SDG Index and Dashboards Report 2017

Global Responsibilities

International spillovers in achieving the goals

Compact edition

BertelsmannStiftung

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A GLOBAL INITIATIVE FOR THE UNITED NATIONS

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Foreword

We are pleased to present the 2017 edition of the Sustainable Development Goals (SDG) Index and Dashboards that have been jointly developed by the Bertelsmann Stiftung and the Sustainable Development Solutions Network (SDSN). This year's edition includes revised and additional metrics for the SDGs bringing the total to 99 indicators. We also introduce several refinements to the methodology and extend coverage from 149 to 157 of the 193 UN member states. Results are therefore not strictly comparable with the 2016 edition. We are grateful to the many organizations and individuals who have helped us improve the SDG Index and Dashboards.

The SDGs are a universal agenda of sustainable development, calling on all nations to pursue a holistic strategy that combines economic development, social inclusion, and environmental sustainability. We are gratified that throughout the world, local and national governments are rallying around the goals, seeking ways to incorporate them into planning processes. Businesses, universities, and civil society are also recognizing that the SDGs and the Paris Climate Agreement (incorporated into the sustainable development agenda as SDG 13) require a new orientation of strategy and national planning.

The purpose of the SDG Index and Dashboards is to assist countries to identify priorities for action, in order to achieve the 17 SDGs. The indicators and dashboards should help countries to pinpoint key implementation challenges and the overall index permits an assessment of progress towards the goals and a comparison with peer countries.

We applaud the large number of countries stepping forward to make Voluntary National Reports on their progress in implementing the SDGs at the High-Level Political Forum. We also note that the design and implementation of the official SDG indicators is making significant progress following their formal adoption by the UN Statistics Commission. The SDG Index and Dashboards are complementary to official SDG monitoring. They are not an official product endorsed by any governments or the United Nations.

Based on our scrutiny of the relevant data available for tracking the SDGs, the SDG Index and Dashboards present these data in a way that we believe and hope to be informative, insightful, and interesting for policy makers and the public. Where possible we use the official SDG indicators and fill gaps in data availability with variables published by reputable sources. We have constructed the various measures for each SDG so that they immediately indicate a country's position on a 0-to-100 spectrum from the "worst" (score 0) to the "best" (score 100).

The SDGs rightly emphasize a universal agenda that requires all countries – both rich and poor alike – to take decisive actions to support sustainable development. In this year's report we note that development patterns of the rich countries may generate adverse "spillovers" that may hinder the ability of poorer countries' to achieve the SDGs. For example, the high consumption levels, banking secrecy and tax havens, and weapons exports, by the rich countries may severely inhibit sustainable development in poorer and more vulnerable countries. On the other hand, international development finance by high-income donor nations also directly supports the SDGs.

Many of the adverse spillovers tend to be neglected or poorly measured in official development statistics. The 2017 SDG Index and Dashboards therefore reviews the scientific and policy literature to identify the best available data for quantifying such complex spillovers. We show that there are indeed many such adverse global spillovers to consider and that they are indeed driven strongly by high-income countries. We believe that such adverse spillovers deserve much greater attention by national and international efforts to achieve the SDGs and by statistical agencies. We know that our report only is a start on such analyses and should be understood in that spirit.

The SDG Index and Dashboards show that data on important SDG priorities are sometimes unavailable or out of date or not yet counted on the official list of indicators. Filling these gaps and ensuring that key measures are included among the

official indicators will require improved metrics as well as more and better data. One priority for SDG implementation must therefore be to invest in strengthening data collection, choice of indicators, and statistical capacity in all countries.

The 2017 SDG Index and Dashboards report generates "tough grading" for all countries, including the richest ones. We choose this approach not to be punitive or pessimistic about the prospects for dramatic improvements, but to draw attention to the most urgent SDG-related challenges facing each country for each SDG.

We hope that in addition to governments, other SDG stakeholders will find this report interesting and useful. Business, civil society organizations, foundations, universities, the media, and others will all play a vital role in turning the SDGs into practical tools for explaining sustainable development, managing implementation, ensuring accountability, and reporting on progress at local, national, regional, and global levels. This report and the companion website (www.sdgindex.org) provide rich information to help inform these discussions.

To support SDG implementation at local levels, the SDSN is launching a preliminary SDG Index and Dashboards for cities in the United States of America. Similar analyses can be conducted for cities and provinces elsewhere. We are also planning to work with SDSN partners to develop deeper indicators and new SDG Indices and Dashboards to focus on specific challenges in major regions around the world.

In addition to the SDG Index and Dashboards report, Bertelsmann Stiftung is contributing to many SDGs with its operational and data-related work to promote social inclusion, improve education, shape democracy, advance society, promote health, vitalize culture and strengthen economies. For example, our assessment at the local level (*Monitor Nachhaltige Kommune*) analyzes the sustainability of German local communities. We also undertake monitoring projects on health, education, social cohesion, and governance to identify best practices.

We look forward to the opportunity to improve the quality and coverage of the SDG Index and Dashboards, including ways to understand trend data. We encourage and welcome feedback on the usefulness and limitations of the SDG Index and Dashboards, and advice from all parts of the global community on how the report can be made more useful and accurate in the coming years.

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Network

1 SDG Index and Dashboards Report

PART 1

SDG Index and Dashboards Report

1. INTRODUCTION

Agenda 2030 and the Sustainable Development Goals (SDGs, Figure 1), which were adopted by all member states of the United Nations in 2015, describe a universal agenda that applies to and must be implemented by all countries, both developed and developing. Sound metrics and data are critical for turning the SDGs into practical tools for problem-solving by (i) mobilizing governments, academia, civil society, and business; (ii) providing a report card to track progress and ensure accountability; and (iii) serving as a management tool for the transformations needed to achieve the SDGs by 2030. We are encouraged that countries around the world, including the G20 (Box 1), are aligning long-term development strategies with the SDGs. Similarly, business and other non-government stakeholders are increasingly working towards the SDGs as operational goals (Box 2).

Figure 1 | The Sustainable Development Goals (SDGs)

Purpose of the SDG Index and Dashboards

To track the SDGs, the UN Statistics Commission has recommended over 230 official indicators. Of these, some 150 have well-established definitions, but not all have data for all UN member states (UN Statistics Division, 2017). Countries are invited to submit voluntary national reviews of their progress to the High-Level Political Forum. A first review of reports submitted so far (Bizikova and Pinter, 2017) found that countries report best on socioeconomic SDGs (health, education, gender equality, infrastructure, decent work, and economic growth). In contrast, reporting was particularly weak on the environmental SDGs 12-15 and goal 17 (international partnership). Countries appear to struggle with implementing the full range of official SDG indicators.

To complement the official SDG Indicators and voluntary country-led follow-up and review processes, the Sustainable Development Solutions Network (SDSN) and Bertelsmann Stiftung issued a first global unofficial SDG Index and Dashboards in 2016 (Sachs et al., 2016). That report synthesized metrics with available data – based whenever possible on the official SDG indicators – to enable countries to take stock of where they stood in 2016 with regards to fulfilling the SDGs and to help countries set priorities for early action.

Box 1 | Message on the SDG Index Report 2017

Peter Altmaier, Head of the Federal Chancellery and Federal Minister for Special Affairs

With the 2030 Agenda for Sustainable Development, the international community committed to managing key tasks to take our world into the future. The Agenda, which takes the form of a voluntary commitment by the governments of 193 states, contains ambitious goals which touch on areas of critical importance for the future of humanity. It aims to ensure a dignified life in peace and justice for all people, to safeguard social security and scope for economic development, to protect natural resources and to respect the planetary boundaries. In order to achieve these goals, we need to act together – towards a sustainable way of living, towards fair and environment-friendly working conditions, products and services.

Anchoring sustainable development as a guiding principle in all policy fields at national, European and international levels is a necessity, not a luxury, particularly at a time when the global political situation is difficult. Along with a willingness to cooperate at international level, successful implementation of the 2030 Agenda primarily requires the development and implementation of strong operative concepts at national and regional levels.

In a dialogue with the *Länder* and municipalities, as well as with our partners in the business and scientific communities and civil society, we have this year adopted the new German Sustainable Development Strategy. It provides a main framework for the implementation of the 2030 Agenda in Germany and is fundamentally oriented to the 17 SDGs. Ambitious goals and effective measures are intended to spur concrete action and shape change. The German Sustainable Development Strategy strengthens sustainability as a cross-cutting task, fundamental goal and guiding principle of government activity.

We want to make active use of our G20 Presidency (1 December 2016 to 30 November 2017) to link the G20 agenda more closely to the 2030 Agenda for Sustainable Development. The basis for this is the G20 Action Plan on the 2030 Agenda for Sustainable Development adopted in Hangzhou. This Action Plan is intended to develop coherent measures as individual and collective contributions by G20 countries and to support the provision of public goods. We want to strengthen the Forum on Financing for Development so as to monitor and document the implementation of the Addis Ababa Action Agenda. We want to enable the G20 countries to take a pioneering role in implementing the 2030 Agenda.

The goals contained in the 2030 Agenda constitute a moral obligation for the whole of humanity – states, companies, individuals. There is no doubt that this brings tremendous challenges. But humanity has the values, the knowledge and the resources to achieve these goals.

At the political level, the absolute key factor is the will to tackle the challenges, to look seriously for solutions and to communicate this fact. To this end, politicians need to take the goals on board and carefully plan how they are to be attained. In this context, we will have to take a critical look at our patterns of thought and conduct, ideologies and political convictions, and particularly our own interests, and be ready to change them if necessary. The SDG Index Report developed jointly by the Bertelsmann Stiftung and the Sustainable Development Solutions Network gives an initial indication of the state of play and helps raise public awareness of the 2030 Agenda and its implementation in individual states.

The SDG Index and Dashboards are not official SDG monitoring tools and they are subject to many important limitations and caveats that we summarize at the end of this report. We strongly encourage calls for increased investments in statistical capacity so that every country can in due course track the 17 SDGs comprehensively and with rigor. Annex 2 answers frequently asked questions in relation to the SDG Index and Dashboards.

This 2017 SDG Index and Dashboard Report presents an updated and revised SDG Index and introduces country dashboards. The report incorporates comments received on the previous version, as well as new data and improvements in methodology. As a result, the rankings and dashboards in this report are not comparable to the results in the 2016 report, though comparisons are still useful we believe, as long as caveats are kept in mind. Changes from last year to this year in a country's score or ranking are likely to be due to changes in data and methodology as well as progress or regress towards achieving the SDGs.

The role of international spillovers in achieving the SDGs

To help fill a major gap in last year's report and in SDG discussions more generally, we focus this year's report on countries' global responsibilities and international spillover effects in achieving the SDGs. Such spillovers must be understood and measured since countries cannot achieve the goals if others do not do their part. For example, rising sea levels will submerge Small Island Developing States (SIDS) unless all countries curb greenhouse gas emissions, and African elephants and rhinos face extinction unless demand for ivory and horns is curbed outside of Africa. Poor countries require increased Official Development Assistance to co-finance the investments needed to achieve the Goals, and all countries must avoid a race to the bottom on taxation and transparency to protect the public revenues required to finance the goals. Only if such positive and negative spillovers across countries are managed carefully can the promise of Agenda 2030 be fulfilled, particularly since negative effects tend to flow from rich to poor countries. It is therefore critical to understand spillover effects and to measure them as part of SDG monitoring, as done for example by the OECD (Box 3).

Economists have studied positive and negative spillover effects (often called "externalities") since Arthur Pigou's pioneering work in the first half of the 20th century. International spillover effects are said to occur when one country's actions generate benefits or impose costs on another country that are not reflected in market prices, and therefore are not "internalized" by the actions of consumers and producers. The benefits or costs may be referred to as negative or positive externalities, and much economic work focuses on how these can be "internalized," for example through corrective taxation such as the widely proposed "carbon tax" to internalize the externality of CO_2-induced global warming.

The SDGs also cover the "global commons," such as the management of the high seas, the oceans, and the atmosphere. If the scarce resources of the commons are not properly managed, they can be overused and depleted, leading to the famous "tragedy of the commons." Since richer countries tend to have more resources and greater capabilities to access the resources of the global commons, they tend to use them at the expense of poorer countries.

Finally, "global public goods" are non-excludable and can be accessed by all countries, but in contrast to common goods their use is non-rivalrous. Use by one country does not diminish use by another country. The most famous example of a public good is knowledge and innovation. Markets tend to underprovide global public goods because the total social benefits are not reflected in the market incentives to provide them. Indicators for several public goods are included in the SDG Index, such as innovative capacity, but we recognize that the SDG Index does not yet capture all relevant global public goods related to the SDGs.

For this report, we aimed to identify and measure the most important cases of SDG-related spillovers and misuses of the global commons. This is a first-time effort, so our coverage is necessarily incomplete and provisional. Many of the spillover effects have not yet been properly measured by scientists and statisticians. Our effort is motivated by the realization that traditional SDG metrics mostly ignore such spillover effects and therefore favor the high-income countries that tend to generate significant negative spillover effects and that have the greatest capacity to misappropriate the resources of the global commons.

Box 2 | How can the SDGs help decision-makers chart a course towards sustainable development?

Klaus Schwab, Founder and Executive Chairman, World Economic Forum

The Sustainable Development Goals (SDGs) will be an indispensable platform for building a better world. The various concepts that lie behind this ambitious agenda will together provide the engine for progress – the need for a defined vision, the importance of multistakeholder partnerships, the emphasis on accountability and measurement, and the acknowledgement that environmental, social and economic goals are interconnected.

The very exercise of setting goals fulfils various functions. The definition clarifies what we are working towards, creating a sense of purpose around which different constituencies can cohere. This in turn leads to practical momentum and commitment. Since its launch in 2015, around 50 countries have already integrated the goals into their national strategy plans, while another 50 are currently undertaking consultation processes.

As a result of this impetus, business too has started to grasp the relationship between the goals and their own commercial success. A 2017 report by The Business and Sustainable Development Commission, itself launched in Davos last year in response to the announcement of the SDGs, found that sustainable business models could create economic opportunities worth up to US$12 trillion and increase employment by up to 380 million jobs by 2030.

Such tremendous gains can only be realized through substantial investment, both public and private. Indeed, a multi-stakeholder approach - involving national, regional and local government, the private sector, civil society, international organizations and academia – will be fundamental to the realization of the SDGs. The history of the World Economic Forum has shown that this multistakeholder concept, when backed up with action and the support of all those at the table, can lead to powerful results.

To ensure that all stakeholders fulfil their obligations in what is inevitably a complex process, we must continually measure progress on the ground at local, national and international levels. The SDG Index will enhance this essential accountability, identifying weaknesses in implementation and highlighting any failure to meet stated obligations and targets. In this way, the goals move from imprecise aspiration to a concrete reality that remains in our sights.

A basic principle of the SDGs is the recognition that they are interconnected, clearly conveying the message to decision-makers that tackling them together, rather than independently, triggers greater impact. For example, the SDGs can only be reached in their entirety if gender equality is achieved, unleashing female potential through comprehensive access to education, health care, decent work, and representation in political and economic decision-making processes.

These proven concepts at the heart of the SDG agenda will render it more likely that bold ambition can be translated into positive and far-reaching consequences for us all.

We hope that the expanded set of metrics related to the SDGs, including spillovers and common goods, provides a richer and more accurate assessment of countries' SDG baseline. Since there are many data gaps, we also discuss how they can be closed.

A final methodological point is in order: A lot of work on international spillovers focuses on individual supply chains (e.g. production of a pair of jeans) or specific products, such as palm oil from South-East Asia. Such case studies have made a tremendous contribution towards our understanding of international spillover effects, but they could not directly be incorporated into a global SDG Index. Translating the findings from case studies into metrics available at the national level is a priority for future research into international spillover indicators.

In this report we consider three groups of international spillover effects:

Environmental spillovers, include anthropogenic climate change; transboundary pollution and pollution embedded in trade; biodiversity loss embedded in trade; and the misuse of the global commons, such as overfishing in the high seas. Unfortunately, data are limited or unavailable for some of these spillovers. Table 1.1 lists the spillover indicators that are included in the 2017 SDG Index and Dashboards. The full description of each spillover indicator is available in Annex 1.

Table 1.1 | Environmental spillover indicators included in the SDG Index and Dashboards

SDG	SDG Spillover Indicator	Coverage	Source
6	Imported groundwater depletion (m^3/year/capita)	Global	Dalin et al., 2017
12	Net imported SO_2 emissions (kg/capita)	Global	Zhang et al., 2017
12	Net imported emissions of reactive nitrogen (kg/capita)	Global	Oita et al., 2016
13	Imported CO_2 emissions, technology-adjusted (tCO_2/capita)	Global	Kander et al., 2015
15	Imported biodiversity impacts (species lost per million people)	Global	Chaudhary and Kastner, 2016

Source: Authors' analysis

Spillovers related to the economy, finance, and governance include official development finance and policies related to international investments; trade rules; inefficient tax competition; international tax evasion; banking secrecy; and cross-border corruption.

Table 1.2 | Spillovers related to the economy, finance, and governance

SDG	SDG Spillover Indicator	Coverage	Source
16	Financial Secrecy Score (best 0-100 worst)	OECD	Tax Justice Network, 2015a
17	Tax Haven Score (best 0-5 worst)	Global	Oxfam, 2016
17	International concessional public finance, including official development assistance (% GNI)	OECD & high-income countries	OECD, 2016

Source: Authors' analysis

Security spillovers, include trade in arms, particularly in small arms; international crimes; and investment in conflict prevention (positive spillover).

Table 1.3 | Spillover indicator related to security included in the SDG Index and Dashboards

SDG	SDG Spillover Indicator	Coverage	Source
16	Transfers of major conventional weapons (exports) (constant 1990 US$ million per 100,000 people)	Global	Stockholm International Peace Research Institute, 2017

Source: Authors' analysis

Overall, the nine spillover indicators affect six goals: SDG 6 on water, SDG 12 on sustainable consumption and production, SDG 13 on climate change, SDG 15 on terrestrial biodiversity, SDG 16 on peace and justice, and SDG 17 on the global partnership. Since high-income countries tend to generate negative spillover effects vis-à-vis the poorer countries, the inclusion of spillover indicators changes the scores and rankings attributable mainly to the high-income countries.

