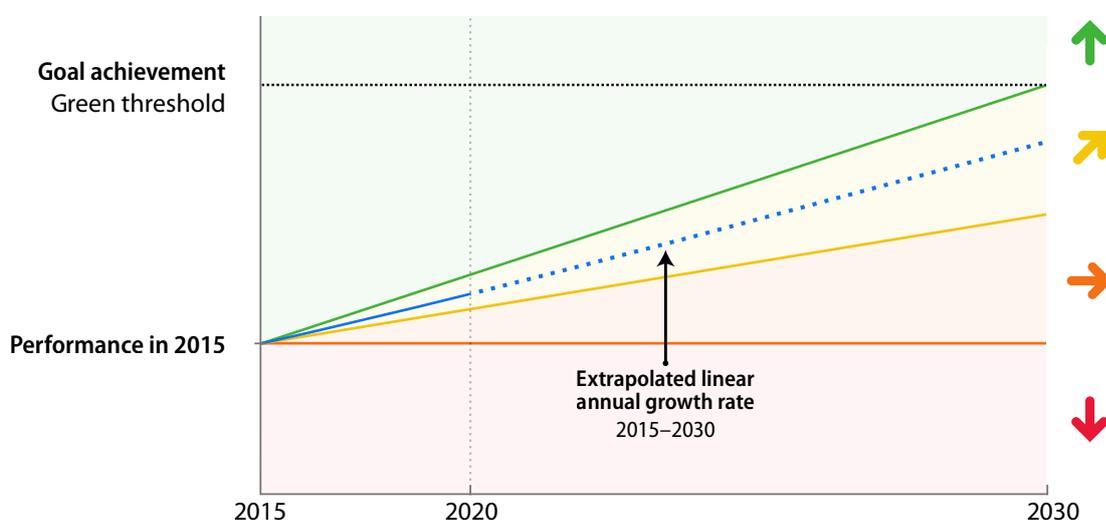
Figure A.1

The Four-arrow system for denoting SDG trends

Decreasing	Stagnating	Moderately improving	On track or Maintaining SDG achievement
Decreasing score, i.e. country moves in the wrong direction	Score remains stagnant or increases at a rate below 50% of the growth rate needed to achieve the SDG by 2030	Score increases at a rate above 50% of the required growth rate but below the rate needed to achieve the SDG by 2030	Score increases at the rate needed to achieve the SDG by 2030 or performance has already exceeded SDG achievement threshold

Figure A.2

Graphic representation of the methodology for SDG trends

Source: Authors' analysis

Table A.4

Indicators included in the *Sustainable Development Report 2022*

Legend

[a] denotes OECD-only indicators

[b] denotes indicators not used in OECD dashboard but that are used in the calculation of OECD countries' index scores.

SDG	Notes	Indicator	Reference Year	Source	Description
1		Poverty headcount ratio at $1.90/day (%)	2022	World Data Lab	Estimated percentage of the population that is living under the poverty threshold of US$1.90 a day. Estimated using historical estimates of the income distribution, projections of population changes by age and educational attainment, and GDP projections.
1		Poverty headcount ratio at $3.20/day (%)	2022	World Data Lab	Estimated percentage of the population that is living under the poverty threshold of US$3.20 a day. Estimated using historical estimates of the income distribution, projections of population changes by age and educational attainment, and GDP projections.
1	[a]	Poverty rate after taxes and transfers (%)	2019	OECD	Relative poverty is measured as the share of the population whose incomes fall below half the median disposable income for the entire population. The income threshold for relative poverty changes over time with changes in median disposable income.
2		Prevalence of undernourishment (%)	2019	FAO	The percentage of the population whose food intake is insufficient to meet dietary energy requirements for a minimum of one year. Dietary energy requirements are defined as the amount of dietary energy required by an individual to maintain body functions, health and normal activity. FAO et al. (2015) report 14.7 million undernourished people in developed regions, which corresponds to an average prevalence of 1.17% in the developed regions. We assumed a 1.2% prevalence rate for each high-income country with missing data.
2		Prevalence of stunting in children under 5 years of age (%)	2019	UNICEF et al.	The percentage of children up to the age of 5 years that are stunted, measured as the percentage that fall below minus two standard deviations from the median height for their age, according to the WHO Child Growth Standards. UNICEF et al. (2016) report an average prevalence of wasting in high-income countries of 2.58%. We assumed this value for high-income countries with missing data.
2		Prevalence of wasting in children under 5 years of age (%)	2019	UNICEF et al.	The percentage of children up to the age of 5 years whose weight falls below minus two standard deviations from the median weight for their age, according to the WHO Child Growth Standards. UNICEF et al. (2016) report an average prevalence of wasting in high-income countries of 0.75%. We assumed this value for high-income countries with missing data.
2		Prevalence of obesity, BMI ≥ 30 (% of adult population)	2016	WHO	The percentage of the adult population that has a body mass index (BMI) of 30kg/m² or higher, based on measured height and weight.
2		Human Trophic Level (best 2–3 worst)	2017	Bonhommeau et al. (2013)	Trophic levels are a measure of the energy intensity of diet composition and reflect the relative amounts of plants as opposed to animals eaten in a given country. A higher trophic level represents a greater level of consumption of energy-intensive animals.
2		Cereal yield (tonnes per hectare of harvested land)	2018	FAO	Cereal yield, measured as tonnes per hectare of harvested land. Production data on cereals relate to crops harvested for dry grain only and exclude crops harvested for hay or green for food, feed, or silage and those used for grazing.
2		Sustainable Nitrogen Management Index (best 0–1.41 worst)	2015	Zhang and Davidson (2019)	The Sustainable Nitrogen Management Index (SNMI) is a one-dimensional ranking score that combines two efficiency measures in crop production: Nitrogen use efficiency (NUE) and land use efficiency (crop yield).
2	[a]	Yield gap closure (% of potential yield)	2015	Global Yield Gap Atlas	A country's yield expressed as a percentage of its potential yield in the three annual crops using the most land area, weighted for the relative importance of each crop in terms of surface area.

4. SDG Data Systems and Statistics

Table A.4

(continued)