Box 3 | Delivering on the 2030 SDG Agenda: The OECD's work on assessing international spillovers

Martine Durand, OECD Chief Statistician and Director of Statistics

A major advance of the SDGs over the previous Millennium Development Goals is their recognition of the interrelatedness of actions to achieve sustainable development. The notion of sustainable development itself recognises interactions between economy, society and the environment, and the SDGs were explicitly agreed as a mutually complementary package of goals and targets.

The OECD Study on Measuring Distances to the SDG targets, undertaken as part of the Organisation's broad Action Plan on SDGs, draws on existing OECD data that are aligned with the UN global reporting framework to help OECD countries assess the efforts they have to make and identify priorities for action if they are to meet their Agenda 2030 commitments.

An especially important aspect of such commitments concerns their global responsibilities. While at first blush the SDG targets may appear to relate to each country individually, important transboundary effects are involved, and given OECD countries' economic weight, their contributions to these effects are likely to be decisive.

OECD member countries' actions can have transboundary or spillover effects of three main kinds. First, they can actively assist developing countries to meet the SDGs. Second, their domestic policies may have implications for the economies and societies of other countries. And third, their actions may affect global public goods.

The OECD Study includes indicators representing each of these three effects. To gauge OECD countries' help to developing countries, the study uses our unique database on official development assistance (ODA). The level of assistance is measured both against the overall UN target of 0.7% of national income, and in terms of the assistance to priority sectors identified in the SDGs.

The policy impacts on other countries are illustrated by the OECD Producer Support Estimates (PSE). These measure agricultural subsidies in OECD countries. Some of these subsidies can distort farm production in other countries by undermining the market prices that tell growers what is demanded.

An important global public good is our climate. An important transboundary spillover affecting the global climate comes from consumption-based carbon dioxide emissions. "Consumption-based" means attributing emissions to the country where final products are consumed. This places greater responsibility on the developed countries where the bulk of consumption occurs.

Overall, OECD countries score best on reducing agricultural subsidies, and somewhat less well on development assistance and consumption-based CO_2. But variations among countries on each indicator are much wider than those between the overall averages. It also emerged that individual countries' scores on each indicator are not well correlated. For example, Norway leads the world on aid contributions, but still has high agricultural subsidies -- pointing to where priority for action lies in order to achieve global policy coherence.

The OECD's work on international spillovers to date should be considered exploratory, and is subject to revision. For example, we may consider replacing the PSE with a new indicator of the Nominal Rate of Protection, which focuses more sharply on measures that distort markets. And the work will also be expanded to include other effects, such as those of migration, regional security, financial stability, and the control of infectious diseases.

There are, however, significant challenges of data availability, and some issues may require more methodological or modelling work. Our continued collaboration with interested OECD members to apply and adapt our Study should provide us with a powerful tool to establish the needed evidence that will help gauge whether countries are delivering on their global SDG responsibilities.

For each set of spillover effects, we consider conceptual issues (such as the divergence of social costs and benefits from market prices), data availability, and whether measurement concepts are sufficiently clear to include in the index. These issues are described in Annex 1. Overall, the data on cross-border spillover effects tend to be sparse and incomplete. Several spillover effects lack clear conceptual frameworks for measurement. The lack of data and concepts derive partly from the complexity of the issues – for example how to attribute environmental impacts to trade in virtual water embodied in food products, or how to assess the impacts of international labor standards on child labor. Another challenge is that national statistical offices are rarely mandated to measure international spillovers. The work of international organizations in this area is hampered by political sensitivities among member states on the measurement of spillover effects and on the difficulties of clearly assigning responsibility for negative externalities to one particular country.

We hope this report provides useful suggestions for filling some conceptual and data gaps and for supporting future efforts to close these gaps. We believe that accurate measurement of international spillover effects is important to foster the political consensus around the SDGs as a universal agenda and to ensure effective implementation strategies by all countries.

Other changes made to the 2017 SDG Index and Dashboards

Besides adding spillover indicators to the SDG Index and Dashboards, we have also updated the data and made several changes to the methodology and indicators compared with the 2016 edition. We have replaced and added several indicators to reflect changes in the official SDG Indicators (UN Statistics Division, 2017) and to improve alignment, as summarized in Table 1.4. Full information on the data changes and methodological refinements of the SDG Index is provided in Part 2.

We have also revised the methodology of the SDG Dashboards to make the results less sensitive to performance under a single indicator within an SDG category.

Table 1.4 | Changes made to indicators in 2017 SDG Index (excluding the addition of spillover indicators)

SDG	Indicator	Change
1	Poverty headcount ratio at $1.90/day (%)	Change of indicator source
1	Projected poverty headcount ratio at $1.90/day (%) in 2030	New addition
3	Births attended by skilled health personnel (%)	New addition
3	Universal Health Coverage Tracer Index (0-100)	New addition
3	HIV infections (per 1,000)	New addition
3	Death rate from NCDs (per 100,000)	New addition
3	Death rate from household and ambient pollution (per 100,000)	New addition
8	Access to bank account or mobile-money service (% of adult pop.)	Replaces "Number of ATMs per 1000"
9	Logistics Performance Index (1-5)	Revised methodology
9	Top 3 University Rankings (0-100)	New addition
9	Number of scientific and technical journal articles (per capita)	New addition
11	Rent burden (% of disposable income) (OECD only)	Replaces "Rooms per person" (OECD only)
12	E-waste (kg/capita)	New addition
12	Production-based SO_2 emissions (kg/capita)	New addition
12	Nitrogen production footprint (kg/capita)	New addition
13	Effective Carbon Rate (€/tCO_2) (OECD only)	New addition (OECD only)
14	Marine sites, mean protected area (%)	Replaces "Marine sites of importance completely protected (%)"
15	Terrestrial sites, mean protected area (%)	Replaces "Terrestrial sites of importance completely protected (%)"
15	Freshwater sites, mean protected area (%)	New addition
16	Slavery Score (0-100)	New addition
17	Health & Education spending (% GDP)	Replaces "Health, Education & R&D spending (%GDP)"

Note: See Tables 1.1-1.3 for a list of the spillover indicators added to the 2017 SDG Index and Dashboards.

The new Dashboards also include four color codes (green, yellow, orange, and red) rather than three as in last year's report, to make the presentation clearer and more differentiated. Details of these changes are also discussed in Part 2.

In reviewing results for the 2016 SDG Index and Dashboards as well as draft versions of the 2017 report, some national statistical offices have pointed out discrepancies between the data reported internationally and their national statistics. In some cases, recent national data might not yet have been included in international statistics published by the World Bank or United Nations organizations. In other cases, the latter modify national data to ensure consistency with data reported from other sources. These issues are frequently discussed in the Statistical Commission and with specialized UN agencies. It is not possible for the Bertelsmann Stiftung and the SDSN to resolve these discrepancies. To ensure international comparability of the SDG Index and Dashboards, we use internationally consistent data from international sources. We recognize that in some cases the international data may be inferior to national data. Where such discrepancies have been flagged to us we estimate their impact on the country's SDG Index score and ranking. These results are presented in the country profiles (Part 3).

The remainder of this report is organized as follows: Section 2 describes the results and findings from the 2017 SDG Index and presents the SDG Dashboards for each region and regional trends. Section 3 concludes by reviewing data gaps for the SDGs and how they might be filled. Annex 1 presents the spillover indicators in detail, and Annex 2 provides answers to frequently asked questions (FAQs). The methodology and changes made relative to the 2016 SDG Index and Dashboards are described in Part 2. For the country profiles (Part 3) and indicator profiles (Part 4), refer to the full version of the SDG Index and Dashboards 2017 report. Detailed metadata for the SDG Index and Dashboards and visualization tools are available online at www.sdgindex.org. The full datasets can be downloaded in spreadsheet form or as Stata files for statistical analyses.

2. RESULTS AND INTERPRETATION

The SDG Index and Dashboards summarize countries' SDG baselines and compare performances. They are based on the most comprehensive set of country-level data assembled to date for the SDGs. As emphasized throughout this report, the indicators, data, and methodology have been revised for the 2017 Index, so results are not comparable with the 2016 version.

The SDG Index

The 2017 SDG Index is shown in Table 1.5. The SDG Index score signifies a country's position between the worst (0) and best (100) outcomes. So Sweden's overall index score of 85.6 suggests that the country is on average 85.6% of the way to the best possible outcome across the 17 SDGs.

Three Scandinavian countries (Sweden, Denmark, and Finland) top this year's SDG Index, but they score significantly below the maximum score of 100. Each of these countries scores "red" on at least one SDG (Figure 3), particularly on climate change and other environmental SDGs. The addition of the spillover indicators discussed in the next chapter has lowered the SDG Index score for many rich countries, particularly Switzerland, the United States, and several Gulf States. However, additional spillover indicators represent only a subset of SDG Indicators, so they do not profoundly change the overall rankings in the SDG Index.

Poorer countries tend to be closer to the bottom of the rankings. This result is not surprising, since SDGs 1 to 8 focus on ending extreme poverty in all its forms. Moreover, poorer countries tend to lack adequate infrastructure and the mechanisms needed to manage key environmental issues that are the focus of other SDGs. For this reason, the commitments to provide adequate development assistance and climate finance made by rich countries at the 2015 Financing for Development Summit in Addis Ababa and the Paris Climate Agreement are a critical part of the SDGs.

As described in the methodology section (Part 2), the 2017 SDG Index contains new indicators and updated values for those indicators for which new data are available. As a result, the 2017 scores and rankings are not comparable with the 2016 results. Unfortunately, it has not been possible to estimate time series trends for many variables, so the available data do not tell us whether and how fast countries progress towards the SDGs.

Contribution of international spillovers

The data on each spillover indicator (Annex 1) show that high-income countries tend to generate negative SDG spillover effects for poorer developing countries. Figure 2 illustrates this point further. It plots countries' average performance on the spillover indicators (note that the vertical axis is inverted so that worst performers on spillover indicators are at the top) against per capita GDP PPP (horizontal axis). Negative spillover effects are most common among wealthier countries, but there's high variation in spillover effects. Some high-income countries generate large negative spillovers (e.g. Belgium Israel, Luxemburg, Netherlands, Switzerland, Singapore, United Arab Emirates, UK, USA) while others score above 70 on spillovers (e.g. Australia, Canada, Denmark). This suggests that good SDG outcomes are often associated with negative spillover effects, but this effect can be tempered through policies.

These results underscore that rich countries in particular need to address negative spillover effects in their SDG implementation strategies and reporting. However, such reporting is not done systematically in today's voluntary reviews under the High-Level Political Forum (Bizikova and Pinter, 2017) – a point that could be considered in subsequent reviews.

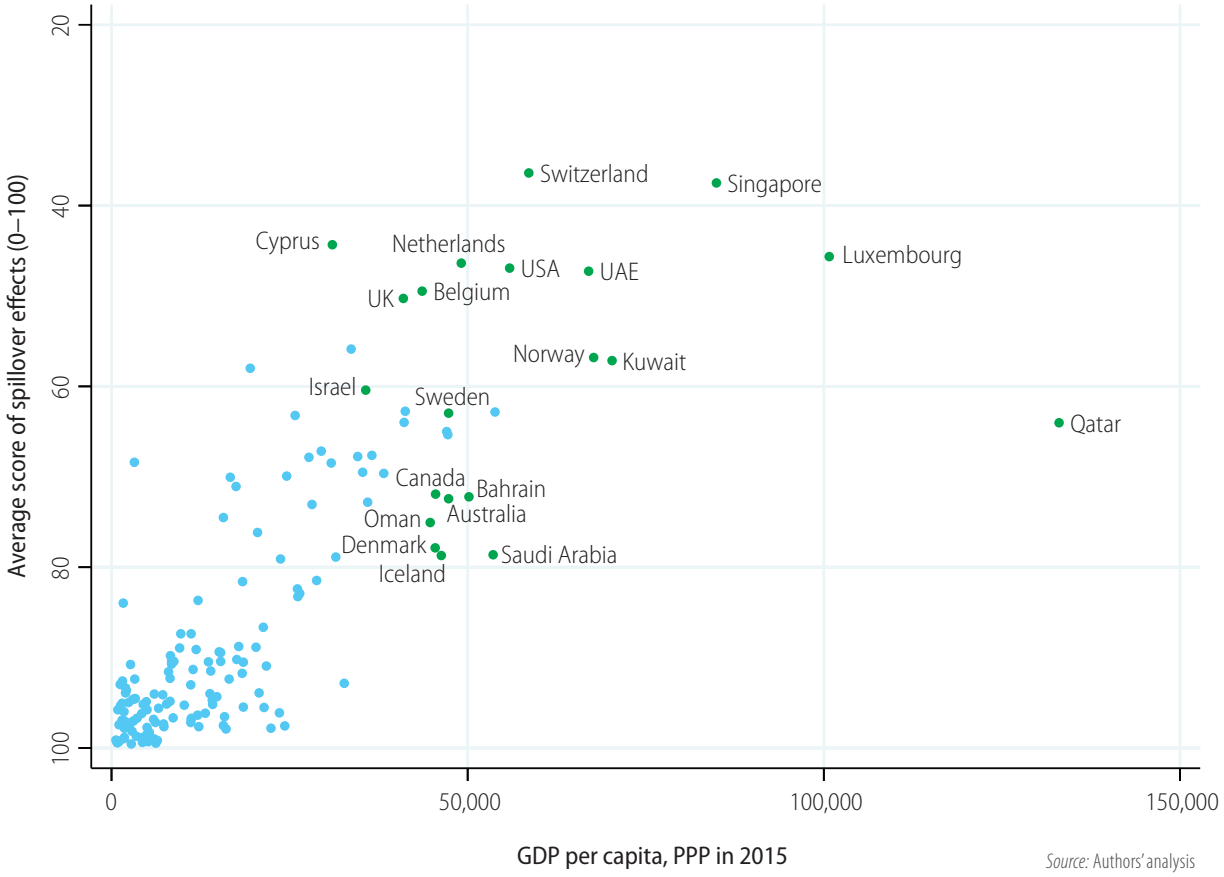
Table 1.5 | The SDG Index

Rank	Country	Score	Rank	Country	Score
1	Sweden	85.6	41	Argentina	72.5
2	Denmark	84.2	42	United States	72.4
3	Finland	84.0	43	Armenia	71.7
4	Norway	83.9	44	Chile	71.6
5	Czech Republic	81.9	45	Uzbekistan	71.2
6	Germany	81.7	46	Kazakhstan	71.1
7	Austria	81.4	47	Uruguay	71.0
8	Switzerland	81.2	48	Azerbaijan	70.8
9	Slovenia	80.5	49	Kyrgyz Republic	70.7
10	France	80.3	50	Cyprus	70.6
11	Japan	80.2	51	Suriname	70.4
12	Belgium	80.0	52	Israel	70.1
13	Netherlands	79.9	53	Costa Rica	69.8
14	Iceland	79.3	54	Malaysia	69.7
15	Estonia	78.6	55	Thailand	69.5
16	United Kingdom	78.3	56	Brazil	69.5
17	Canada	78.0	57	Macedonia, FYR	69.4
18	Hungary	78.0	58	Mexico	69.1
19	Ireland	77.9	59	Trinidad and Tobago	69.1
20	New Zealand	77.6	60	Ecuador	69.0
21	Belarus	77.1	61	Singapore	69.0
22	Malta	77.0	62	Russian Federation	68.9
23	Slovak Republic	76.9	63	Albania	68.9
24	Croatia	76.9	64	Algeria	68.8
25	Spain	76.8	65	Tunisia	68.7
26	Australia	75.9	66	Georgia	68.6
27	Poland	75.8	67	Turkey	68.5
28	Portugal	75.6	68	Vietnam	67.9
29	Cuba	75.5	69	Montenegro	67.3
30	Italy	75.5	70	Dominican Republic	67.2
31	Korea, Rep.	75.5	71	China	67.1
32	Latvia	75.2	72	Tajikistan	66.8
33	Luxembourg	75.0	73	Morocco	66.7
34	Moldova	74.2	74	Jamaica	66.6
35	Romania	74.1	75	Paraguay	66.1
36	Lithuania	73.6	76	Belize	66.0
37	Serbia	73.6	77	United Arab Emirates	66.0
38	Greece	72.9	78	Barbados	66.0
39	Ukraine	72.7	79	Peru	66.0
40	Bulgaria	72.5	80	Jordan	66.0

Rank	Country	Score
81	Sri Lanka	65.9
82	Venezuela, RB	65.8
83	Bhutan	65.5
84	Bosnia and Herzegovina	65.5
85	Gabon	65.1
86	Lebanon	64.9
87	Egypt, Arab Rep.	64.9
88	Colombia	64.8
89	Iran, Islamic Rep.	64.7
90	Bolivia	64.7
91	Guyana	64.7
92	Bahrain	64.6
93	Philippines	64.3
94	Oman	64.3
95	Mongolia	64.2
96	Panama	63.9
97	Nicaragua	63.1
98	Qatar	63.1
99	El Salvador	62.9
100	Indonesia	62.9
101	Saudi Arabia	62.7
102	Kuwait	62.4
103	Mauritius	62.1
104	Honduras	61.7
105	Nepal	61.6
106	Timor-Leste	61.5
107	Lao PDR	61.4
108	South Africa	61.2
109	Ghana	59.9
110	Myanmar	59.5
111	Namibia	59.3
112	Guatemala	58.3
113	Botswana	58.3
114	Cambodia	58.2
115	Syrian Arab Republic	58.1
116	India	58.1
117	Turkmenistan	56.7
118	Iraq	56.6
119	Senegal	56.2

Rank	Country	Score
120	Bangladesh	56.2
121	Zimbabwe	56.1
122	Pakistan	55.6
123	Rwanda	55.0
124	Swaziland	55.0
125	Kenya	54.9
126	Ethiopia	53.5
127	Cote d'Ivoire	53.3
128	Lesotho	53.0
129	Uganda	52.9
130	Cameroon	52.8
131	Tanzania	52.1
132	Burundi	51.8
133	Mauritania	51.1
134	Zambia	51.1
135	Congo, Rep.	50.9
136	Angola	50.2
137	Togo	50.2
138	Burkina Faso	49.9
139	Sudan	49.9
140	Yemen, Rep.	49.8
141	Djibouti	49.6
142	Benin	49.5
143	Mozambique	49.2
144	Guinea	48.8
145	Nigeria	48.6
146	Mali	48.5
147	Malawi	48.0
148	Gambia, The	47.8
149	Sierra Leone	47.1
150	Afghanistan	46.8
151	Niger	44.8
152	Haiti	44.1
153	Madagascar	43.5
154	Liberia	42.8
155	Congo, Dem. Rep.	42.7
156	Chad	41.5
157	Central African Republic	36.7

Figure 2 | Average spillover scores against Gross Domestic Product (GDP) per capita in purchasing power parity (PPP)



Source: Authors' analysis

SDG Dashboards

The SDG Dashboards for **OECD countries (Figure 3)** show that every rich country faces major challenges in meeting several SDGs, as indicated by a red rating. The greatest challenges exist on sustainable consumption and production (SDG 12), climate change (SDG 13), clean energy (SDG 7), and ecosystem conservation (SDGs 14 and 15). Here the international spillover effects that are included in the 2017 SDG Index report show up strongly. Several OECD countries are rated "red" on SDG 2 because their agricultural systems are unsustainable, and some countries are rated low because of very high rates of obesity, which we interpret to be a measure of malnutrition. A large number of OECD countries face major challenges in achieving SDG 17 because of their insufficient financial contributions towards international development cooperation, banking secrecy, or unfair tax competition. Some experience low growth and high unemployment (SDG 8) as well as major shortfalls on gender equality (SDG 5). Notably, several OECD countries score "red" on income inequality (SDG 10) and SDG 16 (peace and sound institutions). We recommend that OECD countries carefully study their performance against individual indicators to identify the areas where greater progress is required.

The dashboards for **East and South Asia (Figure 4)** outperform many other developing regions on the SDGs, but several challenges do remain. While tremendous progress has been made on reducing extreme income poverty (SDG 1), the dashboard shows that the region faces major SDG challenges in health (SDG 3) and education (SDG 4). SDG 2 (improved nutrition and sustainable agriculture)

comes up as red across the region since countries either face high levels of malnutrition and stunting or unsustainable agricultural practices. There are still significant shortfalls on ensuring access to basic infrastructure services and innovation (SDGs 6, 7, 9) across the region. Many countries face major challenges on ensuring gender inequality (SDG 5) and promoting environmental sustainability (SDGs 11, 12, 13, 14, 15, as well as SDG 2 on sustainable agriculture). Overall, the dashboard shows that the region needs to better balance its economic performance with environmental sustainability. The expanded data used for the 2017 SDG Index also suggest that SDG 16 (peaceful and inclusive societies) represents major challenges in countries across the region.

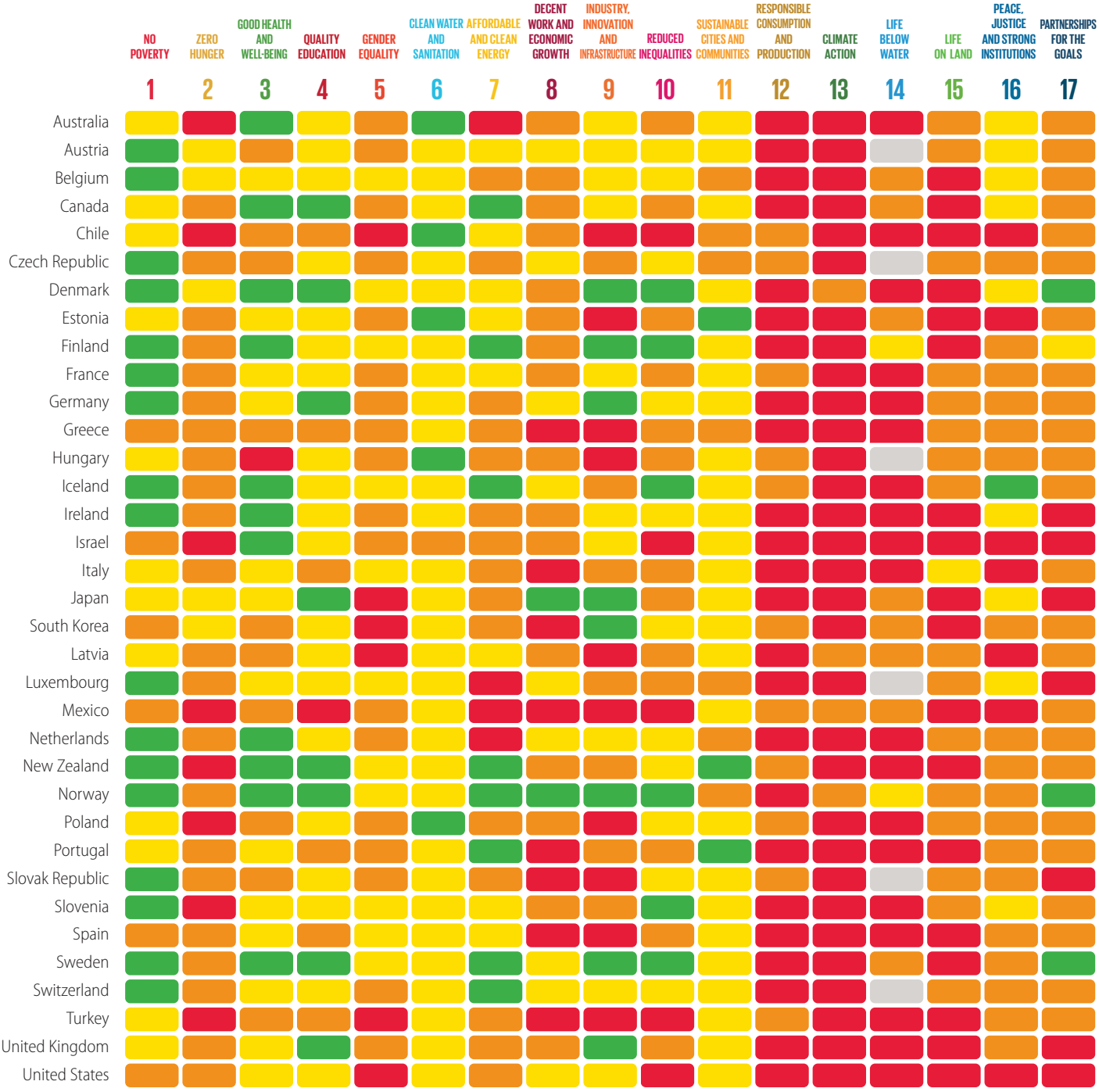
Countries in **Eastern Europe and Central Asia (Figure 5)** have met some of the most pressing challenges in providing social services and access to basic infrastructure, though greater progress is needed to achieve these SDGs. The region has largely ended extreme income poverty (SDG 1). The greatest challenges remain in promoting health (SDG 3), achieving gender equality (SDG 5), addressing renewable energy and climate change (SDGs 7, 13), sustainable consumption and production (SDG 12), and protecting ecosystems (SDGs 14, 15). Available data for SDG 2 show that many countries also need to shift towards more environmentally sustainable agricultural practices and improve nutrition outcomes. Under SDG 9 (infrastructure) countries will need to prioritize greater access to information and communication technologies and promote innovation. A few countries in the region exhibit very high rates of income inequality (SDG 10), and insecurity remains widespread (SDG 16).

Extremely high levels of inequality (SDG 10) are a critical challenge across **Latin America and the Caribbean (Figure 6)**. The same applies to the promotion of peaceful societies (SDG 16) with many countries scoring poorly on measures of insecurity and violence. Given the relatively higher levels of per capita incomes in the region it is notable that some countries continue to face major challenges in health (SDG 3), education (SDG 4), as well as poor nutrition (SDG 2). The expanded indicators for the 2017 SDG Index show that countries in the region need to promote innovation (SDG 9) and improve employment outcomes (SDG 8). The SDGs' stronger focus on environmental sustainability brings out major challenges across the region in meeting SDGs 12 (sustainable consumption and production), 13 (climate change), 14 (oceans), and 15 (terrestrial ecosystems). As the poorest country in the region, Haiti faces particular challenges across the full breadth of the SDGs.

In the dryland **Middle East and North Africa (Figure 7)** food security and sustainable agriculture (SDG 2) and sustainable water management (SDG 6) are high-priority challenges in most countries. Several countries face major challenges in achieving gender equality (SDG 5). Our expanded indicators now underscore the importance of promoting innovation and investments in communication technologies across the region. The data on SDG 8 show that many countries are not growing fast enough and experience high rates of unemployment. These countries also face major challenges in decarbonizing their energy systems to fight climate change (SDG 13), and in conserving marine (SDG 14) and terrestrial (SDG 15) ecosystems. Several countries perform poorly across the full range of SDGs owing to instability and conflict, which also show up in SDG 16. The high-income countries in the region generate substantial negative spillover effects on other countries.

As the world's poorest region, albeit one that is now experiencing important advances, **Sub-Saharan Africa (Figure 8)** faces nearly across-the-board challenges in meeting the SDGs. In particular, major challenges remain in ending extreme poverty (SDG 1) and hunger (SDG 2), health (SDG 3), education (SDG 4), and access to basic infrastructure (SDGs 6 - 9), while noting the tremendous progress that was made in many of these areas under the Millennium Development Goals. The broader SDGs bring out additional challenges for Sub-Saharan Africa that require urgent action. These include sustainable urban development (SDG 11) and reducing high inequality (SDG 10). Similarly, significant challenges remain on SDGs 16, including peace, security, and institutions. Countries in the region fare much better on sustainable consumption and production (SDG 12), climate change (SDG 13), and terrestrial ecosystems (SDG 15), underscoring that richer countries are responsible for a disproportionate share of environmental pressure relating to these goals. The remaining red scores on Goal 17 highlight that Sub-Saharan Africa has significant potential in mobilizing domestic revenue collection.

Figure 3 | SDG Dashboard for OECD countries

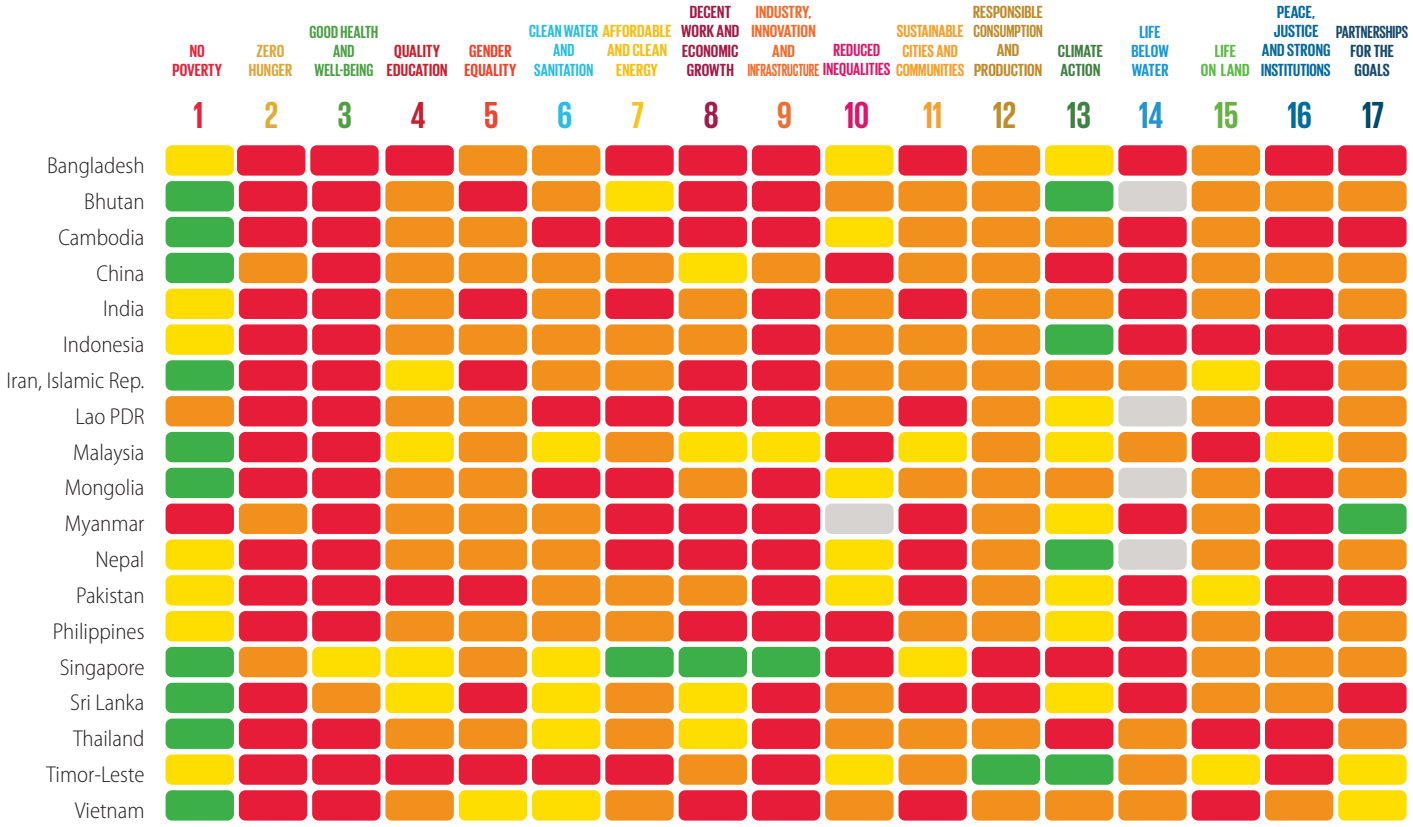


A green rating on the SDG Dashboard denotes SDG achievement, and is assigned to a country on a given SDG only if all the indicators under the goal are rated green. Yellow, orange and red indicate increasing distance from SDG achievement.

For more information on the dashboard methodology, refer to part 2. Full metadata on the indicators used is available at www.sdgindex.org

Source: Authors' analysis

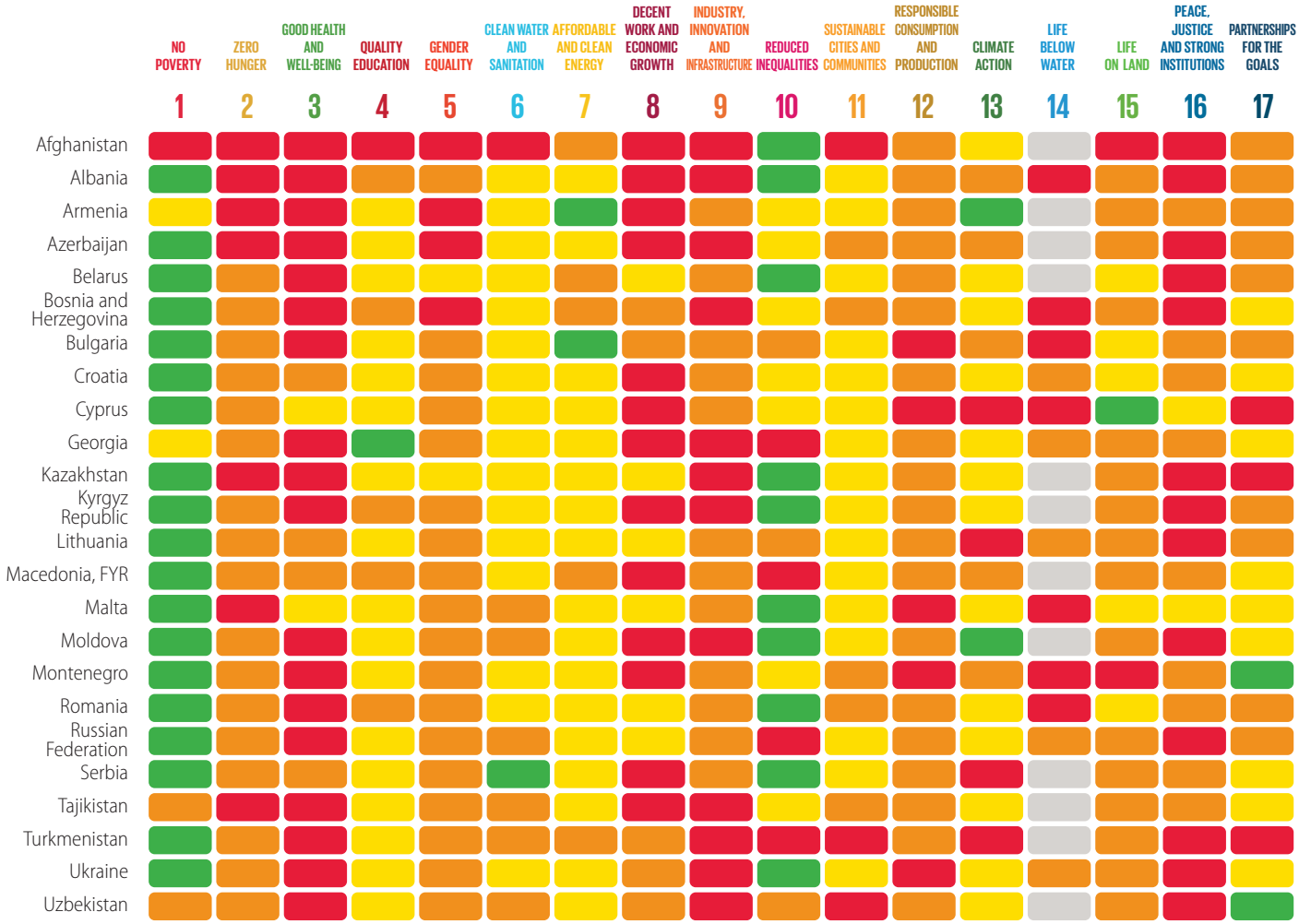
Figure 4 | SDG Dashboard for East and South Asia



A green rating on the SDG Dashboard denotes SDG achievement, and is assigned to a country on a given SDG only if all the indicators under the goal are rated green. Yellow, orange and red indicate increasing distance from SDG achievement.
For more information on the dashboard methodology, refer to part 2. Full metadata on the indicators used is available at www.sdgindex.org