SDG Notes	Indicator	Reference Year	Source	Description
2	Exports of hazardous pesticides (tonnes per million population)	2019	FAO	Exports of pesticides deemed hazardous to human health, standardized by population. Due to volatility, the calculation uses the average value over the last 5 years.
3	Maternal mortality rate (per 100,000 live births)	2017	WHO et al.	The estimated number of girls and women, between the ages of 15 and 49, who die from pregnancy-related causes while pregnant or within 42 days of termination of pregnancy, per 100,000 live births.
3	Neonatal mortality rate (per 1,000 live births)	2020	UNICEF et al.	The number of newborn infants (neonates) who die before reaching 28 days of age, per 1,000 live births.
3	Mortality rate, under-5 (per 1,000 live births)	2020	UNICEF et al.	The probability that a newborn baby will die before reaching age five, if subject to age-specific mortality rates of the specified year, per 1,000 live births.
3	Incidence of tuberculosis (per 100,000 population)	2020	WHO	The estimated rate of new and relapse cases of tuberculosis in a given year, expressed per 100,000 people. All forms of tuberculosis are included, including cases of people living with HIV.
3	New HIV infections (per 1,000 uninfected population)	2020	UNAIDS	Number of people newly infected with HIV per 1,000 uninfected population.
3	Age-standardized death rate due to cardiovascular disease, cancer, diabetes, or chronic respiratory disease in adults aged 30–70 years (%)	2019	WHO	The probability of dying between the ages of 30 and 70 years from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases, defined as the percent of 30-year-old-people who would die before their 70th birthday from these diseases, assuming current mortality rates at every age and that individuals would not die from any other cause of death (for example injuries or HIV/AIDS).
3	Age-standardized death rate attributable to household air pollution and ambient air pollution (per 100,000 population)	2016	WHO	Mortality rate that is attributable to the joint effects of fuels used for cooking indoors and ambient outdoor air pollution.
3	Traffic deaths (per 100,000 population)	2019	WHO	Estimated number of fatal road traffic injuries per 100,000 people.
3	Life expectancy at birth (years)	2019	WHO	The average number of years that a newborn could expect to live, if he or she were to pass through life exposed to the sex- and age-specific death rates prevailing at the time of his or her birth, for a specific year, in a given country, territory, or geographic area.
3	Adolescent fertility rate (births per 1,000 females aged 15 to 19)	2019	WHO	The number of births per 1,000 females between the age of 15 to 19.
3	Births attended by skilled health personnel (%)	2018	UNICEF	The percentage of births attended by personnel trained to give the necessary supervision, care, and advice to women during pregnancy, labor, and the postpartum period, to conduct deliveries on their own, and to care for newborns.
3	Surviving infants who received 2 WHO-recommended vaccines (%)	2020	WHO and UNICEF	Estimated national routine immunization coverage of infants, expressed as the percentage of surviving infants, children under the age of 12 months, who received two WHO-recommended vaccines (3rd dose of DTP and 1st dose of measles). Calculated as the minimum value between the percentage of infants who have received the 3rd dose of DTP and the percentage who have received the 1st dose of measles.
3	Universal health coverage (UHC) index of service coverage (worst 0–100 best)	2019	WHO	Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population). The indicator is an index reported on a unitless scale of 0 to 100, which is computed as the geometric mean of 14 tracer indicators of health service coverage.

Table A.4

(continued)

SDG	Notes	Indicator	Reference Year	Source	Description
3		Subjective well-being (average ladder score, worst 0–10 best)	2021	Gallup	Subjective self-evaluation of life, where respondents are asked to evaluate where they feel they stand on a ladder where 0 represents the worst possible life and 10 the best possible life.
3	[a]	Gap in life expectancy at birth among regions (years)	2019	OECD	Difference between maximum and minimum regional life expectancy at birth among regions.
3	[a]	Gap in self-reported health status by income (percentage points)	2020	OECD	Gap in percentage of people who perceive their health status as good or very good between the poorest 20% and the richest 20% of the population.
3	[a]	Daily smokers (% of population aged 15 and over)	2020	OECD	The percentage of the population aged 15 years and older who are reported to smoke daily.
4	[a]	Participation rate in pre-primary organized learning (% of children aged 4 to 6)	2020	UNESCO	Participation rate in organized learning one year before the official primary entry age.
4		Net primary enrollment rate (%)	2020	UNESCO	The percentage of children of the official school age population who are enrolled in primary education.
4		Lower secondary completion rate (%)	2020	UNESCO	Lower secondary education completion rate measured as the gross intake ratio to the last grade of lower secondary education (general and pre-vocational). It is calculated as the number of new entrants in the last grade of lower secondary education, regardless of age, divided by the population at the entrance age for the last grade of lower secondary education.
4		Literacy rate (% of population aged 15 to 24)	2020	UNESCO	The percentage of youth, aged 15 to 24, who can both read and write a short simple statement on everyday life with understanding.
4	[a]	Tertiary educational attainment (% of population aged 25 to 34)	2020	OECD	The percentage of the population, aged 25 to 34, who have completed tertiary education.
4	[a]	PISA score (worst 0–600 best)	2018	OECD	National scores in the Programme for International Student Assessment (PISA), an internationally standardized assessment that is administered to 15-year-olds in schools. It assesses how far students near the end of compulsory education have acquired some of the knowledge and skills that are essential for full participation in society. Country PISA scores for reading, mathematics, and science were averaged to obtain an overall PISA score.
4	[a]	Variation in science performance explained by socio-economic status (%)	2018	OECD	Percentage of variation in science performance explained by students' socio-economic status.
4	[a]	Underachievers in science (% of 15-year-olds)	2018	OECD	Percentage of students with a performance in science below level 2 (less than 409.54 score points).
5		Demand for family planning satisfied by modern methods (% of females aged 15 to 49)	2022	UNDESA	The percentage of women of reproductive age whose demand for family planning has been met using modern methods of contraception.
5		Ratio of female-to-male mean years of education received (%)	2019	UNESCO	The mean years of education received by women aged 25 and older divided by the mean years of education received by men aged 25 and older.
5		Ratio of female-to-male labor force participation rate (%)	2020	ILO	Modeled estimate of the proportion of the female population aged 15 years and older that is economically active, divided by the same proportion for men.
5		Seats held by women in national parliament (%)	2020	IPU	The number of seats held by women in single or lower chambers of national parliaments, expressed as a percentage of all occupied seats. Seats refer to the number of parliamentary mandates, or the number of members of parliament.
5	[a]	Gender wage gap (% of male median wage)	2020	OECD	The difference between male and female median wages of full-time employees and those self-employed, divided by the male median wage.

4. SDG Data Systems and Statistics

Table A.4

(continued)