Source: Authors' analysis

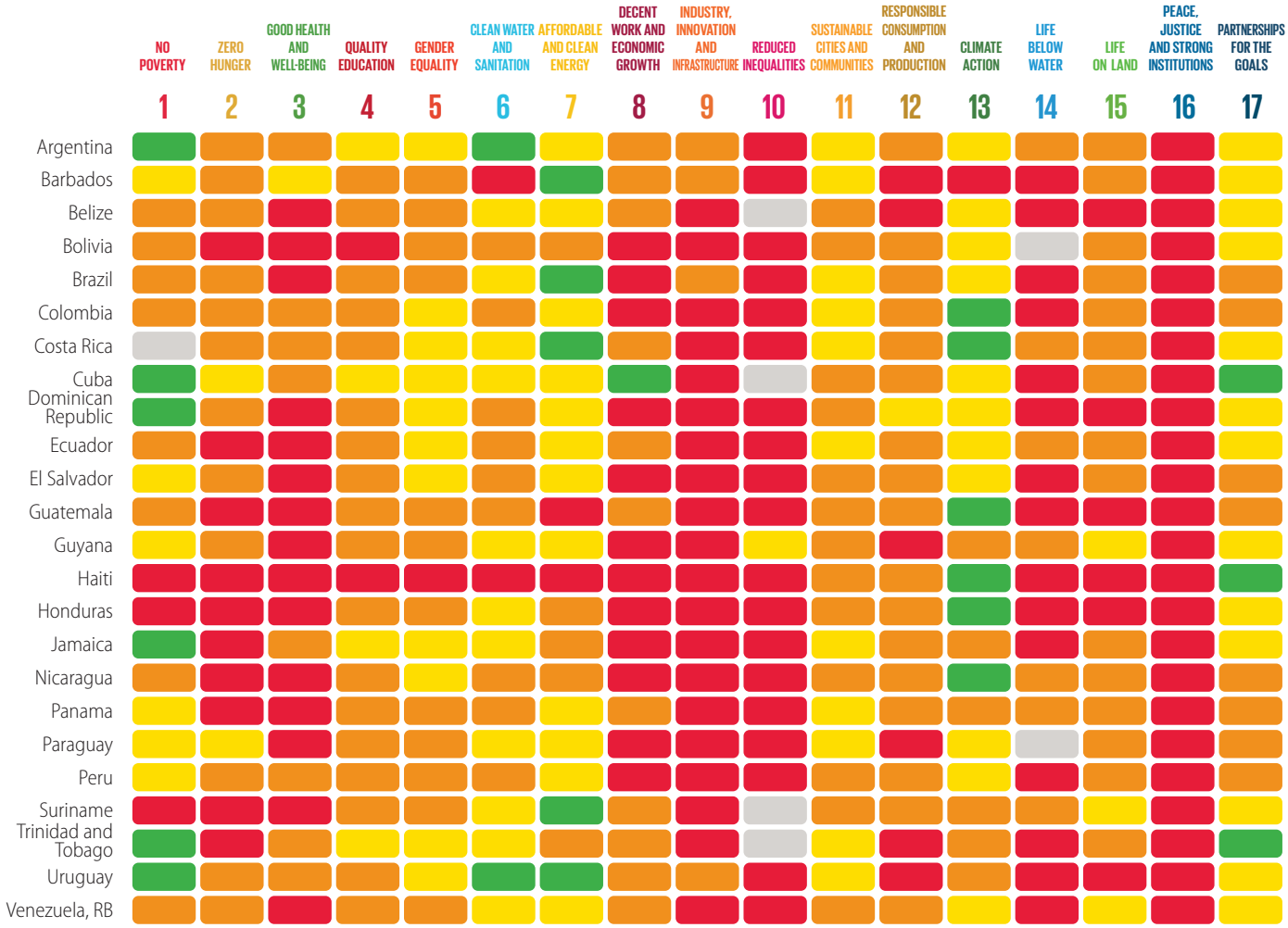
Figure 5 | SDG Dashboard for Eastern Europe and Central Asia



A green rating on the SDG Dashboard denotes SDG achievement, and is assigned to a country on a given SDG only if all the indicators under the goal are rated green. Yellow, orange and red indicate increasing distance from SDG achievement.
For more information on the dashboard methodology, refer to part 2. Full metadata on the indicators used is available at www.sdgindex.org

Source: Authors' analysis

Figure 6 | SDG Dashboard for Latin America and the Caribbean

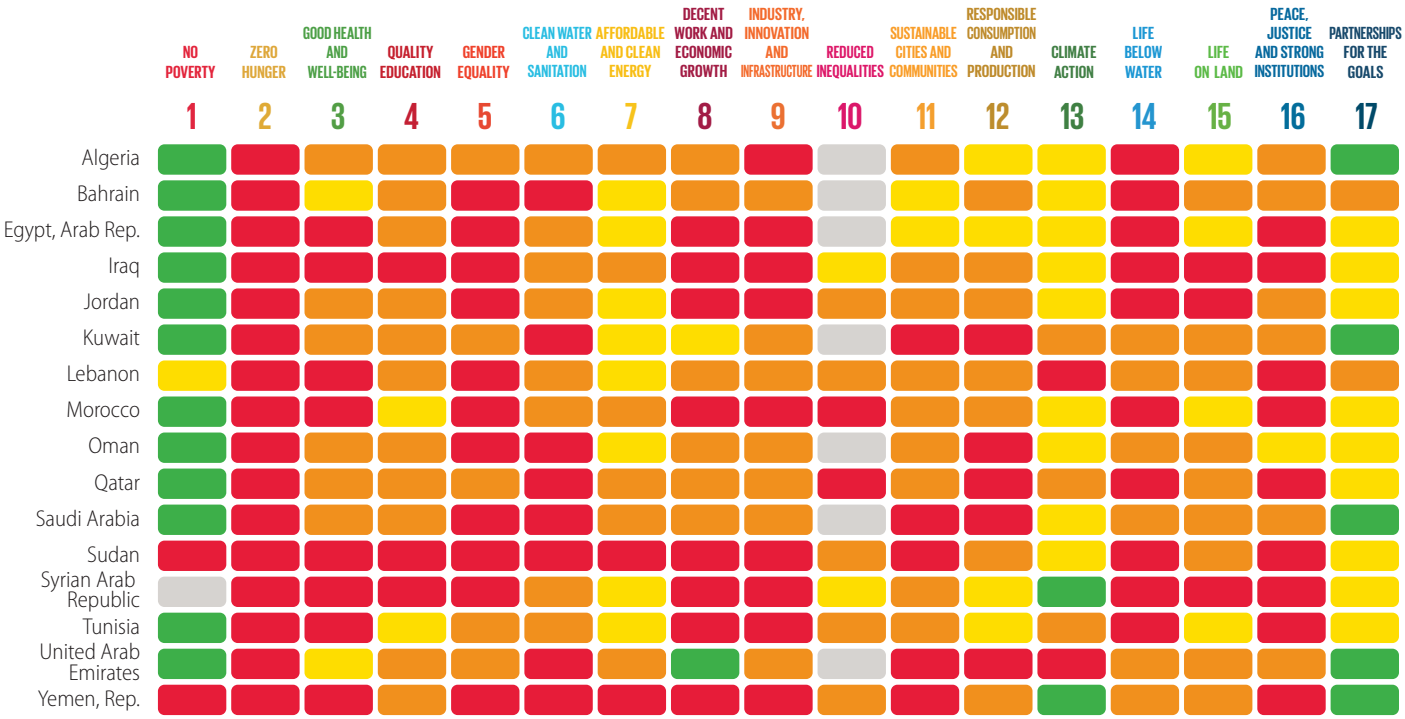


A green rating on the SDG Dashboard denotes SDG achievement, and is assigned to a country on a given SDG only if all the indicators under the goal are rated green. Yellow, orange and red indicate increasing distance from SDG achievement.

For more information on the dashboard methodology, refer to part 2. Full metadata on the indicators used is available at www.sdgindex.org

Source: Authors' analysis

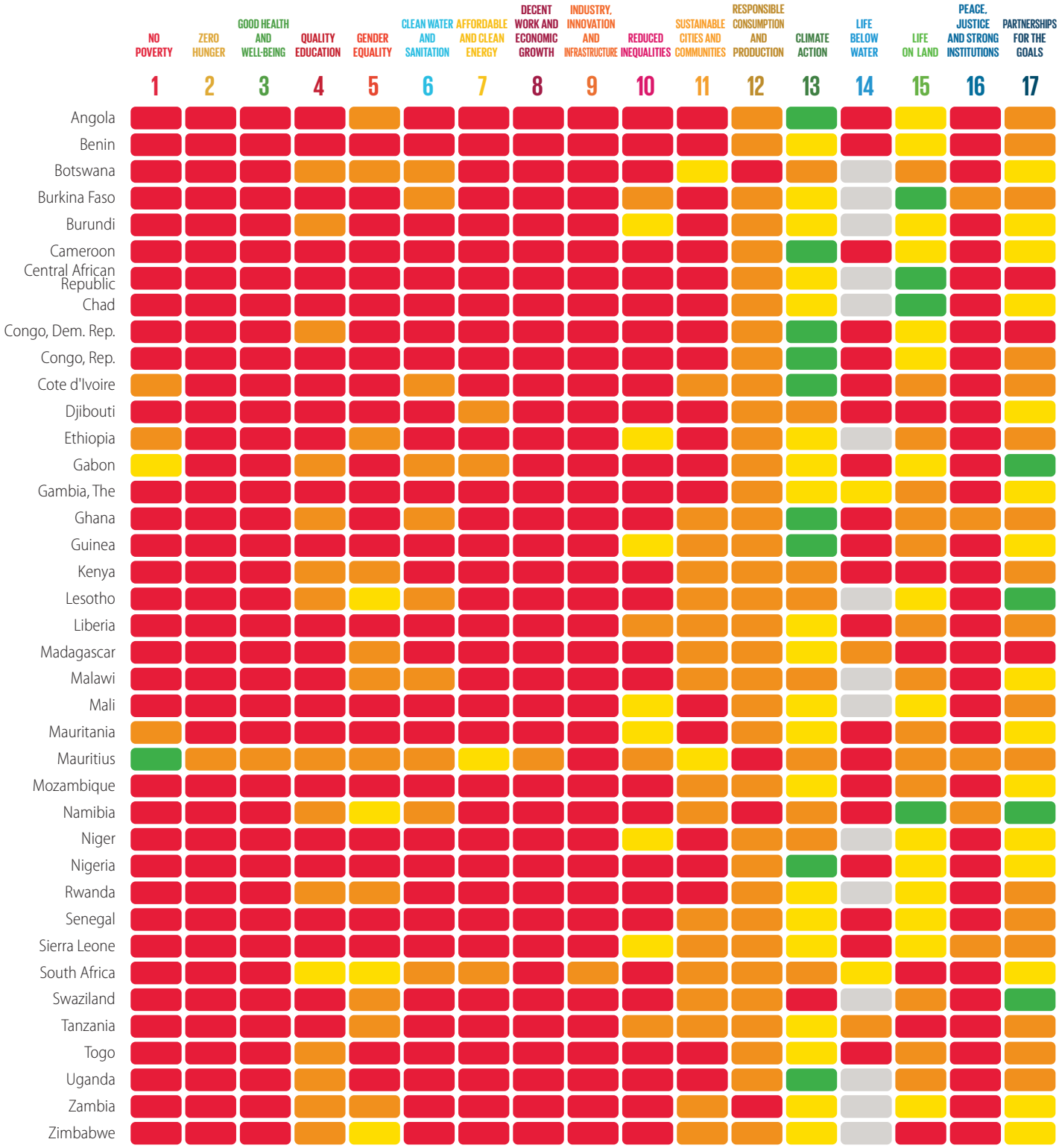
Figure 7 | SDG Dashboard for the Middle East and North Africa



A green rating on the SDG Dashboard denotes SDG achievement, and is assigned to a country on a given SDG only if all the indicators under the goal are rated green. Yellow, orange and red indicate increasing distance from SDG achievement.
For more information on the dashboard methodology, refer to part 2. Full metadata on the indicators used is available at www.sdgindex.org

Source: Authors' analysis

Figure 8 | SDG Dashboard for Sub-Saharan Africa



A green rating on the SDG Dashboard denotes SDG achievement, and is assigned to a country on a given SDG only if all the indicators under the goal are rated green. Yellow, orange and red indicate increasing distance from SDG achievement.

For more information on the dashboard methodology, refer to part 2. Full metadata on the indicators used is available at www.sdgindex.org

Source: Authors' analysis

3. OUTLOOK: NEXT STEPS FOR THE SDG INDEX

The 2017 SDG Index and Dashboards present a thoroughly revised analysis of countries' baselines for achieving the SDGs. The indicators have been aligned as far as possible with the official SDG indicators. Where gaps remained, we have filled them with unofficial data from reputable sources. In particular, we have added nine indicators to measure international spillover effects that track the positive and negative impacts that a country has on other countries' ability to achieve the goals. As emphasized throughout this report, as a result of these changes the 2017 results are not comparable to the findings in the first SDG Index and Dashboards report published last year.

In spite of these improvements, the SDG Index and Dashboards offer only a preliminary and incomplete attempt at capturing the full breadth of the SDGs. They are not a monitoring tool. As underscored by the framers of the SDGs, countries must themselves decide how to apply SDG data and metrics to their local context. These issues are discussed in the frequently asked questions (FAQ) in Annex 2.

The purpose of the SDG Index and Dashboards instead is to support national discussions on where each country starts with regards to achieving the SDGs and on which metrics might be useful to track progress. They provide a simple tool for presenting countries' challenges in achieving the SDGs and benchmarking progress against peers that can be applied at the regional, national, and sub-national levels. They can help countries operationalize the SDGs and identify priorities for early action, as described in the Guide to Stakeholders on Getting Started with the SDGs (SDSN, 2015). Moreover, the data produced in this report can help spur the scientific community to develop improved metrics and to support the collection of data necessary to track the SDGs.

We propose five major findings from this year's SDG Index report:

1. **Every country faces major challenges in achieving the SDGs:** The SDG Dashboards highlights some "red" priority SDGs for every country. Even "yellow" and "orange" of course signify important room for improvement and should be interpreted as a major challenge, particularly in wealthier countries. Poor countries face significant challenges in ending extreme poverty in all its forms, social inclusion, access to essential infrastructure, and many forms of environmental degradation. Richer countries face more specific but nonetheless major challenges in areas such as climate change mitigation, inequality, sustaining the global partnership, and targeted challenges in areas such as nutrition, gender equality, or education.

2. **Poor countries need help to achieve the SDGs:** The SDGs are undoubtedly a very bold agenda. It is clear from this analysis, that the poorest countries will face major challenges in achieving the SDGs. They will need considerable global assistance to supplement national leadership. This assistance should come in many forms: foreign direct investment, global tax reform to enable the poor countries to fight tax evasion by international investors, technology sharing, capacity development, and of course, more Official Development Assistance.

3. **The universal SDG agenda contains important spillover effects:** Actions by rich countries in particular affect other countries' ability to achieve the SDGs. Examples include environmental spillovers, such as pollution embedded in international trade, transboundary effects of resource use, or the use of global commons, such as oceans and the high seas. There are also important spillovers related to the economy, finance, and governance, including unfair tax competition by a few tax havens, deliberately opaque financial systems that foster money laundering, corruption, tax evasion,

as well as insufficient financing for global public goods. And finally, trade in weapons and insufficient support for peacekeeping generate important security spill-overs. Rich countries in particular should spell out in their SDG strategies how they plan to tackle these spill-over effects so that every country can achieve the SDGs.

4. **Countries should usefully benchmark themselves against their peers as well as against the goal thresholds:** The SDG Index and Dashboards highlight substantial variation across countries in a region or income group. In combination, the SDG Index and Dashboards can help countries benchmark their progress

Table 1.6 | Major indicator and data gaps for the SDGs

SDG	Issue	Desired metrics
1	Poverty	Internationally comparable poverty lines above $1.90 PPP per day
2	Agriculture and nutrition	Agricultural yield gaps by cropping system Resource use efficiency (nutrients, water, energy) Food loss and food waste Greenhouse gas emissions from land use Diets and nutrient deficiencies
3	Health	Affordability of healthcare
4	Education	Internationally comparable primary and secondary education outcomes Early childhood development
5	Women empowerment	Gender pay gap and other empowerment measures Violence against women
6	Water	Water embedded in trade adjusted for environmental impact Quality of drinking water and surface waters
8	Decent work	Decent work Child labor
10	Inequality	Wealth inequality Vertical mobility
12	Sustainable consumption and production	Environmental impact of material flows Recycling and re-use (circular economy) Chemicals
13	Climate change	Leading indicators for decarbonization Greenhouse gas emissions from land use Climate vulnerability metrics
14	Marine ecosystems	Maximum sustainable yields Impact of high sea and cross-border fishing Protected areas by level of protection
15	Terrestrial ecosystems	Leading indicators on ecosystem health Trade in endangered species Protected areas by level of protection
16	Peace and justice	Modern slavery and human trafficking Access to justice Financial secrecy
17	Means of implementation	Non-concessional development finance Climate finance Unfair tax competition Development impact of trade practices

Source: Authors' analysis

against that of their peers and against the top performers to understand reasons for differential performance and to devise better strategies to achieve the SDGs by 2030.

5. **Countries and international agencies need to make substantial investments in statistical capacity to track the SDGs:** Despite our best efforts to include as many indicators as possible, a number of important data gaps remain. Addressing these gaps will require increased investments in statistical capacity and other forms of data collection especially but not only in low-income developing countries. Table 1.6 summarizes some of the most important indicator and data gaps.

International spillover effects are particularly poorly measured. We need better indicators and more robust data on international spillover effects. We lack conceptual clarity and/or data on how to measure key environmental spillovers related to the loss of biodiversity driven particularly by agricultural expansion; the pollution of water and air; nutrient flows; unsustainable production technologies; and consumption of materials. We also need to link national data on spillover effects more clearly to the dynamics of key international supply chains that drive many environmental spillover effects and provide the operational frameworks for tackling them.