SDG	Notes	Indicator	Reference Year	Source	Description
6		Population using at least basic drinking water services (%)	2020	JMP	The percentage of the population using at least a basic drinking water service, such as drinking water from an improved source, provided that the collection time is not more than 30 minutes for a round trip, including queuing.
6		Population using at least basic sanitation services (%)	2020	JMP	The percentage of the population using at least a basic sanitation service, such as an improved sanitation facility that is not shared with other households.
6		Freshwater withdrawal (% of available freshwater resources)	2018	FAO	The level of water stress: freshwater withdrawal as a proportion of available freshwater resources is the ratio between total freshwater withdrawn by all major sectors and total renewable freshwater resources, after taking into account environmental water requirements. Main sectors, as defined by ISIC standards, include agriculture, forestry and fishing, manufacturing, electricity industry, and services. This indicator is also known as water withdrawal intensity.
6		Anthropogenic wastewater that receives treatment (%)	2018	EPI	The percentage of collected, generated, or produced wastewater that is treated, normalized by the population connected to centralized wastewater treatment facilities. Scores were calculated by multiplying the wastewater treatment summary values, based on decadal averages, with the sewerage connection values to arrive at an overall total percentage of wastewater treated.
6		Scarce water consumption embodied in imports (m³ H2O equivalent/capita)	2018	UNEP	Water scarcity is measured as water consumption weighted by scarcity indices. In order to incorporate water scarcity into the virtual water flow calculus, water use entries are weighted so that they reflect the scarcity of the water being used. The weight used is a measure of water withdrawals as a percentage of the existing local renewable freshwater resources.
6	[a]	Population using safely managed water services (%)	2020	JMP	The percentage of the population using a safely managed drinking water service. A safely managed drinking water service is one where people use an "improved" source meeting three criteria: it is accessible on premises, water is available when needed, and the water supplied is free from contamination. Improved sources are those that have the potential to deliver safe water by nature of their design and construction.
6	[a]	Population using safely managed sanitation services (%)	2020	JMP	The percentage of the population using safely managed sanitation services. Safely managed sanitation services are "improved" sanitation facilities that are not shared with other households, and where the excreta produced should either be treated and disposed of in situ, stored temporarily and then emptied, transported and treated off-site, or transported through a sewer with wastewater and then treated off-site. Improved sanitation facilities are those designed to hygienically separate excreta from human contact.
7		Population with access to electricity (%)	2019	SE4All	The percentage of the population who has access to electricity.
7		Population with access to clean fuels and technology for cooking (%)	2019	SE4All	The percentage of the population primarily using clean cooking fuels and technologies for cooking. Under WHO guidelines, kerosene is excluded from clean cooking fuels.
7		CO_2 emissions from fuel combustion per total electricity output (MtCO₂/TWh)	2019	IEA	A measure of the carbon intensity of energy production, calculated by dividing CO_2 emissions from the combustion of fuel by electricity output. The data are reported in Megatonnes per billion kilowatt hours.
7	[a]	Share of renewable energy in total primary energy supply (%)	2019	OECD	The share of renewable energy in the total primary energy supply. Renewables include the primary energy equivalent of hydro (excluding pumped storage), geothermal, solar, wind, tide and wave sources. Energy derived from solid biofuels, biogasoline, biodiesels, other liquid biofuels, biogases and the renewable fraction of municipal waste are also included.
8		Adjusted GDP growth (%)	2020	World Bank	The growth rate of GDP adjusted to income levels (where rich countries are expected to grow less) and expressed relative to the US growth performance. World Bank data on GDP per capita, PPP (current international $) annual data were used as the starting point. The growth rate over the last 3-year period (t-3 to t) was calculated where GRa=(At/At-3)^(1/3)-1 and where GRa is the growth rate for country A and At is the GDP per capita data for the year t in country A. Then our adjustment is as follows : ADJa= [GRa-(GRusa - 0,015*log(At-3/USAt-3))] * 100, where GRusa is the United States growth rate and USAt-3 is the United States GDP per capita 3 years ago.

Table A.4

(continued)

SDG	Notes	Indicator	Reference Year	Source	Description
8		Victims of modern slavery (per 1,000 population)	2018	Walk Free Foundation (2018)	Estimation of the number of people in modern slavery. Modern slavery is defined as people in forced labor or forced marriage. It is calculated based on standardized surveys and Multiple Systems Estimation (MSE).
8		Adults with an account at a bank or other financial institution or with a mobile-money-service provider (% of population aged 15 or over)	2017	Demirguc-Kunt et al. (2018)	The percentage of adults, 15 years and older, who report having an account (by themselves or with someone else) at a bank or another type of financial institution, or who have personally used a mobile money service within the past 12 months.
8	[b]	Unemployment rate (% of total labor force, ages 15+)	2022	ILO	Modeled estimate of the share of the labor force that is without work but is available and actively seeking employment. The indicator reflects the inability of an economy to generate employment for people who want to work but are not doing so.
8		Fundamental labor rights are effectively guaranteed (worst 0–1 best)	2020	World Justice Project	Measures the effective enforcement of fundamental labor rights, including freedom of association and the right to collective bargaining, the absence of discrimination with respect to employment, and freedom from forced labor and child labor.
8		Fatal work-related accidents embodied in imports (per 100,000 population)	2015	Alsamawi et al. (2017)	The number of fatal work-related accidents associated with imported goods. Calculated using extensions to a multiregional input-output table.
8	[a]	Employment-to-population ratio (%)	2021	OECD	The ratio of the employed to the working age population. Employed people are those aged 15 or older who were in paid employment or self-employed during a specified period. The working age population refers to people aged 15 to 64.
8	[a]	Youth not in employment, education or training (NEET) (% of population aged 15 to 29)	2020	OECD	The percentage of young people who are not in employment, education or training (NEET). Education includes part-time or full-time education, but exclude those in non-formal education and in educational activities of very short duration. Employment is defined according to the ILO Guidelines and covers all those who have been in paid work for at least one hour in the reference week or were temporarily absent from such work.
9		Population using the internet (%)	2020	ITU	The percentage of the population who used the Internet from any location in the last three months. Access could be via a fixed or mobile network.
9		Mobile broadband subscriptions (per 100 population)	2019	ITU	The number of mobile broadband subscriptions per 100 population. Mobile broadband subscriptions refer to subscriptions to mobile cellular networks with access to data communications (for example the Internet) at broadband speeds, irrespective of the device used to access the internet.
9		Logistics Performance Index: Quality of trade and transport-related infrastructure (worst 1–5 best)	2018	World Bank	Survey-based average assessment of the quality of trade and transport related infrastructure, for example ports, roads, railroads and information technology, on a scale from 1 (worst) to 5 (best).
9		The Times Higher Education Universities Ranking: Average score of top 3 universities (worst 0–100 best)	2022	Times Higher Education	The average score of the top three universities in each country that are listed in the global top 1,000 universities in the world. For countries with at least one university on the list, only the score of the ranked university was taken into account. When a university score was missing in the Times Higher Education World University Ranking, an indicator from the Global Innovation Index on the top 3 universities in Quacquarelli Symonds (QS) University Ranking was used as a source when available.
9		Articles published in academic journals (per 1,000 population)	2020	Scimago Jounal Rank	Number of citable documents published by a journal in the three previous years (selected year documents are excluded). Exclusively articles, reviews and conference papers are considered.
9		Expenditure on research and development (% of GDP)	2018	UNESCO	Gross domestic expenditure on scientific research and experimental development (R&D) expressed as a percentage of Gross Domestic Product (GDP). We assumed zero R&D expenditure for low-income countries that do not report any data.

4. SDG Data Systems and Statistics

Table A.4

(continued)