In the areas of economics, finance, and global governance, we need improved metrics for spillover effects related to concessional and non-concessional international finance, particularly related to climate finance. We also require greater clarity on how national and international trade rules and labor standards affect countries' well-being. Critically, the world also needs a frank discussion and better metrics on how tax havens, financial secrecy, and rules governing transfer pricing and company reporting, which all affect countries' ability to achieve the SDGs.

Finally, there is evidence that improved international cooperation is critical for enhancing security and reducing the risk of violent conflict, yet these effects are poorly measured. We need better metrics and more data on illicit and legal trade in arms, particularly small arms. The same applies to the transboundary effects of organized crime, such as the international drug trade.

A particular challenge concerns the setting of quantitative targets and intermediate performance thresholds for the SDG spillover indicators. Often we lack a clear understanding of which threshold levels are consistent with achieving the SDGs. Thresholds proposed in this report are preliminary and should be refined by researchers.

In addition, the SDG Dashboards do not yet capture important regional challenges that are less relevant at the global level, such as neglected tropical diseases, malaria, or inequality in education outcomes. We were able to add eight countries to this year's SDG Index and Dashboards, but many Small-Island-Developing States (SIDS) still lack the data needed for inclusion in the SDG Index. We recommend that tools be developed that better address the specific needs of these countries.

The Bertelsmann Stiftung and the SDSN look forward to working with countries and other stakeholders to improve the SDG Index and Dashboards and to make them more useful. In particular, we will work to improve data coverage and add new variables as better data become available. We welcome comments on this report, which should be directed to info@sdgindex.org.

ANNEX 1: DETAILED DESCRIPTION OF SPILLOVER INDICATORS

As outlined in the report, we group spillover effects into three broad categories: (i) environment, (ii) economy, financ, and governance and (iii) security. In this chapter, we describe the available scientific evidence and suitable approaches to their measurement

Environment

Here we consider negative environmental spillover effects, or cross-border environmental externalities, starting with impacts by one country on others that are attributable to trade in commodities, products, or services. We then consider direct effects on the global environmental commons, including planetary boundaries as introduced by Johan Rockström and collaborators (Rockström et al., 2009; Steffen et al., 2015).

Carbon dioxide emissions embodied in trade: One of the best-studied international spillover effects is the emission of greenhouse gases into the atmosphere. Carbon dioxide and many other greenhouse gases mix globally in the atmosphere and can remain in the atmosphere for a long time. Hence their emission by one country increases the stock of greenhouse gases for all countries, and in turn drives long-term anthropogenic climate change and ocean acidification. In this way greenhouse gas emissions generate a global externality: a country that emits a ton of carbon dioxide by burning fossil fuel appropriates the economic benefits from the energy use but imposes a cost on all other countries in the form of damages from climate change.

Under the UNFCCC rules, countries report their territorial or production-based emissions covering all sources on a country's territory. This metric is relatively easy to measure, but it allows countries to lower their national emissions by outsourcing emissions-intensive sectors, such as steel or cement, to other countries and then re-importing the products. Such outsourcing has driven a significant share of reductions in per capita emissions, observed over the last decades in several developed countries, particularly in Europe. The import of CO_2-intensive industrial products therefore constitutes a negative spillover effect: a damage imposed by one country on the rest of the world that is not reflected (yet) in global market prices.

To correct this effect, several authors propose consumption-based measures of CO_2 emissions that add the CO_2 content of imports and subtract the CO_2 content of exports to a country's production-based greenhouse gas emissions (Fan et al., 2016; Minx et al., 2009; Peters et al., 2011). Consumption-based CO_2 accounting – sometimes referred to as carbon footprints – significantly increases per capita emissions attributed to high-income countries that import a lot of energy-intensive products, such as Switzerland or Luxemburg, and reduce the per capita emission for exporters of products that emit considerable CO_2 in the production process, such as China.

A problem with the first generation of consumption-based emissions metrics is that they do not encourage countries to reduce emissions in their export sectors since these emissions are assigned to the importing country only. They also do not incentivize countries' specialization in low-emissions technologies (Kander et al., 2015).

Technology-adjusted consumption-based accounting (TCBA) adjusts carbon footprint data by the carbon efficiency of a country's export sector: Instead of subtracting all emissions embodied in exports, TCBA only subtracts the global average carbon intensity for that sector (Kander et al., 2015). If a country uses relatively CO_2-intensive technologies in its export sector, it will have a higher TCBA balance sheet than suggested by a simple carbon footprint. As a result, the TCBA measure encourages countries to invest in low-emissions production technologies in their export sector. TCBA fully assigns imported emissions to the importing country to maintain the incentive to source from carbon-efficient exporters.

The TCBA measure has been criticized (e.g. Domingos *et al.*, 2016) and introduces additional measurement challenges, particularly with regards to measuring technology standards across countries. Yet, in our view the TCBA represents a conceptually better metric than simple carbon footprinting. We are grateful to the authors of the Kander et al. study who have generated country-level TCBA data for this report using published data and methodologies (Kander et al., 2015; Lenzen et al., 2012a, 2013; Tukker et al., 2014; Wood et al., 2014).

Since all official greenhouse gas accounting methods use production-based measures, the SDG Index retains this conventional metric and adds a second measure of spillover effects. We define this spillover variable as the difference between per capita TCBA and per capita production-based carbon dioxide emissions. In this way, we measure the net import of greenhouse gas emissions, taking account of countries' carbon efficiency by sector. The variable is censored at zero, so all net exporters of carbon dioxide emissions, as measured by TCBA, are assigned a top score of 100 for this indicator. In other words, we are measuring only the technology-adjusted net import of CO_2.

This carbon emission spillover variable shows that small countries tend to generate high carbon dioxide emission spillovers. The ten countries that generate the highest per capita spillovers are shown in Table 1.7. Full data on this and all other SDG spillover variables are provided in Part 2.

Table 1.7 | The ten countries generating the highest spillovers in terms of importing carbon dioxide emissions

	Country	Technology-adjusted net imported CO_2 emissions (tCO_2/capita)
1	Botswana	4.3
2	Singapore	4.2
3	Mauritius	3.7
4	Australia	3.2
5	Swaziland	2.7
6	Namibia	2.7
7	United Arab Emirates	2.3
8	Montenegro	2.1
9	Slovak Republic	2.1
10	Cyprus	1.9

Source: Authors' calculations based on data provided by Magnus J., Moran, D., Kander, A., Kulionis, V. (see text).

The TCBA measure has been introduced recently, and improvements are doubtlessly possible and necessary. In particular, the benchmarking of technologies by sector needs to be refined and tested under different hypotheses. For many countries, internationally comparable input-output tables do not exist or are not updated frequently, expanding such databases should be another priority for data collection and research.

Groundwater depletion embodied in trade: As with greenhouse gas emissions, trade in food, timber, industrial commodities, and other products entails the use of water. With water stress rising rapidly in many parts of the world, increasing attention is directed to understanding the impact of international trade on water use. To this end several water footprints have been developed that track the water embodied in international trade by combining data on trade flows, input-output matrices, and data on water consumption by sector (Dalin, 2014; Dalin and Rodríguez-Iturbe, 2016; Hoekstra and Mekonnen, 2012; Mekonnen and Hoekstra, 2011).

Unfortunately, lessons from carbon accounting are only partially valid for water footprints: In the case of greenhouse gas emissions it is sufficient to simply track the amount of carbon dioxide embodied in trade since a ton of carbon dioxide contributes to climate change regardless of where it is emitted. In contrast, water availability varies tremendously across river basins and aquifers, so a cubic meter of water exported from water-rich Canada does not have the same environmental impact as the same volume of water exported from a water-stressed country like Yemen. In fact, it makes economic and environmental sense to export food from water-rich countries to water-stressed ones.

Any spillover variable for international trade in water must therefore relate water embodied in trade to the hydrological and ecological sustainability of that water use. Such sustainability must be established at the local basin and groundwater aquifer levels, which in turn requires complex analysis and large volumes of data. To our knowledge such comprehensive assessments are currently unavailable, though several scientific groups are working to develop improved measures.

A recent article (Dalin et al., 2017) combines hydrological data on the depletion of groundwater with crop-specific data on groundwater irrigation for food production and data on international food trade. Since many aquifers, particularly in China, India, Iran, the Gulf Region, and the United States, are heavily overexploited, importing groundwater depletion represents an important spillover effect. The authors conclude that 11% of groundwater depletion is attributed to trade, and they present a trade-adjusted country-level dataset for groundwater depletion.

For the 2017 SDG Index we use this dataset to compute the per capita import of groundwater depletion. The variable is normalized to generate a score from 0 to 100 with the upper bound denoting zero import of groundwater depletion. Table 1.8 lists the ten countries that import the most groundwater depletion measured in per capita terms.

Groundwater accounts for about a fifth of global water use for irrigation, so this measure covers only a part of unsustainable water use for food production. Since groundwater depletion is not distributed evenly around the world, this measure does not provide a proxy for the overall impact of trade on unsustainable water use – particularly with regards to non-agricultural products that use significant volumes of water. It would therefore be important to combine basin-level water stress indicators with crop-specific production data and industrial production data at the basin level, to arrive at a more comprehensive picture of trade in unsustainable water use. As more data become available in coming years we plan to revise this measure to take into account the broader impact of trade on water use and scarcity.

Table 1.8 | The ten countries with the highest import of groundwater depletion embodied in trade

	Country	Imported groundwater depletion (m^3/year/capita)
1	Qatar	148.2
2	Bahrain	112.0
3	Oman	97.7
4	Djibouti	77.7
5	Kuwait	42.6
6	Mauritius	42.4
7	United Arab Emirates	40.7
8	Saudi Arabia	27.1
9	The Gambia	26.6
10	Canada	20.0

Source: Authors' calculations based on Dalin et al. (2017)

Biodiversity loss embedded in trade: Human activities have become a major driver of biodiversity loss and have increased species extinction rates by a factor of 100 to 1,000. Excluding invasive species, agriculture and forestry account for 31% of biodiversity loss (Ramankutty et al., 2008), and about 30% of this biodiversity loss is attributed to international trade in food, fiber, bioenergy, and timber (Lenzen et al., 2012b). Other studies suggest a lower export share of 17% in total species loss (Chaudhary and Kastner, 2016).

In particular, consumers in high-income countries cause threats to species through demand for products that are produced in countries with lower per-capita incomes. Their biodiversity footprint is larger abroad than at home (Lenzen et al., 2012b). A few crops stand out as having disproportionately high impacts on biodiversity, including sugarcane, palm oil, rubber, and coffee (Chaudhary and Kastner, 2016).

Since the SDG Index already includes variables measuring biodiversity loss on each country's territory, we add a spillover variable estimating the biodiversity loss attributable to a country's gross imports of agricultural and related products. Chaudhary & Kastner (2016) estimate the number of species lost due to agricultural land use with the help of the countryside species area relationship (SAR) model and crop yields. Results are expressed as species lost per ton of crop produced, which can then be assigned to trading partners using bilateral trade data. We report figures for gross imports of biodiversity loss embedded in crop trade as an international SDG spillover variable. A limitation of this variable is that land area is not an adequate proxy of species loss where small-area crops with a high impact on biodiversity are concerned, such as sugarcane, rubber, coffee, and palm oil.

Table 1.9 | The ten countries with the highest import of biodiversity loss embodied in trade

	Country	Imported biodiversity impacts (species lost/million people)
1	Luxembourg	2.0
2	Singapore	1.6
3	Djibouti	1.4
4	Kuwait	1.3
5	United Arab Emirates	1.2
6	Belgium	1.1
7	Netherlands	0.9
8	New Zealand	0.8
9	Malaysia	0.7
10	Oman	0.7

Source: Authors' calculations based on Chaudhary and Kastner (2016)

Table 1.9 lists the ten countries that account for the greatest biodiversity loss embodied in trade.

Reactive nitrogen embodied in trade: Agriculture, transport, industrial processes, waste management, and other human activities release large volumes of reactive nitrogen, including ammonia (NH_3) and nitrous oxides (NO_x), into the atmosphere and surface waters. Reactive nitrogen can have significant adverse health impacts (Brauer et al., 2016) as well as negative impacts on the environment (Zhang et al., 2015). Annual release of reactive nitrogen represents one of the planetary boundaries (Steffen et al., 2015). Since agriculture accounts for the largest share of reactive nitrogen use, the SDG Index includes a nitrogen-use efficiency indicator (Zhang and Davidson, 2016).

Oita et al. (2016) estimate how much reactive nitrogen is emitted during the production, consumption, and transportation of commodities consumed within each country. By combining emissions databases, a global nitrogen cycle model, and input-output databases for international trade, the authors estimate reactive nitrogen embedded in trade. We include this variable, and as with other spillover indicators, we consider net imports of reactive nitrogen and censor the data at zero imports, which are assigned a score of 100 in the rescaled index. High-income countries perform worst under this indicator for sustainable consumption and production patterns (Table 1.10).

Table 1.10 | The ten countries with the highest net per capita imports of reactive nitrogen embodied in trade

	Country	Net imported emissions of reactive nitrogen (kg/capita)
1	Luxembourg	965.4
2	Singapore	748.2
3	Kuwait	569.2
4	Switzerland	432.4
5	Israel	381.9
6	United Arab Emirates	328.6
7	Norway	311.8
8	Japan	259.9
9	Malta	255.2
10	Mauritius	226.0

Source: Authors' calculations based on Oita et al. (2016)

Reactive nitrogen is an input into many farming and industrial products that – just like carbon dioxide – cannot be completely avoided using current technologies. It would therefore be interesting to develop technology-adjusted measures of reactive nitrogen embedded in trade along the lines of TCBA discussed above for carbon dioxide emissions. Such measures would provide an incentive to exporters to reduce the release of reactive nitrogen in their production processes and transport.

In addition to this new spillover indicator, we also include domestic emissions of reactive nitrogen under SDG 12 on sustainable consumption and production. This mirrors the approach to tracking greenhouse gas emissions for which

we include both territorial or production-based emissions as well as emissions embodied in trade.

Transboundary air pollution and air pollution embodied in trade: Outdoor and indoor air pollution are major drivers of premature deaths worldwide (Brauer et al., 2016; Wang et al., 2016). For this reason, the SDG Index includes a variable on particulate concentration in ambient air (PM2.5). Some of these deaths are caused by transboundary air pollution where pollutants originate from another country. Another international spillover effect results from the pollution associated with the production of goods destined for export to other countries. Zhang et al. (2017) estimate that 12% of the 3.45 million premature deaths in 2007 related to PM2.5 were related to transboundary pollution and that 22% were associated with goods and services consumed in another country.

Unfortunately, current models for the transport of air pollutants are not sufficiently disaggregated to estimate transboundary emissions at the country level. However, air pollution embodied in international trade can be assigned to individual countries. Using the data from Zhang and collaborators, we estimate countries' net import of sulphur dioxide (SO_2), the most important air pollutant that is not related to reactive nitrogen, which is covered above. Countries' net per capita imports are scaled from 100 (no net emissions) to 0 (highest net importers). As can be seen from Table 1.11, high-income countries generate the highest spillovers under this indicator.

We include territorial per capita SO_2 emissions as an additional indicator under SDG 12 to complement the tracking of emissions embodied in trade.

Other trade-related environmental spillover effects: International trade generates other important environmental spillover effects that are less well measured. Trade in endangered species and related products covered under the Convention on International Trade in Endangered Species (CITES) is also growing, with demand rising fastest in China and parts of South-East Asia. This trade drives poaching and illegal fishing practices that contribute to the decline in many species ranging from rhinoceros, elephants, and sharks, to sea cucumbers and medicinal plants. Since most of this trade is illegal, no reliable trade statistics exist that could be included in the SDG Index.

Table 1.11 | The ten countries with the highest net per capita import of SO_2 emissions embodied in trade

	Country	Net Imported SO_2 emissions (kg/capita)
1	Luxembourg	60.9
2	United Arab Emirates	58.4
3	Switzerland	34.4
4	Norway	34.2
5	Belgium	30.1
6	Denmark	24.8
7	Qatar	23.8
8	Cyprus	23.2
9	Ireland	22.0
10	Finland	21.1

Source: Authors' calculations based on Zhang et al. (2017)

SDG 12 focuses on sustainable consumption, including material consumption. Wiedmann and collaborators (Wiedmann et al., 2015) have developed a global database that tracks international material flows across four product categories (biomass, construction materials, fossil fuels, and metal ores). Once more, rich countries account for the largest per capita shares of net imports, while lower-income developing countries export the most. Hence, trade in material flows support higher living standards in rich countries. Yet, as described in the 2016 SDG Index report, available data on material flows present two problems: First, the data aggregate on a per-kg basis across very different products that each have distinct environmental impacts. Second, it is currently not possible to quantitatively associate consumption by weight with environmental impacts. It is necessary to address both of these questions in order to devise quantitative, international spillover indicators that can be included in the SDG Index. Given the large volumes of international trade in materials, the

environmental impact is substantial, so developing such spillover indicators is of high priority.

Trade in waste is growing in importance, with poorer countries importing growing volumes of harmful products from richer countries. For example, trade in electronic waste is likely to have important spillover effects, but currently it can only be measured indirectly using proxies. There is also insufficient data on the reuse and recycling of electronics by importing countries to ascertain the nature and extent of the spillovers (Lepawsky, 2015). However, we do include the per capita generation of electronic waste (UNU-IAS, 2015) as a new indicator under SDG 12.

Another important spillover effect concerns fishing in the high seas and other countries' Exclusive Economic Zones (EEZs). Such fishing activities have led to major declines in fish stocks, for example off the coast of West Africa (Jacobs, 2017) or in the South Pacific (Rosenblum and Cabra, 2012), with detrimental impacts on the local economy and environment. We were able to identify data for reported catches outside countries' own EEZs (Pauly and Zeller, 2015), but unfortunately it was not possible to relate this data to information on the extent of overfishing in each EEZ. Moreover, official data do not adequately cover illegal fishing activities, which likely account for a large share of total fish catch. For these reasons, it was not possible to include a spillover indicator for fisheries in this year's SDG Index and Dashboards. We hope to include such an indicator in future editions.