SDG	Notes	Indicator	Reference Year	Source	Description
9	[a]	Researchers (per 1,000 employed population)	2019	OECD	The number of researchers per thousand employed people. Researchers are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems, as well as in the management of the projects concerned.
9	[a]	Triadic patent families filed (per million population)	2019	OECD	A triadic patent family is defined as a set of patents registered in various countries (i.e. patent offices) to protect the same invention. Triadic patent families are a set of patents filed at three of these major patent offices: the European Patent Office (EPO), the Japan Patent Office (JPO) and the United States Patent and Trademark Office (USPTO). The number of triadic patent families is "nowcast" for timeliness.
9	[a]	Gap in internet access by income (percentage points)	2020	OECD	The difference in the percentage of household Internet access between the top and bottom income quartiles.
9		Female share of graduates from STEM fields at the tertiary level (%)	2018	World Bank	Female share of graduates from Science, Technology, Engineering and Mathematics (STEM) programmes, tertiary (%)
10		Gini coefficient	2019	World Bank	The Gini coefficient measures the extent to which the distribution of income among individuals or households within an economy deviates from a perfectly equal distribution.
10	[a]	Palma ratio	2019	OECD & UNDP	The share of all income received by the 10% people with highest disposable income divided by the share of all income received by the 40% people with the lowest disposable income.
10	[a]	Elderly poverty rate (% of population aged 66 or over)	2019	OECD	The percentage of people of 66 years of age or more whose income falls below half the median household income of the total population.
11		Proportion of urban population living in slums (%)	2018	UN Habitat	Population living in slums is the proportion of the urban population living in slum households. A slum household is defined as a group of individuals living under the same roof lacking one or more of the following conditions: access to improved water, access to improved sanitation, sufficient living area, housing durability, and security of tenure.
11		Annual mean concentration of particulate matter of less than 2.5 microns in diameter (PM2.5) ($\mu g/m^3$)	2019	IHME	Air pollution measured as the population-weighted mean annual concentration of PM2.5 for the urban population in a country. PM2.5 is suspended particles measuring less than 2.5 microns in aerodynamic diameter, which are capable of penetrating deep into the respiratory tract and can cause severe health damage.
11		Access to improved water source, piped (% of urban population)	2020	WHO and UNICEF	The percentage of the urban population with access to improved drinking water piped on premises. An "improved" drinking-water source is one that, by the nature of its construction and when properly used, adequately protects the source from outside contamination, particularly fecal matter.
11		Satisfaction with public transport (%)	2021	Gallup	The percentage of the surveyed population that responded "satisfied" to the question "In the city or area where you live, are you satisfied or dissatisfied with the public transportation systems?".
11	[a]	Population with rent overburden (%)	2019	OECD	Percentage of the population living in households where the total housing costs represent more than 40 % of disposable income.
12	[b]	Municipal solid waste (kg/capita/day)	2016	World Bank	The amount of waste collected by or on behalf of municipal authorities and disposed of through the waste management system. Waste from agriculture and from industries are not included.
12		Electronic waste (kg/capita)	2019	UNU-IAS	Waste from electrical and electronic equipment, estimated based on figures for domestic production, imports and exports of electronic products, as well as product lifespan data.
12		Production-based SO_2 emissions (kg/capita)	2018	Lenzen et al. (2022)	SO_2 emissions associated with the production of goods and services, which are then either exported or consumed domestically.

Table A.4

(continued)

SDG	Notes	Indicator	Reference Year	Source	Description
12		SO_2 emissions embodied in imports (kg/capita)	2018	Lenzen et al. (2022)	Emissions of SO_2 embodied in imported goods and services. SO_2 emissions have severe health impacts and are a significant cause of premature mortality worldwide.
12		Production-based nitrogen emissions (kg/capita)	2015	Oita et al. (2016)	Reactive nitrogen emitted during the production of commodities, which are then either exported or consumed domestically. Reactive nitrogen corresponds to emissions of ammonia, nitrogen oxides and nitrous oxide to the atmosphere, and of reactive nitrogen potentially exportable to water bodies, all of which can be harmful to human health and the environment.
12		Nitrogen emissions embodied in imports (kg/capita)	2015	Oita et al. (2016)	Emissions of reactive nitrogen embodied in imported goods and services. Reactive nitrogen corresponds here to emissions of ammonia, nitrogen oxides and nitrous oxide to the atmosphere, and of reactive nitrogen potentially exportable to water bodies, all of which can be harmful to human health and the environment.
12		Exports of plastic waste (kg/capita)	2021	UN Comtrade	The average annual amount of plastic waste exported over the last 5 years expressed per capita.
12	[a]	Non-recycled municipal solid waste (kg/capita/day)	2019	OECD	The amount of municipal solid waste (MSW), including household waste, that is neither recycled nor composted.
13		CO_2 emissions from fossil fuel combustion and cement production (tCO_2/capita)	2020	Global Carbon Project	Emissions from the combustion and oxidation of fossil fuels and from cement production. The indicator excludes emissions from fuels used for international aviation and maritime transport.
13		CO_2 emissions embodied in imports (tCO_2/capita)	2018	Lenzen et al. (2022)	CO_2 emissions embodied in imported goods and services.
13		CO_2 emissions embodied in fossil fuel exports (kg/capita)	2021	UN Comtrade	CO_2 emissions embodied in the exports of coal, gas, and oil. Calculated using a 5-year average of fossil fuel exports and converting exports into their equivalent CO_2 emissions. Exports for each fossil fuel are capped at the country's level of production.
13	[a]	Carbon Pricing Score at EUR60/tCO_2 (%, worst 0–100 best)	2018	OECD	The Carbon Pricing Score (CPS) measures the extent to which countries have attained the goal of pricing all energy related carbon emissions at certain benchmark values for carbon costs. The more progress that a country has made towards a specified benchmark value, the higher the CPS. For example, a CPS of 100% against a EUR 60 per tonne of CO_2 benchmark means that the country (or the group of countries) prices all carbon emissions in its (their) territory from energy use at EUR 60 or more.
14		Mean area that is protected in marine sites important to biodiversity (%)	2020	Birdlife International et al.	The mean percentage area of marine Key Biodiversity Areas (sites that are important for the global persistence of marine biodiversity) that are protected.
14		Ocean Health Index: Clean Waters score (worst 0–100 best)	2020	Ocean Health Index	The clean waters subgoal of the Ocean Health Index measures to what degree marine waters under national jurisdictions have been contaminated by chemicals, excessive nutrients (eutrophication), human pathogens, and trash.
14		Fish caught from overexploited or collapsed stocks (% of total catch)	2018	Sea around Us	The percentage of a country's total catch, within its exclusive economic zone (EEZ), that is comprised of species that are overexploited or collapsed, weighted by the quality of fish catch data.
14		Fish caught by trawling or dredging (%)	2018	Sea Around Us	The percentage of fish caught by trawling, a method of fishing in which industrial fishing vessels drag large nets (trawls) along the seabed.
14		Fish caught that are then discarded (%)	2018	Sea around Us	The percentage of fish that are caught only to be later discarded.
14		Marine biodiversity threats embodied in imports (per million population)	2018	Lenzen et al. (2012)	Threats to marine species embodied in imports of goods and services.

4. SDG Data Systems and Statistics

Table A.4

(continued)