Economy, finance, and governance

We have considered available metrics for economic, financial, and governance-related spillover effects. Some effects are positive, as is the case with development finance, while others, such as tax havens and financial secrecy, can be strongly negative. Compared with environmental spillover indicators, the data availability for these effects is much poorer, and we have encountered major measurement issues that need to be resolved before some spillovers can be included in the SDG Index.

Table 1.12 | The ten high-income countries providing the lowest volume of official development assistance as a percentage of gross national income

	Country	Official development assistance (% GNI)
1	Israel	0.07
2	Cyprus	0.09
3	Latvia	0.09
4	Slovak Republic	0.10
5	Poland	0.10
6	Greece	0.12
7	Spain	0.12
8	Czech Republic	0.12
9	Hungary	0.13
10	South Korea	0.14

Source: Authors' calculations based on OECD (2016)

Development finance: International finance makes important contributions to countries' development and constitutes a positive spillover effect. One critical measure of development finance included in the SDG Index is official development assistance (ODA) provided under the rules of the OECD Development Assistance Committee (Table 1.12). We assume that all high-income OECD countries should aim for the internationally agreed threshold of providing 0.7% of gross national income (GNI) in ODA.

Several authors (Center for Global Development, 2016; PublishWhatYouFund, 2016) have proposed measures for the quality of ODA. However, different financing needs and country settings require different types of ODA. For example, budget support is the preferred mode of ODA for some countries and some sectors, but it may be less appropriate for other spending needs. The same applies to other criteria for ODA quality, such as splits between technical cooperation and direct investments. It is therefore difficult to arrive at universal operational measures of aid effectiveness, and we feel that current measures

are not yet good enough to rank countries. The one clear exception is aid transparency, which should be encouraged under all circumstances. However the excellent Aid Transparency Index (PublishWhatYouFund, 2016) is currently not available for a sufficient number of OECD countries.

We also do not include non-concessional development finance referred to as other official flows (OOF) under OECD DAC terminology. Large shares of OOF are mediated through international development banks, so it becomes difficult to assign them to donor countries. In contrast to ODA there are also no internationally agreed standards for the volume and quality of OOF to be provided by developed countries, so it becomes difficult to define performance thresholds for the SDG Index.

Similar difficulties arise with foreign direct investment (FDI), which describes commercial international investment flows. Per capita FDI volumes tend to rise with an economy's per capita income and its openness to trade, and there are no agreed targets for FDI. As a result, it is difficult to rank countries by the volume of FDI they provide. Moreover, decisions on FDI are made on commercial grounds to the benefit of investors from the creditor country, so FDI does not represent a clear spillover variable. For these reasons, we do not include this measure among the spillover variables in the 2017 SDG Index.

Important objects of and tools for international collaboration are climate finance and provisions for loss and damage under the UNFCCC. Ahead of the COP21 in Paris, the OECD and Climate Policy Initiative prepared an analysis of international climate finance flows in relation to the UNFCCC objective to provide at least $100 billion per year in climate finance from developed to developing countries (OECD and Climate Policy Initiative, 2015). However, the analysis and findings of this report have been challenged by developing countries who criticized the lack of transparency in the methodology, particularly with regards to country-level data that could be matched with countries' own data on resource flows. More work is needed to arrive at widely shared definitions of climate finance before they can be included in an SDG Index.

Tax havens: It is widely recognized that international tax havens can have serious adverse impacts on countries' ability to mobilize the taxes, particularly corporate taxes, needed to finance critical public investments in sustainable development. This applies especially to developing countries, which are up to three times more vulnerable to the negative effects of other countries' tax rules and practices than rich countries (IMF, 2015, 2014). This problem has been recognized by the G20 and the OECD, in the context of the Base Erosion and Profit Sharing (BEPS) Initiative (OECD, 2014a, 2014b).

Earlier lists of tax havens prepared by the OECD, the Bank for International Settlements, the European Parliament, or the US Government Accountability Office are either partial or have been discontinued. For this reason we include data recently published by Oxfam that track three types of harmful tax policies: corporate tax rates, the tax incentives offered, and lack of cooperation with international efforts against tax avoidance (Oxfam, 2016). The authors combine this data into an aggregate tax haven score from 0 (best) to 5 (worst). We assign an SDG Index score of 100 to countries not included in this list since they do not represent tax havens.

Many of the UK's Overseas Territories and Crown Dependencies, where the Queen is head of state, are among the worst tax havens and opaque financial centers. Since their laws must be either approved in London or the Judicial Committee of the Privy Council in London serves as the final court of appeal, the UK holds considerable sway over tax laws and financial secrecy in these territories. We therefore estimate the UK's tax haven score as the worst score for the UK and its Overseas Territories and Crown Dependencies. Similarly, the tax haven score for Delaware is assigned to the United States. Table 1.13 summarizes the ten worst performers on this measure.

Financial secrecy: A closely related issue is financial secrecy, which includes lack of transparency on the beneficial ownership of companies and exchange of information for tax purposes. Such secrecy abets tax evasion and fraud, money laundering, and unfair trade mispricing (transfer pricing), where economic returns are artificially shifted to jurisdictions that exercise financial secrecy (OECD, 2014a, 2014b). Secrecy affects low-income developing countries disproportionately (Baker et al., 2014; ONE, 2014).

Table 1.13 | The ten countries with the highest tax haven scores

	Country	Tax haven score (best = 0, worst = 5)
1	United Kingdom	5
2	Cyprus	4
3	Ireland	4
4	Netherlands	4
5	Luxembourg	4
6	Panama	4
7	Switzerland	3
8	Singapore	3
9	United States	2
10	Belgium	2

Source: Authors' calculations based on Oxfam (2016)

Table 1.14 | The ten countries with the highest financial secrecy scores

	Country	Secrecy Score (best = 0; worst = 100)
1	Switzerland	72.6
2	Turkey	64.1
3	United Kingdom	63.6
4	United States	60.0
5	Japan	57.5
6	Germany	56.4
7	Luxembourg	55.1
8	Chile	53.9
9	Austria	53.7
10	Israel	52.8

Source: Authors' calculations based on Tax Justice Network (2015a)

While significant progress has been made on exchange of information under the Global Forum on Transparency and Exchange of Information for Tax Purposes, several jurisdictions remain non-compliant or only partially compliant with international minimum standards. The recently published Panama Papers show that financial secrecy remains widespread and imposes high costs on governments around the world.

The Tax Justice Network has developed the Financial Secrecy Index (Tax Justice Network, 2015a), which assigns a Secrecy score derived from 15 indicators to each country (Tax Justice Network, 2015b). In the absence of other official metrics for financial secrecy, we include this index in the SDG Index under SDG 16, which calls for a significant reduction of illicit financial flows. As recommended by the authors, we estimate the UK's financial secrecy score as the average of the scores for the UK and its Overseas Territories and Crown Dependencies. The ten most secretive jurisdictions are listed in Table 1.14.

Spillover effects not included in the SDG Index and Dashboards Report 2017: A substantial number of economic, financial, and governance spillover effects could not be quantified for this edition of the SDG Index. This includes comprehensive measures of corruption. While we include estimates of domestic corruption in the index, no reliable figures are available for cross-border corruption – a practice that remains widespread, particularly in the natural resources sectors (Africa Progress Panel, 2013). Similarly, we could not identify quantitative country-level metrics for the impact of labor standards on international supply chains.

Cross-border human trafficking is a particularly appalling international spillover effect. Due to the importance of modern slavery for the SDGs (Goal 8), we have consulted widely for available indicators, but could not identify enough data on cross-border trafficking data. So this international spillover effect could not be included in the report. To measure modern slavery in countries (without accounting for any international spillovers) we have included the Global Slavery Index (Walk Free Foundation, 2016) even though this index provides a highly imperfect measure of modern slavery, and data for many countries have to be modeled. Organizations like the International Labor Organization (ILO) and the UN Office on Drugs and Crime (UNODC) are preparing more comprehensive measures on human slavery that could be included in later editions of the SDG Index.

We have reviewed data and measures on trade and trade protection. Several organizations propose indices for trade distortions (Center for Global Development, 2016) focusing on market access (particularly for agricultural commodities), export and other trade-related subsidies, and other distortions. The difficulty with these metrics is that their development impact is often difficult to assess. For example, some developed countries, such as Japan, Norway, or Switzerland, maintain high barriers to the import of agricultural products in order to protect domestic industries. Such practices hurt the large exporters, particularly from developed countries (e.g. Australia, Canada, and the United States), but the impact on poorer developing countries is uncertain and likely to be very small.

Finally, a number of other indicators included in the SDG Index reflect international externalities. These include patent applications, the number of researchers, as well as overall expenditures for research and development. Yet, since associated expenditures are typically made to the benefit of the host country, we do not consider these variables spillover indicators.

Security

The SDGs highlight the vital importance of peace and security, and to this end the SDG Index contains several associated variables, including the number of homicides and the share of population feeling safe walking at night. In addition, several qualitative assessments exist from the Economist Intelligence Unit and others, which are reported annually as part of the Global Peace Index (IEP, 2016).

This year we considered additional spillover variables associated with peace and security. A central driver of instability and conflict is the glut of weapons, particularly small arms in developing countries, but efforts to control cross-border trade in such weapons remain woefully inadequate (Adeniyi, 2017). The trade and the failure to control flows are major negative spillover effects for achieving the SDGs.

Data on small arms trade is collected by the Peace Research Institute Oslo (Norwegian Initiative on Small Arms Transfers, 2017) and others. Available data rely on official self-reporting, which does not cover illicit trade in arms. For this reason, available data are highly incomplete and difficult to compare across countries. Greater investments in tracking the legal and illegal flows of small arms are urgently needed.

Table 1.15 | The ten countries accounting for the greatest per capita exports of conventional weapons systems

	Country	Weapons Exports (constant 1990 US$m per 100,000 people)
1	Israel	397.1
2	Russian Federation	231.0
3	Norway	176.2
4	Sweden	171.1
5	Switzerland	169.5
6	Netherlands	163.2
7	United States	148.5
8	France	129.3
9	United Kingdom	102.3
10	Germany	97.4

Source: Authors' calculations based on Stockholm International Peace Research Institute (2017)

In the absence of sufficiently robust data on trade in small arms, we include conventional arms exports (Stockholm International Peace Research Institute, 2017) as an international spillover variable in the 2017 SDG Index. Gross exports are expressed in US$, divided by a country's population, and normalized and rescaled from 0 to 100 with 100 denoting zero weapons exports. The ten countries accounting for the greatest negative spillover effects on this measure are listed in Table 1.15.

Investments in security, including peacekeeping, constitute positive spillover effects. Data on financing peacekeeping operations are published annually by the United Nations (United Nations, 2017). We did not include this measure in the 2017 SDG Index since the data do not cover other important investments in security operations, such as policing and training. We look forward to working with interested researchers to refine these measures for inclusion in later editions of the SDG Index and Dashboards.

ANNEX 2: FREQUENTLY ASKED QUESTIONS (FAQS)

Motivation

Q: What are the Sustainable Development Goals (SDGs)?

A: The 17 SDGs are universal goals that were adopted by all member states of the United Nations in 2015 to guide international collaboration towards sustainable development. They aim to end poverty, tackle inequality, protect the planet, promote peace, and ensure prosperity for all. Each goal has specific targets to be achieved over the next 15 years.by 2030. See the UN website for more information about the SDGs.

Q: Why develop an SDG Index and Dashboards, and how should they be used?

A: The SDG Index aggregates available data on all SDGs into a composite index to provide countries with a quick assessment of how they are performing relative to their peers. In this way, the SDG Index can help draw attention to the SDGs and their role as a tool for guiding national policies and long-term strategies for sustainable development. Its purpose is not to compare countries with vastly different development status, but to allow countries to benchmark themselves using a single holistic measure that encompasses all SDGs and treats each goal equally. Just like the SDG Dashboards, the SDG Index is designed to support national discussions on operationalizing the SDGs instead of monitoring progress towards achieving the goals.

The 2017 SDG Index has been thoroughly revised from the initial 2016 version. Changes to the data and methodology are described in the methodology section (Annex 2).

The SDG Index shows that rich countries, particularly from Northern Europe, perform best. Yet, this does not mean that Sweden and other highly ranked countries have achieved all the SDGs. As made clear by the SDG Dashboards all countries score "red" in at least one SDG and "orange" or "yellow" on many others. It is clear that the SDGs require further actions by all countries.

The SDG Dashboards in turn help countries identify priorities for early action on the SDGs. They can also help determine which countries perform particularly well on an SDG. An analysis of that country's policies and investments can then yield interesting insights for improving performance towards an SDGs. Since comparisons are most useful across countries that face broadly similar development challenges, we report results by region and separately for members of the OECD.

Q: How have indicators been selected for the Index and Dashboards?

A: In early 2016, the UN Statistical Commission recommended initial indicators for measuring the progress towards the SDGs. Following a revision in April 2017 there are 232 official SDG indicators, which have been endorsed by the UN Statistical Commission. Yet for most countries data remain unavailable for the vast majority of official SDG indicators. It will take time and investments in statistical capacity to build up national data systems so that every country can monitor progress against the official indicators (see also recommendations by the Expert Group on SDG Indicators). Meanwhile, countries need to start the process of operationalizing and implementing the SDGs using data available today. As a result, the SDG Index and Dashboards comprise official SDG Indicators for which data are available today as well as other data published by reputable sources. No new data were collected.

Q: Do the SDG Index and Dashboards replace or compete with official SDG monitoring and indicators?

A: No. The SDG Index and Dashboards are preliminary analytical tools to help governments and other stakeholders take stock of where they currently stand with regards to achieving the SDGs and to identify priorities for early action. As new data become available they will be included in the SDG Index and Dashboards, which will be published on an annual basis. Simultaneously, countries will need to develop a full suite of monitoring systems to track the SDG metrics recommended by the UN Statistical Commission. This will require major investments in statistical capacity development, particularly in poorer countries or those with low statistical capacity. Over time every country should be able to track critical SDG variables to monitor progress towards achieving the goals.

Q: How and by whom were the SDG Index and Dashboards developed?

A: The SDG Index and Dashboards have been developed jointly by the Bertelsmann Stiftung and the Sustainable Development Solutions Network (SDSN), led by scientific co-directors Guido Schmidt-Traub and Christian Kroll. The authors have drawn extensively on the SDG Indicators proposed by the UN Statistical Commission and consulted widely on methodology and appropriate data with experts around the world. The SDG Index and Dashboards also drew on an earlier prototype SDG Index for OECD countries developed by the Bertelsmann Stiftung and a report on SDG indicators prepared by the SDSN. All data and methodological assumptions are presented in Part 2 and are available online.

Q: Why develop a separate SDG Index and Dashboard for OECD countries?

A: The report proposes an Augmented SDG Index and Dashboards for OECD countries. Both augment the global Index and Dashboards with 16 additional variables to provide a richer assessment of the SDG challenges faced by OECD countries. The inclusion of additional variables holds OECD countries to a higher standard, which is justified since they have the resources to achieve the SDGs. The Augmented SDG Index and Dashboards might also help identify priorities for statistical capacity development and for generating new SDG data in non-OECD countries.

Indicator and data selection

Q: How were the indicators for the SDG Index and Dashboards selected? Why are they not identical to the recently proposed official SDG Indicators?

A: The SDG Index and Dashboards use appropriate indicators for which data are available today, for at least 80% of the 154 countries with a population greater than 1 million, i.e. at least 124 countries. To identify appropriate indicators, all recently proposed official SDG Indicators were reviewed for data availability and suitability for inclusion in an SDG Index and Dashboards. Major gaps were filled with other metrics from official or other reputable sources. Indicators that meet the standards for inclusion have been incorporated into the SDG Index and Dashboards. Countries with a population smaller than 1 million are included in the Index and Dashboards if sufficient data are available. We include 157 countries in the SDG Index and Dashboards. Decisions on indicator selection are described in the methodology section (Part 2) and the online metadata.

Q: Why are some countries not included in the SDG Index and Dashboards?

A: A country is included in the SDG Index and Dashboards if it has data for at least 80% of the indicators. Some countries with a population of less than one million have sufficient data and are therefore included in the SDG Index. The fact that some countries lack sufficient data for inclusion in the SDG Index and Dashboards underscores the need for greater investments in statistical capacity building.

Q: Where do the data for the SDG Index and Dashboards come from?

A: To the greatest extent possible, the SDG Index and Dashboards rely on internationally comparable official statistics. In order to fill in some gaps in the official data, notably to address the issue of "spillover effects", non-official metrics from other reputable sources have been used, as described in the online metadata. Data for each indicator have been rigorously selected and reviewed for quality, timeliness and verifiability.

Methodology

Q: How do the Index and Dashboards compare performance across different indicators?

A: To ensure comparability we normalize the data for each indicator by transforming it linearly into a scale from 0 to 100. A value of 100 denotes the technical optimum, while a value of zero denotes the worst performer in the sample. For clarity and ease of interpretation, we transform some indicators so that in each case a higher score on the indicator corresponds to a higher overall progress.

Q: How are the SDGs and the indicators weighted?

A: Each SDG has the same weight in the Index and Dashboards, which is in line with the spirit of the SDGs adopted in September 2015. This implies that countries need to pursue all 17 goals through integrated strategies. Within each goal every indicator is equally weighted,

which implies that every indicator is weighted inversely to the number of indicators available for that SDG. An advantage of this approach is that as more and better data become available, new variables can easily be added to individual SDGs without changing the relative weighting of the goals. In this way, the SDG Index and Dashboards can evolve over time as each epistemic community generates new and better data.

Q: What is the rationale behind the thresholds for the SDG Dashboards? How are they determined?

A: Some other indices use relative performance across countries to define thresholds. We believe that absolute thresholds are more suitable since most SDGs require absolute benchmarks to be achieved. To assess a country's progress on a particular indicator, such absolute quantitative thresholds are introduced to differentiate between situations where an SDG threshold has been met (green), where significant challenges remain (yellow & orange), and where major challenges must be overcome if the country is to meet the goal (red). Where possible, these thresholds are derived from the SDGs, their targets, or other official sources. All thresholds are specified in the online metadata.

Q: How are the SDG Index and Dashboards scores calculated and what aggregation method is used?

A: As described in Part 2, the choice of aggregation formula can have important implications for the results of both the SDG Index and Dashboards. Taking a simple average of indicator values (arithmetic aggregation) implies that the indicators are perfectly substitutable: progress on one variable can offset lack of progress on another. This approach is reasonable for indicators within the same goal that tend to complement one another, so we use arithmetic means to aggregate indicators within each SDG for the Index and Dashboards.

However, major trade-offs may occur across SDGs. Progress on one goal (e.g. higher economic growth) cannot fully offset lack of progress on another (e.g. rising inequality or environmental degradation). For this reason, countries need to make progress towards every goal. In other words, one must assume limited substitutability across goals, which is commonly done by using the geometric mean. As a result, one could argue for using the geometric average of the scores for each SDG to compute the overall SDG Index.

In practice, fortunately, the two methods of aggregation give almost the same rankings and nearly the same scores for most countries. For simplicity, we therefore use the arithmetic aggregation even though the geometric aggregation is conceptually attractive. This leaves a natural interpretation of the meaning of the national SDG Index score. A SDG Index value of X (e.g. 70) therefore means that on average the country is X% (e.g. 70%) of the way from the worst outcome to the best score across the 17 SDGs.

A third method for aggregating indicator scores is the Leontief minimum function, which ascribes the value of the indicator on which the country performs worst as the score for the SDG. This aggregation is helpful for identifying the areas within each goal where a country needs to make the greatest progress, but it is too sensitive to data outliers on individual indicators to allow for a meaningful comparison of countries' performance.

For the SDG Dashboards, we use the average of the two worst performing indicators to assign color ratings for each SDG. To score "red", both worst-performing indicators must be "red". To achieve "green", all indicators under the goal must be "green". Intermediate values are assigned a color rating of yellow or orange.

Q: How do the SDG Index and Dashboards deal with missing data?

A: In constructing the SDG Index and Dashboards we did not model or extrapolate data in order to fill gaps, because such extrapolations are prone to errors. At this stage in the implementation of the SDGs we also want to highlight data gaps so as to encourage governments and the international system to fill them. Part 2 describes a few exceptions where data were imputed for entire groups of countries. A number of indicators included in the SDG Index and Dashboards rely on extrapolation by the original authors, as described in the metadata.

Interpreting the results and limitations

Q: Sweden is ranked number 1 in the SDG Index. Does this mean the country has achieved the SDGs?

A: Absolutely not. While Sweden performs best on average based on the data we were able to mobilize for

the SDG Index. The SDG Dashboards makes clear that every country faces major challenges in achieving the SDGs. This applies equally to Sweden and other top-ranking countries.

Q: The SDGs define a universal agenda. So why do rich countries perform relatively well in the SDG Index?

A: Some observers have expressed surprise that the ranking of countries in the SDG Index does resemble the ranking of more narrow indices that focus on income per capita and other measures of human development, such as educational attainment and health. Their concern is that the SDG Index may omit important variables on which rich countries perform worse than others and may therefore produce biased results.

To this end, the 2017 SDG Index and Dashboards have been augmented with indicators measuring international spillovers. As discussed in the report, the additional indicators affect the ranking of some countries, however they do not alter the performance of countries fundamentally.

On balance, an equal weighting of all SDGs will lead higher-income countries to perform better on average. These countries tend to perform better on most economic and social SDG priorities. They also perform better on some "local" environmental priorities, including access to wastewater treatment, deforestation rates, and rates of biodiversity loss. Rich countries perform worse on greenhouse gas emissions and some metrics for sustainable consumption and production, but these represent a modest share of SDG priorities.

Q: How does the SDG Index relate to other development indices for the SDGs?

A: Many other composite development indices exist, but we are not aware of one tracking all 17 SDGs at the country level. In 2015, the Bertelsmann Stiftung issued a report, which was the first to propose an index for OECD countries to track SDG achievement and determine priorities for implementation in each country. Another significant effort has been undertaken by the Overseas Development Institute, which presents a regional SDG Scorecard, projecting trends across key dimensions of the SDGs to determine areas in which the fastest acceleration of progress will be required. To our knowledge, the SDG Index and Dashboards are the only tools available today that aggregate country-level data across all SDGs.

Q: How can I access the data for my country or region?

A: Country profiles are available in Part 3 of the report. The entire dataset is publicly available on the website http://www.sdgindex.org/download/. The data will be updated each year.

Q: What are the major data limitations?

A: As explained in the report, the lack of data in some areas leaves significant gaps in the analysis. The major data gaps are summarized in Table 1.6. In addition, the SDG Dashboards do not capture important regional challenges that are less relevant at the global level, such as neglected tropical diseases, malaria, or inequality in education outcomes. These challenges require careful analysis and will be addressed in later versions of the SDG Index and Dashboards.

Q: Do the Index and Dashboards include trend data?

A: Available trend or time series data are too sparse to estimate country-level rates of change for all variables. As a result, the SDG Index and Dashboards provide an initial snapshot of where countries stand today with regard to achieving the SDGs. Future work might focus on estimating historic baselines to compute rates of change.

Next steps

Q: When will the SDG Index and Dashboards be updated?

A: The SDG Index and Dashboards will be updated annually to include new indicators as they become available, update the data, and incorporate suggestions on how to make the tools more useful for countries and other stakeholders. The website will be continuously improved to facilitate the real-time use of the data and comparisons across countries.

Q: To whom can I address my comments on the SDG Index and Dashboards?

A: We welcome comments and suggestions for improving the SDG Index and Dashboards. Please address your comments and suggestions to info@sdgindex.org.

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2 SDG Index and Dashboards Methodology

PART 2

SDG Index and Dashboards Methodology

The 2017 SDG Index and Dashboards contain comprehensively updated data. In response to numerous comments received on the 2016 SDG Index and Dashboards, several methodological changes have been made, including:

- Addition of several new indicators, particularly to ensure coherence with the official SDG indicators proposed by the UN Statistical Commission that meet our selection criteria, and to capture international spill-over effects (section I.B)
- Improved methodology for setting upper bounds used for normalizing SDG indicators (section II.B)
- Revised methodology for generating and presenting SDG Dashboard results to ensure a better reflection of the universal SDG agenda (section III)

As a result of these changes, it is not possible to compare the 2017 results with the results from last year's report.

I. DATA SELECTION

A. Criteria for selecting indicators

To determine suitable metrics for inclusion in the SDG Index and Dashboards, we identified technically-sound quantitative indicators for each SDG that met five statistical criteria for data selection (Booysen, 2002; OECD and JRC, 2016):

1. **Global relevance and applicability to a broad range of country settings:** The indicators selected were relevant for monitoring achievement of the SDGs and applicable to all or nearly all countries. They had to be internationally comparable and allow for direct comparison of performance across countries. In particular, they should allow for the definition of quantitative performance thresholds that signify SDG achievement.
2. **Statistical adequacy:** Data was collected and processed in a statistically reliable and robust way.
3. **Timeliness:** Data series had to be published on a reasonably prompt schedule and be available for most recent years.
4. **Data quality:** The data had to represent the best available measure for a specific issue, and derive from official national or international sources (e.g. national statistical offices or intergovernmental organizations) or other reputable sources.
5. **Coverage:** Data had to be available for at least 80% of the 149 UN Member States with a national population greater than 1 million.

B. Indicator Selection

The SDG Index was built on a set of indicators for each of the 17 SDGs using the most recent published data. Indicators among the 232 SDG indicators (IAEG-SDGs, 2016) proposed by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs), and recently endorsed by the UN Statistical Commission that met the five criteria outlined above were included. Some official SDG indicators have adequate data coverage, but could not be included in the SDG Index and Dashboards as they did not permit a ranking of countries or the definition of quantitative thresholds applicable to all countries (criterion 1 above). For example, countries specialize in different economic sectors, so there is no "correct" threshold of manufacturing as a share of GDP that all countries should aim for. While individual countries may find the share of manufacturing value-added highly useful for developing long-term strategies for (re-)industrialization, it is not possible to define a common global threshold for the SDGs. Other official SDG indicators are similarly useful at the country level, but cannot serve as a yardstick for comparing countries' performance internationally.

Where official SDG indicators did not meet the criteria for data selection or where indicator gaps remained, we considered official and other metrics published in the peer-reviewed literature, as well as major databases and reports on development

and environmental indicators (Kroll, 2015; OECD, 2016; SDSN, 2015; UNDP, 2015a; World Bank, 2016a). We extended and revised an earlier SDG Index, which covered OECD countries only, (Kroll, 2015) and jointly improved its methodology. In this process, we consulted with a broad range of experts and conducted a public consultation on an earlier draft of the global version of the SDG Index that generated 56 submissions (SDSN, 2016).

We were able to include 83 global indicators from a broad range of data sources (Table 2.1). The revised set of indicators includes new indicators, particularly for international spillover effects, and revisions to fill in gaps and better align the SDG Index and Dashboards with the official SDG Indicators (Table 2.2). The global SDG Index comprises 157 of the 193 UN Member States (Table 2.3). OECD countries have more accurate and better data available across a wide range of indicators, so we included 16 additional variables for these countries in the global SDG Index to create an Augmented SDG Index for OECD countries (Table 2.1).

C. Missing Data

The purpose of the SDG Index and Dashboards is to guide countries' discussions on their SDG priorities based on available and robust data. For this reason, and since many SDG priorities lack widely accepted statistical models for imputing country-level data, we generally did not impute or model any missing data. We made exceptions for the following variables that would otherwise not have been included because of missing data:

- **Prevalence of wasting in children under 5 years of age (%):** 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.
- **Prevalence of stunting (low height-for-age) in children under 5 years of age (%):** 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.
- **Prevalence of undernourishment (% of population):** 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 (World Bank, 2016*b*) with missing data.
- **Research and development expenditure (% of GDP):** We assumed zero R&D expenditure for low-income countries that did not report any data for this variable.
- **Percentage of children 5-14 years involved in child labor:** The best performing upper-middle-income countries have a child labor rate of 1% (UNICEF, 2015). We assumed 0% child labor for high-income countries for which no data was reported.

For several indicators included in the SDG Index data is missing for some countries. Raw data included in the construction of the SDG Index and Dashboards is available for download on www.sdgindex.org.Since the SDG Index compares countries it is important to avoid excessive bias through missing variables. The SDG Index therefore only includes countries that have data for at least 80% of the variables included in the global SDG Index or the Augmented SDG Index for OECD countries. However, for several indicators included in the SDG Index, data is missing for some countries. All OECD countries had sufficient data for inclusion, and 157 countries met this test globally, including several countries with a national population less than 1 million. Table 2.3 lists the countries that are not included in this version of the SDG Index and Dashboards.

In the 2017 version, only 36 UN Member States could not be included due to insufficient data availability. Of these countries 10 are high-income, 12 upper-middle-income, 8 lower-middle-income and 6 low-income countries according to the World Bank classification (World Bank, 2016b). Among the excluded countries, 28 have a population under 1 million. In comparison, the 2016 version of the SDG Index and Dashboards excluded 44 countries due to limited data availability.

Many of the countries not included face major challenges in achieving the SDGs. Investing in their capacity to generate high-quality data is a priority for establishing better SDG baselines in order to eventually inform policy priorities and resource allocation.

In reviewing results for the 2016 SDG Index and Dashboards as well as draft versions of the 2017 report, some national statistical offices have pointed out discrepancies between the data reported internationally and their national statistics. In some cases, recent national data might not yet have been included in international statistics published by the World Bank or United Nations organizations. In other cases, the latter modify national data to ensure consistency with data reported from other sources. These issues are frequently discussed in the Statistical Commission and with specialized UN agencies. It is not possible for the Bertelsmann Stiftung and the SDSN to resolve these discrepancies. To ensure international comparability of the SDG Index and Dashboards, we use internationally consistent data from international sources. We recognize that in some cases the international data may be inferior to national data. Where such discrepancies have been flagged to us we estimate their impact on the country's SDG Index score and ranking. These results are presented in the country profiles (Part 3).

II. METHOD FOR CONSTRUCTING THE SDG INDEX

The procedure for calculating the SDG Index comprised four steps: (i) perform statistical tests for normality and censor extreme values from the distribution of each indicator; (ii) rescale the data to ensure comparability across indicators; (iii) aggregate the indicators within and across SDGs; and (iv)conduct sensitivity and other statistical tests on the SDG Index. These steps are described in detail below:

A. Statistical Tests and Censoring of Extreme Values

Using a broad array of indicators presented in Table 2.1 (summary statistics in Table 2.4), we conducted statistical tests to determine whether the variables considered in the SDG Index were normally distributed. These tests include skewness and kurtosis tests for normality as well as Shapiro–Wilk (Shapiro and Wilk, 1965) and Shapiro–Francia tests. For most indicators we could reject the normality hypothesis at the 5% significance level. Often the deviation from normality was substantial, rendering some common statistical techniques invalid.

Since the underlying data was not normally distributed, we did not use Z-scores to construct the composite indices even though this is the most commonly used method (OECD, 2016). A related reason for not using Z-scores was that the objective of the SDGs is for all countries to achieve common goal thresholds, including universal coverage of basic infrastructure and social services. If the SDGs are achieved then the data distribution will therefore diverge from the normal distribution underlying Z-scores. Moreover, while Z-scores track relative performance of countries by specifying the relative location of each measurement within a certain interval, a key purpose of the SDG Index is to show how far a country is from reaching quantitative thresholds associated with achieving the SDGs.

B. Rescaling and Addressing Extreme Values

To make the data comparable across indicators, each variable was rescaled from 0 to 100 with 0 denoting worst performance and 100 describing the optimum. Rescaling is usually very sensitive to the choice of limits and extreme values (outliers) at both tails of the distribution. The latter may become unintended thresholds and introduce spurious variability in the data. Consequently, the choice of upper and lower bounds can affect the relative ranking of countries in the index. This applies in particular to the lower bounds that affect the value and the units of the variable, which may in turn affect rankings, while the upper bound only affects the units (Booysen, 2002; OECD and JRC, 2016).

The upper bound for each indicator was determined using a five-step decision tree:[1]

1. **Use the absolute quantitative thresholds outlined in the SDGs and targets:** e.g. zero poverty, universal school completion, universal access to water and sanitation, full gender equality. Some SDG targets propose relative changes (e.g. "Target 3.4: […] reduce by one third premature mortality from non-communicable diseases") that cannot be translated into a global baseline today. Such targets are addressed through step 5 below.
2. **Where no explicit SDG target is available, set upper bound to universal access or zero deprivation for the following types of indicators:**
    a. Measures of extreme poverty (e.g. wasting), consistent with the SDG ambition to end extreme poverty in all its forms ("leave no one behind").
    b. Public service coverage (e.g. access to contraception).
    c. Access to basic infrastructure (e.g. mobile phone coverage, wastewater treatment, etc.).

1. As a result of these refined standards for upper bounds, several upper bounds in Table 2.4 changed from the 2016 version.

3. **Where science-based targets exist that must be achieved by 2030 or later, use these to set 100% upper bound** (e.g. zero greenhouse gas emissions from electricity as required by no later than 2070 to stay within 2°C, 100% sustainable management of fisheries).
4. **Where many countries already exceed an SDG target, use the average of the top 5 performers** (e.g. child mortality).
5. **For all other indicators use the average of the top 5 performers.**

This five-step process interprets the SDGs as "stretch targets" and focuses attention on the indicators that highlight where a country is lagging behind. Each indicator distribution was censored, so that all values exceeding the upper bound scored 100, and values below the lower bound scored 0.

In some cases, the upper bound exceeded the thresholds to be met by 2030 in order to achieve the SDGs. For example, the SDGs call for reducing child mortality to no more than 25 per 1000 live births, but many countries have already exceeded this threshold (i.e. have mortality rates under 25 per 1000). By defining the upper bound as the "best" outcome (e.g. 0 mortality per 1000) – not the SDG achievement threshold – the SDG Index rewards improvements across the full distribution. This is particularly important for countries that have already achieved some SDG thresholds, but still lag behind other countries on this metric. See Table 2.5 for a full description of the bounds used for each variable.

Some countries already exceed the upper bound of some indicators today and more will do so in the coming years as the world progresses towards the SDGs.

To remove the effect of extreme values, which can skew the results of a composite index, the OECD (OECD and JRC, 2016) recommends censoring the data at the bottom 2.5th percentile as the minimum value for the normalization. We applied this approach to the lower bound and censored data at this level. The two exceptions to this rule are "Tax Haven Score (0-5)", where we retain the worst value (5), and "Freshwater withdrawal (%)", the lower bound of which is set at 100%.

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]:

$$x' = \frac{\mathrm{x} - min(x)}{max(x) - min(x)} \qquad \text{(Equation 1)}$$

where x is the raw data value; *max/min* denote the bounds for best and worst performance, respectively; and x' is the normalized value after rescaling.

The rescaling equation ensured that all rescaled variables were expressed as ascending variables (i.e. 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, and a country with a score of 75 has covered three quarters of the distance from worst to best.

C. Weighting and Aggregation

To arrive at a composite SDG Index, the constituent components needed to be weighted and aggregated. Different weightings of individual SDGs can have important implications on countries' performance and relative rankings in an SDG Index (Booysen, 2002). This issue is further compounded by the fact that the SDGs combine policy means (e.g. official development assistance) and policy ends (e.g. healthy life expectancy).

The results of several rounds of expert consultations on earlier drafts of the SDG Index made clear that there was no consensus across different epistemic communities on assigning higher weights to some SDGs over others. This confirms experiences with other composite indices that there is no universally agreed answer to this "weighting problem" (Booysen, 2002). Some composite indices, such as the OECD Better Life Index (OECD, 2015*a*), therefore allow users to select the weights they attach to the components of an index. Such a flexible weighting methodology can be appropriate for measures of well-being because each user has an immediate and subjective experience of what a "better life" means for her or him. In contrast, the SDGs describe a broad spectrum of policy challenges that few individuals or institutions master in their full breadth. Moreover, flexible weightings might encourage countries to "cherry-pick" the SDGs that are easier to achieve and leave aside equally important ones that require deeper transformations. For these reasons, we considered subjective and flexible weightings less suitable for the SDG Index.