SDG Notes	Indicator	Reference Year	Source	Description
15	Mean area that is protected in terrestrial sites important to biodiversity (%)	2020	Birdlife International et al.	The mean percentage area of terrestrial Key Biodiversity Areas (sites that are important for the global persistence of biodiversity) that are protected.
15	Mean area that is protected in freshwater sites important to biodiversity (%)	2020	Birdlife International et al.	The mean percentage area of freshwater Key Biodiversity Areas (sites that are important for the global persistence of biodiversity) that are protected.
15	Red List Index of species survival (worst 0–1 best)	2021	IUCN and Birdlife International	The change in aggregate extinction risk across groups of species. The index is based on genuine changes in the number of species in each category of extinction risk on The IUCN Red List of Threatened Species.
15	Permanent deforestation (% of forest area, 3-year average)	2020	Curtis et al. (2018)	The mean annual percentage of permanent deforestation over the last 3-year period. Permanent deforestation refers to tree cover removal for urbanization, commodity production and certain types of small-scale agriculture whereby the previous tree cover does not return. It does not include temporary forest loss due to cuttings within the forestry sector or wildfires. Since data on tree cover gains are not available, the annual net loss cannot be calculated, thus the indicator is an estimate for gross permanent deforestation.
15	Terrestrial and freshwater biodiversity threats embodied in imports (per million population)	2018	Lenzen et al. (2012)	Threats to terrestrial and freshwater species embodied in imports of goods and services.
16	Homicides (per 100,000 population)	2020	UNODC	The number of intentional homicides per 100,000 people. Intentional homicides are estimates of unlawful homicides purposely inflicted as a result of domestic disputes, interpersonal violence, violent conflicts over land resources, intergang violence over turf or control, and predatory violence and killing by armed groups. Intentional homicide does not include all intentional killing, such as killing in armed conflict.
16	Unsentenced detainees (% of prison population)	2019	UNODC	Unsentenced prisoners as a percentage of overall prison population. Persons held unsentenced or pre-trial refers to persons held in prisons, penal institutions or correctional institutions who are untried, pre-trial or awaiting a first instance decision on their case from a competent authority regarding their conviction or acquittal.
16	Population who feel safe walking alone at night in the city or area where they live (%)	2020	Gallup	The percentage of the surveyed population that responded "Yes" to the question "Do you feel safe walking alone at night in the city or area where you live?"
16	Property Rights (worst 1–7 best)	2020	World Economic Forum	Survey-based assessment of protection of property rights, on a scale from 1 (worst) to 7 (best). The indicator reports respondents' qualitative assessment based on answers to several questions on the protection of property rights and intellectual property rights protection.
16	Birth registrations with civil authority (% of children under age 5)	2020	UNICEF	The percentage of children under the age of five whose births are reported as being registered with the relevant national civil authorities.
16	Corruption Perceptions Index (worst 0–100 best)	2021	Transparency International	The perceived levels of public sector corruption, on a scale from 0 (highest level of perceived corruption) to 100 (lowest level of perceived corruption). The CPI aggregates data from a number of different sources that provide perceptions of business people and country experts.
16	Children involved in child labor (% of population aged 5 to 14)	2019	UNICEF	The percentage of children, between the ages of 5–14 years, involved in child labor at the time of the survey. A child is considered to be involved in child labor under the following conditions: (a) children 5–11 years old who, during the reference week, did at least one hour of economic activity or at least 28 hours of household chores, or (b) children 12–14 years old who, during the reference week, did at least 14 hours of economic activity or at least 28 hours of household chores. We assumed 0% child labor for high-income countries for which no data was reported.

Table A.4

(continued)

SDG	Notes	Indicator	Reference Year	Source	Description
16		Exports of major conventional weapons (TIV constant million USD per 100,000 population)	2020	Stockholm Peace Research Institute	Volume of major conventional weapons exported, expressed in constant 1990 US$ millions (TIV) per 100,000 population. The trend-indicator value is based on the known unit production cost of a core set of weapons, and does not reflect the financial value of the exports. Small arms, light weapons, ammunition and other support material are not included. Values were calculated based on a 5-year rolling average.
16		Press Freedom Index (best 0–100 worst)	2021	Reporters sans frontières	Degree of freedom available to journalists in 180 countries and regions, determined by pooling the responses of experts to a questionnaire devised by RSF.
16		Access to and affordability of justice (worst 0–1 best)	2020	World Justice Project	Measures the accessibility and affordability of civil courts, including whether people are aware of available remedies; can access and afford legal advice and representation; and can access the court system without incurring unreasonable fees, encountering unreasonable procedural hurdles, or experiencing physical or linguistic barriers.
16	[a]	Persons held in prison (per 100,000 population)	2019	UNODC	The prison population is composed of persons held in prisons, penal institutions, or correctional institutions.
17		Government spending on health and education (% of GDP)	2020	UNESCO	The sum of public expenditure on health from domestic sources and general government expenditure on education (current, capital, and transfers) expressed as a percentage of GDP. This indicator is based on the World Bank health and education spending datasets, sourced from WHO & UNESCO respectively. Values are carried forward for both health and education, but a value in a given year is only reported if at least one data point is a real observation (not carried forward).
17		For high-income and all OECD DAC countries: International concessional public finance, including official development assistance (% of GNI)	2021	OECD	The amount of official development assistance (ODA) as a share of gross national income (GNI). It includes grants, "soft" loans (where the grant element is at least 25% of the total) and the provision of technical assistance, and excludes grants and loans for military purposes. There is a break in the series because from 2018, the ODA grant-equivalent methodology is used whereby only the "grant portion" of the loan, i.e. the amount "given" by lending below market rates, counts as ODA.
17		Other countries: Government revenue excluding grants (% of GDP)	2019	IMF	Government revenue measured as cash receipts from taxes, social contributions, and other revenues such as fines, fees, rent, and income from property or sales. Grants are also considered as revenue but are excluded here.
17		Corporate Tax Haven Score (best 0–100 worst)	2019	Tax Justice Network	The Corporate Tax Haven Score measures a jurisdiction's potential to poach the tax base of others, as enshrined in its laws, regulations and documented administrative practices. For countries with multiple jurisdictions, the value of the worst-performing jurisdiction was retained.
17	[a]	Financial Secrecy Score (best 0–100 worst)	2020	Tax Justice Network	The Index measures the contribution of each jurisdiction to financial secrecy, on a scale from 0 (best) to 100 (worst). It is calculated using qualitative data to prepare a secrecy score for each jurisdiction and quantitative data to create a global scale weighting for each jurisdiction according to its share of offshore financial services activity in the global total. For countries with multiple jurisdictions, the average score of the jurisdictions was used.
17	[a]	Shifted profits of multinationals (US$ billion)	2017	Zucman et al. (2019)	Estimation of how much profit is shifted into tax havens and how much non-haven countries lose in profits from such shifting. Based on macroeconomic data known as foreign affiliates statistics. Negative values indicate profit shifting.
17		Statistical Performance Index (worst 0–100 best)	2019	World Bank	The Statistical Performance Index is a weighted average of the statistical performance indicators that evaluate the performance of national statistical systems. It aggregates five pillars of statistical performance: data use, data services, data products, data sources, and data infrastructure.

Source: Authors' analysis

4. SDG Data Systems and Statistics

Table A.5

Indicator thresholds and justifications for optimal values

SDG	Indicator	Optimum (value = 100)	Green	Yellow	Orange	Red	Lower bound	Justification for optimum
1	Poverty headcount ratio at $1.90/day (%)	0	≤ 2	2 < x ≤ 7.5	7.5 < x ≤ 13	> 13	72.6	SDG Target
1	Poverty headcount ratio at $3.20/day (%)	0	≤ 2	2 < x ≤ 7.5	7.5 < x ≤ 13	> 13	51.5	SDG Target
1	Poverty rate after taxes and transfers (%)	6.1	≤ 10	10 < x ≤ 12.5	12.5 < x ≤ 15	> 15	17.7	Average of 3 best OECD performers
2	Prevalence of undernourishment (%)	0	≤ 7.5	7.5 < x ≤ 11.25	11.25 < x ≤ 15	> 15	42.3	SDG Target
2	Prevalence of stunting in children under 5 years of age (%)	0	≤ 7.5	7.5 < x ≤ 11.25	11.25 < x ≤ 15	> 15	50.2	SDG Target
2	Prevalence of wasting in children under 5 years of age (%)	0	≤ 5	5 < x ≤ 7.5	7.5 < x ≤ 10	> 10	16.3	SDG Target
2	Prevalence of obesity, BMI ≥ 30 (% of adult population)	2.8	≤ 10	10 < x ≤ 17.5	17.5 < x ≤ 25	> 25	35.1	Average of 5 best performers
2	Human Trophic Level (best 2–3 worst)	2.04	≤ 2.2	2.2 < x ≤ 2.3	2.3 < x ≤ 2.4	> 2.4	2.47	Average of 5 best performers
2	Cereal yield (tonnes per hectare of harvested land)	7	≥ 2.5	2.5 > x ≥ 2	2 > x ≥ 1.5	< 1.5	0.2	Average of 5 best performers minus outliers (1 & 1/2SD)
2	Sustainable Nitrogen Management Index (best 0–1.41 worst)	0	≤ 0.3	0.3 < x ≤ 0.5	0.5 < x ≤ 0.7	> 0.7	1.2	Technical Optimum
2	Yield gap closure (% of potential yield)	77	≥ 75	75 > x ≥ 62.5	62.5 > x ≥ 50	< 50	28	Average of 5 best performers
2	Exports of hazardous pesticides (tonnes per million population)	0	≤ 1	1 < x ≤ 25.5	25.5 < x ≤ 50	> 50	250	Technical Optimum
3	Maternal mortality rate (per 100,000 live births)	3.4	≤ 70	70 < x ≤ 105	105 < x ≤ 140	> 140	814	Average of 5 best performers
3	Neonatal mortality rate (per 1,000 live births)	1.1	≤ 12	12 < x ≤ 15	15 < x ≤ 18	> 18	39.7	Average of 5 best performers
3	Mortality rate, under-5 (per 1,000 live births)	2.6	≤ 25	25 < x ≤ 37.5	37.5 < x ≤ 50	> 50	130.1	Average of 5 best performers
3	Incidence of tuberculosis (per 100,000 population)	0	≤ 10	10 < x ≤ 42.5	42.5 < x ≤ 75	> 75	561	SDG Target
3	New HIV infections (per 1,000 uninfected population)	0	≤ 0.2	0.2 < x ≤ 0.6	0.6 < x ≤ 1	> 1	5.5	SDG Target
3	Age-standardized death rate due to cardiovascular disease, cancer, diabetes, or chronic respiratory disease in adults aged 30–70 years (%)	9.3	≤ 15	15 < x ≤ 20	20 < x ≤ 25	> 25	31	Average of 5 best performers
3	Age-standardized death rate attributable to household air pollution and ambient air pollution (per 100,000 population)	0	≤ 18	18 < x ≤ 84	84 < x ≤ 150	> 150	368.8	SDG Target
3	Traffic deaths (per 100,000 population)	3.2	≤ 8.4	8.4 < x ≤ 12.6	12.6 < x ≤ 16.8	> 16.8	33.7	Average of 5 best performers
3	Life expectancy at birth (years)	83	≥ 80	80 > x ≥ 75	75 > x ≥ 70	< 70	54	Average of 5 best performers
3	Adolescent fertility rate (births per 1,000 females aged 15 to 19)	2.5	≤ 25	25 < x ≤ 37.5	37.5 < x ≤ 50	> 50	139.6	Average of 5 best performers
3	Births attended by skilled health personnel (%)	100	≥ 98	98 > x ≥ 94	94 > x ≥ 90	< 90	23.1	Leave no one behind
3	Surviving infants who received 2 WHO-recommended vaccines (%)	100	≥ 90	90 > x ≥ 85	85 > x ≥ 80	< 80	41	Leave no one behind

Table A.5

(continued)

SDG	Indicator	Optimum (value = 100)	Green	Yellow	Orange	Red	Lower bound	Justification for optimum
3	Universal health coverage (UHC) index of service coverage (worst 0–100 best)	100	≥ 80	80 > x ≥ 70	70 > x ≥ 60	< 60	38.2	Leave no one behind
3	Subjective well-being (average ladder score, worst 0–10 best)	7.6	≥ 6	6 > x ≥ 5.5	5.5 > x ≥ 5	< 5	3.3	Average of 5 best performers
3	Gap in life expectancy at birth among regions (years)	0	≤ 3	3 < x ≤ 5	5 < x ≤ 7	> 7	11	Leave no one behind
3	Gap in self-reported health status by income (percentage points)	0	≤ 20	20 < x ≤ 30	30 < x ≤ 40	> 40	45	Leave no one behind
3	Daily smokers (% of population aged 15 and over)	10.1	≤ 18	18 < x ≤ 25	25 < x ≤ 32	> 32	35	Average of 3 best OECD performers
4	Participation rate in pre-primary organized learning (% of children aged 4 to 6)	100	≥ 90	90 > x ≥ 80	80 > x ≥ 70	< 70	35	SDG Target
4	Net primary enrollment rate (%)	100	≥ 97	97 > x ≥ 88.5	88.5 > x ≥ 80	< 80	53.8	SDG Target
4	Lower secondary completion rate (%)	100	≥ 90	90 > x ≥ 82.5	82.5 > x ≥ 75	< 75	18	SDG Target
4	Literacy rate (% of population aged 15 to 24)	100	≥ 95	95 > x ≥ 90	90 > x ≥ 85	< 85	45.2	Leave no one behind
4	Tertiary educational attainment (% of population aged 25 to 34)	52.2	≥ 40	40 > x ≥ 25	25 > x ≥ 10	< 10	0	Average of 3 best OECD performers
4	PISA score (worst 0–600 best)	525.6	≥ 493	493 > x ≥ 446.5	446.5 > x ≥ 400	< 400	350	Average of 3 best OECD performers
4	Variation in science performance explained by socio-economic status (%)	8.3	≤ 10.5	10.5 < x ≤ 15.25	15.25 < x ≤ 20	> 20	21.4	Average of 3 best OECD performers
4	Underachievers in science (% of 15-year-olds)	10	≤ 15	15 < x ≤ 22.5	22.5 < x ≤ 30	> 30	48	Average of 3 best OECD performers
5	Demand for family planning satisfied by modern methods (% of girls and women aged 15 to 49)	100	≥ 80	80 > x ≥ 70	70 > x ≥ 60	< 60	17.5	Leave no one behind
5	Ratio of female-to-male mean years of education received (%)	100	≥ 98	98 > x ≥ 86.5	86.5 > x ≥ 75	< 75	41.8	SDG Target
5	Ratio of female-to-male labor force participation rate (%)	100	≥ 70	70 > x ≥ 60	60 > x ≥ 50	< 50	21.5	SDG Target
5	Seats held by women in national parliament (%)	50	≥ 40	40 > x ≥ 30	30 > x ≥ 20	< 20	1.2	SDG Target
5	Gender wage gap (% of male median wage)	0	≤ 8	8 < x ≤ 14	14 < x ≤ 20	> 20	36.7	Technical Optimum
6	Population using at least basic drinking water services (%)	100	≥ 98	98 > x ≥ 89	89 > x ≥ 80	< 80	40	Leave no one behind
6	Population using at least basic sanitation services (%)	100	≥ 95	95 > x ≥ 85	85 > x ≥ 75	< 75	9.7	Leave no one behind
6	Freshwater withdrawal (% of available freshwater resources)	12.5	≤ 25	25 < x ≤ 50	50 < x ≤ 75	> 75	100	Technical Optimum
6	Anthropogenic wastewater that receives treatment (%)	100	≥ 50	50 > x ≥ 32.5	32.5 > x ≥ 15	< 15	0	Technical Optimum
6	Scarce water consumption embodied in imports (m³ H2O equivalent/capita)	100	≤ 1000	1000 < x ≤ 2500	2500 < x ≤ 4000	> 4000	11000	Average of 5 best performers
6	Population using safely managed water services (%)	100	≥ 95	95 > x ≥ 87.5	87.5 > x ≥ 80	< 80	10.5	Leave no one behind
6	Population using safely managed sanitation services (%)	100	≥ 90	90 > x ≥ 77.5	77.5 > x ≥ 65	< 65	14.1	Leave no one behind
7	Population with access to electricity (%)	100	≥ 98	98 > x ≥ 89	89 > x ≥ 80	< 80	9.1	Leave no one behind
7	Population with access to clean fuels and technology for cooking (%)	100	≥ 85	85 > x ≥ 67.5	67.5 > x ≥ 50	< 50	2	Average of 3 best OECD performers

4. SDG Data Systems and Statistics

Table A.5

(continued)

SDG	Indicator	Optimum (value = 100)	Green	Yellow	Orange	Red	Lower bound	Justification for optimum
7	CO$_2$ emissions from fuel combustion per total electricity output (MtCO$_2$/TWh)	0	≤ 1	1 < x ≤ 1.25	1.25 < x ≤ 1.5	> 1.5	5.9	Technical Optimum
7	Share of renewable energy in total primary energy supply (%)	51	≥ 20	20 > x ≥ 15	15 > x ≥ 10	< 10	3	Average of 3 best OECD performers
8	Adjusted GDP growth (%)	5	≥ 0	0 > x ≥ -1.5	-1.5 > x ≥ -3	< -3	-14.7	Average of 5 best performers
8	Victims of modern slavery (per 1,000 population)	0	≤ 4	4 < x ≤ 7	7 < x ≤ 10	> 10	22	Leave no one behind
8	Adults with an account at a bank or other financial institution or with a mobile-money-service provider (% of population aged 15 or over)	100	≥ 80	80 > x ≥ 65	65 > x ≥ 50	< 50	8	Technical Optimum
8	Unemployment rate (% of total labor force, ages 15+)	0.5	≤ 5	5 < x ≤ 7.5	7.5 < x ≤ 10	> 10	25.9	Average of 5 best performers
8	Fundamental labor rights are effectively guaranteed (worst 0–1 best)	0.85	≥ 0.7	0.7 > x ≥ 0.6	0.6 > x ≥ 0.5	< 0.5	0.3	Average of 5 best performers
8	Fatal work-related accidents embodied in imports (per 100,000 population)	0	≤ 1	1 < x ≤ 1.75	1.75 < x ≤ 2.5	> 2.5	6	Technical Optimum
8	Employment-to-population ratio (%)	77.8	≥ 60	60 > x ≥ 55	55 > x ≥ 50	< 50	50	Average of 3 best OECD performers
8	Youth not in employment, education or training (NEET) (% of population aged 15 to 29)	8.1	≤ 10	10 < x ≤ 12.5	12.5 < x ≤ 15	> 15	28.2	Average of 3 best OECD performers
9	Population using the internet (%)	100	≥ 80	80 > x ≥ 65	65 > x ≥ 50	< 50	2.2	Leave no one behind
9	Mobile broadband subscriptions (per 100 population)	100	≥ 75	75 > x ≥ 57.5	57.5 > x ≥ 40	< 40	1.4	Leave no one behind
9	Logistics Performance Index: Quality of trade and transport-related infrastructure (worst 1–5 best)	3.8	≥ 3	3 > x ≥ 2.5	2.5 > x ≥ 2	< 2	1.6	Average of 5 best performers
9	The Times Higher Education Universities Ranking: Average score of top 3 universities (worst 0–100 best)	50	≥ 30	30 > x ≥ 15	15 > x ≥ 0	< 0	0	Average of 5 best performers
9	Articles published in academic journals (per 1,000 population)	1.2	≥ 0.7	0.7 > x ≥ 0.38	0.38 > x ≥ 0.05	< 0.05	0	Average of 5 best performers
9	Expenditure on research and development (% of GDP)	3.7	≥ 1.5	1.5 > x ≥ 1.25	1.25 > x ≥ 1	< 1	0	Average of 5 best performers
9	Researchers (per 1,000 employed population)	15.6	≥ 8	8 > x ≥ 7.5	7.5 > x ≥ 7	< 7	0.8	Average of 3 best OECD performers
9	Triadic patent families filed (per million population)	115.7	≥ 20	20 > x ≥ 15	15 > x ≥ 10	< 10	0.1	Average of 3 best OECD performers
9	Gap in internet access by income (percentage points)	0	≤ 7	7 < x ≤ 26	26 < x ≤ 45	> 45	63.6	Leave no one behind
9	Female share of graduates from STEM fields at the tertiary level (%)	50	≥ 30	30 > x ≥ 25	25 > x ≥ 20	< 20	15	Leave no one behind
10	Gini coefficient	27.5	≤ 30	30 < x ≤ 35	35 < x ≤ 40	> 40	63	Average of 5 best performers
10	Palma ratio	0.9	≤ 1	1 < x ≤ 1.15	1.15 < x ≤ 1.3	> 1.3	2.5	Average of 3 best OECD performers
10	Elderly poverty rate (% of population aged 66 or over)	3.2	≤ 5	5 < x ≤ 15	15 < x ≤ 25	> 25	45.7	Average of 3 best OECD performers
11	Proportion of urban population living in slums (%)	0	≤ 5	5 < x ≤ 15	15 < x ≤ 25	> 25	90	Leave no one behind

Table A.5

(continued)

SDG	Indicator	Optimum (value = 100)	Green	Yellow	Orange	Red	Lower bound	Justification for optimum
11	Annual mean concentration of particulate matter of less than 2.5 microns in diameter (PM2.5) ($\mu g/m^3$)	6.3	≤ 10	10 < x ≤ 17.5	17.5 < x ≤ 25	> 25	87	Average of 5 best performers
11	Access to improved water source, piped (% of urban population)	100	≥ 98	98 > x ≥ 86.5	86.5 > x ≥ 75	< 75	6.1	Leave no one behind
11	Satisfaction with public transport (%)	82.6	≥ 72	72 > x ≥ 57.5	57.5 > x ≥ 43	< 43	21	Average of 5 best performers
11	Population with rent overburden (%)	4.6	≤ 7	7 < x ≤ 12	12 < x ≤ 17	> 17	25.6	Average of 3 best OECD performers
12	Municipal solid waste (kg/capita/day)	0.1	≤ 1	1 < x ≤ 1.5	1.5 < x ≤ 2	> 2	3.7	Average of 5 best performers
12	Electronic waste (kg/capita)	0.2	≤ 5	5 < x ≤ 7.5	7.5 < x ≤ 10	> 10	23.5	Average of 5 best performers
12	Production-based SO_2 emissions (kg/capita)	0	≤ 30	30 < x ≤ 65	65 < x ≤ 100	> 100	525	Average of 5 best performers
12	SO_2 emissions embodied in imports (kg/capita)	0	≤ 5	5 < x ≤ 7.5	7.5 < x ≤ 10	> 10	30	Technical Optimum
12	Production-based nitrogen emissions (kg/capita)	2	≤ 20	20 < x ≤ 35	35 < x ≤ 50	> 50	100	Average of 5 best performers
12	Nitrogen emissions embodied in imports (kg/capita)	0	≤ 5	5 < x ≤ 10	10 < x ≤ 15	> 15	45	Technical Optimum
12	Exports of plastic waste (kg/capita)	0	≤ 1	1 < x ≤ 3	3 < x ≤ 5	> 5	12	Average of 5 best performers
12	Non-recycled municipal solid waste (kg/capita/day)	0.6	≤ 0.8	0.8 < x ≤ 0.9	0.9 < x ≤ 1	> 1	1.5	Average of 3 best OECD performers
13	CO_2 emissions from fossil fuel combustion and cement production (tCO_2/capita)	0	≤ 2	2 < x ≤ 3	3 < x ≤ 4	> 4	20	Technical Optimum
13	CO_2 emissions embodied in imports (tCO_2/capita)	0	≤ 0.5	0.5 < x ≤ 0.75	0.75 < x ≤ 1	> 1	3.2	Technical Optimum
13	CO_2 emissions embodied in fossil fuel exports (kg/capita)	0	≤ 100	100 < x ≤ 4050	4050 < x ≤ 8000	> 8000	44000	Technical Optimum
13	Carbon Pricing Score at EUR60/tCO_2 (%, worst 0–100 best)	100	≥ 70	70 > x ≥ 50	50 > x ≥ 30	< 30	0	Technical Optimum
14	Mean area that is protected in marine sites important to biodiversity (%)	100	≥ 85	85 > x ≥ 75	75 > x ≥ 65	< 65	0	Technical Optimum
14	Ocean Health Index: Clean Waters score (worst 0–100 best)	100	≥ 80	80 > x ≥ 75	75 > x ≥ 70	< 70	28.6	Technical Optimum
14	Fish caught from overexploited or collapsed stocks (% of total catch)	0	≤ 25	25 < x ≤ 37.5	37.5 < x ≤ 50	> 50	90.7	Technical Optimum
14	Fish caught by trawling or dredging (%)	1	≤ 7	7 < x ≤ 33.5	33.5 < x ≤ 60	> 60	90	Average of 5 best performers
14	Fish caught that are then discarded (%)	0	≤ 5	5 < x ≤ 10	10 < x ≤ 15	> 15	20	Technical Optimum
14	Marine biodiversity threats embodied in imports (per million population)	0	≤ 0.2	0.2 < x ≤ 0.6	0.6 < x ≤ 1	> 1	2	Technical Optimum
15	Mean area that is protected in terrestrial sites important to biodiversity (%)	100	≥ 85	85 > x ≥ 75	75 > x ≥ 65	< 65	0	Technical Optimum
15	Mean area that is protected in freshwater sites important to biodiversity (%)	100	≥ 85	85 > x ≥ 75	75 > x ≥ 65	< 65	0	Technical Optimum
15	Red List Index of species survival (worst 0–1 best)	1	≥ 0.9	0.9 > x ≥ 0.85	0.85 > x ≥ 0.8	< 0.8	0.6	Technical Optimum

4. SDG Data Systems and Statistics

Table A.5

(continued)

SDG	Indicator	Optimum (value = 100)	Green	Yellow	Orange	Red	Lower bound	Justification for optimum
15	Permanent deforestation (% of forest area, 3-year average)	0	≤ 0.05	0.05 < x ≤ 0.28	0.28 < x ≤ 0.5	> 0.5	1.5	SDG Target
15	Terrestrial and freshwater biodiversity threats embodied in imports (per million population)	0	≤ 1	1 < x ≤ 2	2 < x ≤ 3	> 3	10	Technical Optimum
16	Homicides (per 100,000 population)	0.3	≤ 1.5	1.5 < x ≤ 2.75	2.75 < x ≤ 4	> 4	38	Average of 5 best performers
16	Unsentenced detainees (% of prison population)	7	≤ 30	30 < x ≤ 40	40 < x ≤ 50	> 50	75	Average of 5 best performers
16	Population who feel safe walking alone at night in the city or area where they live (%)	90	≥ 70	70 > x ≥ 60	60 > x ≥ 50	< 50	33	Average of 5 best performers
16	Property Rights (worst 1–7 best)	6.3	≥ 4.5	4.5 > x ≥ 3.75	3.75 > x ≥ 3	< 3	2.5	Average of 5 best performers
16	Birth registrations with civil authority (% of children under age 5)	100	≥ 98	98 > x ≥ 86.5	86.5 > x ≥ 75	< 75	11	Leave no one behind
16	Corruption Perceptions Index (worst 0–100 best)	88.6	≥ 60	60 > x ≥ 50	50 > x ≥ 40	< 40	13	Average of 5 best performers
16	Children involved in child labor (% of population aged 5 to 14)	0	≤ 2	2 < x ≤ 6	6 < x ≤ 10	> 10	39.3	Leave no one behind
16	Exports of major conventional weapons (TIV constant million USD per 100,000 population)	0	≤ 1	1 < x ≤ 1.75	1.75 < x ≤ 2.5	> 2.5	3.4	Technical Optimum
16	Press Freedom Index (best 0–100 worst)	10	≤ 30	30 < x ≤ 40	40 < x ≤ 50	> 50	80	Average of 5 best performers
16	Access to and affordability of justice (worst 0–1 best)	0.75	≥ 0.65	0.65 > x ≥ 0.58	0.58 > x ≥ 0.5	< 0.5	0.1	Average of 5 best performers
16	Persons held in prison (per 100,000 population)	25	≤ 100	100 < x ≤ 175	175 < x ≤ 250	> 250	475	Average of 5 best performers
17	Government spending on health and education (% of GDP)	15	≥ 10	10 > x ≥ 7.5	7.5 > x ≥ 5	< 5	0	Average of 5 best performers
17	For high-income and all OECD DAC countries: International concessional public finance, including official development assistance (% of GNI)	1	≥ 0.7	0.7 > x ≥ 0.52	0.52 > x ≥ 0.35	< 0.35	0.1	Average of 5 best performers
17	Other countries: Government revenue excluding grants (% of GDP)	40	≥ 30	30 > x ≥ 23	23 > x ≥ 16	< 16	10	Average of 5 best performers
17	Corporate Tax Haven Score (best 0–100 worst)	40	≤ 60	60 < x ≤ 65	65 < x ≤ 70	> 70	100	Average of best performers (EU Report)
17	Financial Secrecy Score (best 0–100 worst)	42.7	≤ 45	45 < x ≤ 50	50 < x ≤ 55	> 55	76.5	Average of 5 best performers
17	Shifted profits of multinationals (US$ billion)	0	≥ 0	0 > x ≥ -15	-15 > x ≥ -30	< -30	-70	Technical Optimum
17	Statistical Performance Index (worst 0–100 best)	100	≥ 80	80 > x ≥ 65	65 > x ≥ 50	< 50	25	Technical Optimum

Source: Authors' analysis