As a normative assumption, we therefore opted for fixed weights and decided to give equal weight to every SDG to reflect policymakers' commitment to treat all SDGs equally and as an "integrated and indivisible" set of goals (United Nations, 2015, para. 5). This implies that to improve their SDG Index score countries need to place attention on all goals with a particular focus on goals where they are furthest from achieving the SDGs and where incremental progress might therefore be expected to be fastest.

Consequently, the aggregation for the SDG Index proceeded in two steps. First, the rescaled variables were combined for each SDG before being aggregated across goals. This approach also allows for the later addition of new variables for a particular SDG without affecting the relative weight of each SDG in the overall score.

Just like the weighting, the method for aggregating different variables into a single index can have profound implications on the overall ranking (OECD and JRC, 2016; Rickels et al., 2014). To allow for maximum flexibility in aggregating data, one can use the standard constant-elasticity-of-substitution (CES) function (Arrow et al., 1961; Blackorby and Donaldson, 1982) (Equation 2) to generate the SDG Index score *Iij* for SDG *j* and country *i*.

$$I_{ij}\left(N_{ij}, I_{ijk}, \rho\right) = \left[\sum_{k=1}^{N_{ij}} \frac{1}{N_{ij}} I_{ijk}^{-p}\right]^{\frac{-1}{p}} \qquad \text{(Equation 2)}$$

Where *Iijk* is the score of indicator *k* under SDG *j* for country *i*; *Nij* denotes the number of indicators for SDGi; and ρ describes the substitutability across components of the indicator with a permissible range of $-1 \leq \rho \leq \infty$ (Arrow et al., 1961). An equivalent CES equation is used to aggregate the SDG Index scores *Iij* for country *i* into the overall country score *Ij*.

The elasticity of substitution σ across components of the SDG Index is defined as:

$$\sigma = \frac{1}{1+\rho} \qquad \text{(Equation 3)}$$

With $0 \leq \sigma \leq \infty$ and

$$\rho = \frac{1-\sigma}{\sigma} \qquad \text{(Equation 4)}$$

Three special cases of this CES function are frequently considered. First, if the components of the aggregate index are perfect substitutes ($\sigma = \infty$, $\rho = -1$) then regress on one indicator (e.g. Gini index) can be offset by progress on another indicator (e.g. child mortality rate). This case is often referred to as "weak sustainability". The CES function with equal weights across components then assumes the form of the arithmetic mean:

$$I_{ij}(N_{ij}, I_{ijk}) = \sum_{k=1}^{N_{ij}} \frac{1}{N_{ij}} I_{ijk} \qquad \text{(Equation 5)}$$

Second, strong sustainability occurs when the components of the SDG Index are not substitutable ($\sigma = 0$, $\rho = \infty$). In this case the CES function turns into a Leontief production function with orthogonal isoquants where the score *Iij* of a country *i* and SDG j is determined by the country's lowest score *Iijk* across all SDG indicators *k*:

$$I_{ij}(I_{ijk}) = Min\left\{I_{ijk}\right\} \qquad \text{(Equation 6)}$$

Finally, an intermediate case of linear substitutability is given by the Cobb-Douglas production function with $\sigma = 1$ and $\rho = 1$. In this case the SDG Index *Iij* becomes the geometric mean of the indices *Iijk*:

$$I_{ij}(N_{ij}, I_{ijk}) = \prod_{k=1}^{N_{ij}} \sqrt[N_{ij}]{I_{ijk}} \qquad \text{(Equation 7)}$$

The geometric mean is often used to aggregate heterogeneous variables with limited substitutability and in cases where the focus of the analysis is on percentage changes instead of absolute changes. A prominent example is the Human Development Index (HDI), which changed its method of aggregation across three dimensions from arithmetic to geometric mean in 2010 (UNDP, 2015*a*).

To aggregate indicator scores within each SDG we used the arithmetic mean ("weak sustainability") because each SDG describes a set of broadly complementary policy priorities. This implies that countries are indifferent to adding a unit of progress on any of the indicators comprised under an SDG. In line with our method for weighting across goals, each indicator was weighted equally. As a result, the relative weight of each indicator in a goal was inversely proportional to the number of indicators considered under that goal.

We considered all three options (arithmetic mean, geometric average, and Leontief function) for aggregating SDG scores *Iij* across SDGs *j*. Since the SDGs are an integrated and indivisible agenda requiring progress towards all goals, perfect substitutability across goals, as required for using the arithmetic mean, cannot be assumed outright. The geometric average has the advantage of reflecting an assumed "penalty" on very low scores, unlike the arithmetic mean. Meanwhile, the Leontief minimum function focuses on the single SDG and where a country performs worst, which is a poor indication of how the country performs across the 17 goals. We therefore considered both the arithmetic and geometric averages as two plausible approaches. Both yielded similar results with a correlation coefficient of 0.977 and very similar rankings (Table 2.6).

Compared with the geometric mean the arithmetic average has the advantage of simplicity of interpretation: an index score between 0 and 100 reflects the average initial placement of the country between worst and best on the average of the 17 goals. Based on the similarity of results confirmed by additional sensitivity tests (see below) and the greater ease of interpretation of the arithmetic mean, we opted for the latter to aggregate goal indices *Iij* across SDGs *j*.

A country's overall SDG Index score was therefore estimated by combining equation 4 for aggregation within and across SDGs to yield equation 8:

$$I_i(N_i, N_{ij}, I_{ijk}) = \sum_{j=1}^{N_i} \frac{1}{N_i} \sum_{k=1}^{N_{ij}} \frac{1}{N_{ij}} I_{ijk} \qquad \text{(Equation 8)}$$

Where Ii is the index score for country i, Ni the number of SDGs for which the country has data, Nij the number of indicators for SDG j for which country i has data, and Iijk denotes the score of indicator k under SDG j for country i. The final index scores are reported in Table 2.7.

D. Sensitivity and other Statistical Tests on SDG Index

As a further robustness test we calculated the median rank between the arithmetic and geometric ranks as shown in Table 2.6. The volatility between ranks is limited – only a handful of countries have more than 10 positions difference between the arithmetic and the median rank. These differences were due to the properties of the geometric mean, which unlike the arithmetic mean penalizes very low scores on specific goals. As a result, countries at the bottom of the SDG Index distribution obtain extremely low overall scores when using the geometric mean. This finding further corroborated the decision to opt for the simpler and easier-to-interpret arithmetic mean.

To test the robustness of the upper and lower bounds used for the normalization of variables (Equation 1), we considered alternative approaches to setting "worst" (score = 0) performance. As an alternative to censoring the datasets at the 2.5th percentile to establish the lower bound, we also considered censoring at the 5th percentile, as well as using the average of the bottom 5 performers as the lower bound. Upper bounds were left unchanged since they reflect the goal benchmarks to be achieved by 2030. The resulting rankings showed that only a limited number of country rankings were affected by the different methods for setting lower bounds. As a result, the findings are seen to be robust with regards to the specification of the lower bounds.

III. METHOD FOR CONSTRUCTING THE SDG DASHBOARDS

The SDG Dashboards use the same data as the SDG Index after censoring and rescaling. We introduced additional quantitative thresholds for each indicator to group countries in a "traffic-light" table. Aggregating across all indicators for a goal yielded an overall score for each SDG and each country, which was used to assign a color band according to set thresholds.

A. Thresholds

To assess a country's progress on a particular indicator, we considered four color bands.[2] The green band is bounded by the maximum that can be achieved for each variable (i.e. the upper bound) and the threshold for achieving the SDG. Three color bands ranging from yellow to orange and red denote an increasing distance from SDG achievement. The red band is bounded at the bottom by the value of the 2.5th percentile of the distribution. Upper and lower bounds are the same as for the SDG Index. Additional thresholds were established in consultation with experts, and the country assessments were subject to a public consultation (SDSN, 2016) and direct consultations with members of the Sustainable Development Solutions Network. All thresholds were specified in absolute terms and apply to all countries (Table 2.5).

B. Weighting and Aggregation

The purpose of the SDG Dashboards is to highlight those SDGs that require particular attention in each country and therefore should be prioritized for early action. For the design of the SDG Dashboards, the same issues related to weighting and aggregation of indicators applies, as discussed above for the SDG Index.

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. 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 2017 SDG Dashboards aggregate indicator ratings for each SDG by estimating the average of the two variables on which a country performed worst. To this end, the indicator values were first rescaled from 0 to 3, where 0 corresponds to the lower bound, 1 to the value of the threshold between red and orange ("red threshold"), 2 to the value of the threshold between yellow and green ("green threshold"), and 3 to the upper bound. For all indicators, the yellow/orange threshold was set as the value halfway between the red and green thresholds (1.5). Each interval between 0 and 3 is continuous.

We then took the average of the two rescaled variables on which the country performed worst to identify the rating for the goal. We applied an additional rule that in order to score green for the goal both indicators had to be green – otherwise the goal would be rated yellow. Thus for a country to score green on a SDGs, it would have to score green on all indicators. Similarly, a red score was applied only if both worst-performing indicators score red. If the country has only one data point under the SDG then the color rating for that indicator determines the overall rating for the goal. In comparison with the 2016 SDG Dashboards, this revised dashboard methodology[3] increases the share of yellow/orange ratings.

SDG Dashboards highlight major challenges across most SDGs for poorer countries, particularly in sub-Saharan Africa. We therefore considered using different aggregation methodologies for OECD and non-OECD countries, such as the minimum

2. The 2016 SDG Dashboards used only three color bands (red, yellow, green). We expanded the number of bands to improve the granularity of the SDG Dashboards.

3. In comparison, the 2016 SDG Dashboards used the Leontief Minimum function (Equation 6) to aggregate indicator scores for each SDG. The score for each goal was determined by the variable on which the country performs worst. We have since found that the ratings resulting from this approach were too tough and highly sensitive to data issues with the worst-performing indicator. As a result, results for the 2016 and 2017 Dashboards are not comparable.

function and the arithmetic mean. However, such different approaches yielded stark differences in results between countries that were at the intersection of both groups. In particular, non-OECD high-income or upper-middle-income countries ended up with significantly fewer "red" SDGs than their peers inside the OECD. To avoid such boundary effects, the same methodology is was applied to all countries.

As with the SDG Index, every UN member country with data for at least 80% of the variables was included in the SDG Dashboards (Table 2.3). Since ocean data for SDG 14 was only available for countries with a seashore, we applied the 80% threshold to the 116 non-landlocked countries with a population greater than 1 million.

OECD countries have access to more data and possess the resources to make rapid progress towards achieving each of the SDGs. Because of this, a separate Dashboards for OECD countries with additional and substituted variables was developed. Since the OECD produces better and more easily comparable data on unemployment than is available internationally, the corresponding indicator for the Dashboards for OECD countries replaced the variable used in the global SDG Dashboards. Similarly, the indicator on municipal solid waste was replaced by an indicator factoring in recycling rates (Table 2.1).

IV. METHODOLOGICAL AND DATA LIMITATIONS

In spite of significant methodological enhancement and better data compared with the 2016 edition, there are several limitations of this effort to establish internationally comparable country baselines for the SDGs.

An equal weighting of all SDGs, as proposed in the SDG Index, will lead higher-income countries to perform better on average: These countries tend to perform better on most economic and social SDG priorities. They also perform better on some "local" environmental priorities, including access to wastewater treatment, deforestation rates, and rates of biodiversity loss. Rich countries perform worse on greenhouse gas emissions and some metrics for sustainable consumption and production, but these represent a small share of SDG indicators considered in this SDG Index. Consequently, the results of the SDG Index may be biased towards richer countries. The 2017 SDG Index reduces this bias through the inclusion of many spillover indicators.

A few SDGs and their targets focus on cross-country effects or global public goods. For example, SDG 10 calls for reducing inequality within and between countries. The SDG Index and Dashboards consider each country separately and therefore cannot track progress towards reducing inequality between countries or promoting global public goods. Such SDG priorities will require other analytical tools not included here.

Many proposed official SDG indicators lack data for the majority of countries and could therefore not be included in this SDG Index and Dashboards. Other countries lack data for some SDGs. Since we did not model the missing data, such data gaps introduce a slight bias in the computation of the SDG Index and Dashboards.

Owing to limited data availability and lack of metrics for key SDG priorities, this second SDG Index and Dashboards presents an improved but still incomplete picture of SDG baselines. As data availability improves and new estimation techniques become available, subsequent editions of the SDG Index and Dashboard may include additional variables.

Not all data for SDG Indicators is updated annually and at the same time for all countries. In particular household and other surveys are conducted infrequently and at different times across countries. Moreover, the data might become available with lags of several years, as is the case with estimates of headcount poverty rates. As a result, updated editions of the SDG Index may not be fully comparable with earlier versions, and may not reflect the most recent developments in each country.

We used the most recent available data for each indicator and did not consider historical data since the availability of such time series data was too limited for most variables, with metrics for economic development and health being notable exceptions. Estimating year-on-year changes would require modeling of all variables, as done for health by the Global Burden of Disease Collaboration (Global Burden of Disease Collaborators, 2016). Data of comparable quality and models of sufficient robustness were not available for a sufficient number of SDG priority areas to estimate trends in data for the overall SDG Index. As a result, we could not infer how fast countries had been progressing towards achieving the SDGs.

We opted against including momentum data available for a subset of SDG metrics since doing so would have skewed the analysis towards increasing the weight of variables for which such trend data was available. Modeling across time and countries for all SDG priorities would require major efforts that could not be accomplished in this edition of the SDG Index and Dashboards. Moreover, it would risk diverting attention away from the investments needed to fill current data gaps.

We made one exception for SDG 1 on poverty: In addition to the updated poverty headcount data provided by World Data Lab (2017)we included an indicator on the speed of headcount poverty reduction provided by the same authors. Based on recent trend data this variable estimates whether a country will end extreme poverty before 2030. This provides a second indicator on this headline goal of the SDGs and allows the SDG Dashboard to analyze the complex phenomenon of extreme poverty more comprehensively.

In addition, the SDG Dashboards do not yet capture important regional challenges that are less relevant at the global level, such as neglected tropical diseases, malaria, or inequality in education outcomes. Similarly, many Small-Island-Developing States lack adequate data for inclusion as described in Table 2.3 in the global SDG Index and Dashboards, so tools could be developed that better address the specific needs of these countries. The Caribbean SIDS has launched an initiative to collect and complete data available for Caribbean economies to develop regional and country SDG indices.

V. TABLES

Table 2.1 | Indicators used in the SDG Index and Dashboards

Description of indicators used in the global SDG Index and Dashboards. Indicators used only in the Augmented SDG Index and Dashboards for OECD countries are marked (a) or (b), respectively, denoting an addition or the replacement of a corresponding indicator from the global indicator set. Indicators that are identical or similar to indicators in the official database (adopted by the UN Statistical Commission, UNSC) are noted as ● and o respectively.

SDG	Description/Label	Notes	UNSC List	Year(s)	Source
1	Poverty headcount ratio at $1.90/day (%)		●	2016	World Data Lab (2017)
	Projected poverty headcount ratio at $1.90/day (%) in 2030		-	2030	World Data Lab (2017)
	Poverty line 50% (%)	[a]	o	2012-2014	OECD (2017a)
2	Prevalence of undernourishment (%)		o	2015	FAO (2017a)
	Prevalence of stunting, under-5s (%)		●	2000-2015	UNICEF et al. (2017a)
	Prevalence of wasting, under-5s (%)		●	2000-2015	UNICEF et al. (2017a)
	Prevalence of adult obesity (%)		o	2014	WHO (2017a)
	Cereal yield (t/ha)		-	2014	FAO (2017)
	Sust. Nitrogen Management Index		-	2006/2011	Zhang and Davidson (2016)
3	Maternal mortality (per 100,000 live births)		●	2015	WHO (2017b)
	Neonatal mortality (per 1000 live births)		●	2015	UNICEF et al. (2017b)
	Under 5 mortality (per 1000 live births)		●	2015	UNICEF et al. (2017c)
	Incidence of tuberculosis (per 100,000)		●	2015	WHO (2017c)
	HIV prevalence (per 1,000)		o	2015	GBD (2016)
	Death rate from NCDs (per 100,000)		●	2012	WHO (2017d)
	Death rate from household and ambient pollution (per 100,000)		●	2012-2013	WHO (2017e)
	Traffic deaths (per 100,000)		●	2013	WHO (2016)
	Healthy life expectancy at birth (years)		-	2015	WHO (2017f)
	Adolescent fertility (births per 1,000)		o	2015	UNDP (2017)
	Births attended by skilled health personnel (%)		●	2006-2015	UNICEF (2017)
	Infants who receive 2 WHO vaccines (%)		o	2015	WHO and UNICEF (2016a)
	UHC Tracer Index (0-100)		-	2015	GBD (2016)
	Subjective wellbeing (0-10)		-	2016	Gallup (2016)
	Daily smokers (%, age 15+)	[a]	●	2008-2015	OECD (2017a)
4	Net primary school enrolment rate (%)		-	2011-2016	UNESCO (2017)
	Expected years of schooling (years)		-	1990-2015	UNESCO (2017)
	Literacy rate of 15-24 year olds (%)		●	2015	UNESCO (2017)
	Population with tertiary education (%)	[a]	-	2013-2015	OECD (2017a)
	PISA score (0 -600)	[a]	o	2015	OECD (2017b)
5	Unmet demand for contraceptives (%)		●	2000-2015	UNDESA (2017)
	Female years of schooling (% male)		-	2000-2014	ILO (2017)
	Female labor force participation (% male)		-	2014	UN Women (2015)
	Women in national parliaments (%)		●	2015-2016	IPU (2017)
	Gender wage gap (% male wage)	[a]	-	2011-2015	OECD (2017a)

Table 2.1 (continued)

SDG	Description/Label	Notes	UNSC List	Year(s)	Source
6	Access to improved water (%)		●	2011-2015	WHO and UNICEF (2016b)
	Access to improved sanitation (%)		●	2011-2015	WHO and UNICEF (2016b)
	Freshwater withdrawal (%)		●	2002-2017	FAO (2017c)
	Imported groundwater depletion (m^3/year/capita)		-	2010	Dalin et al. (2017)
7	Access to electricity (%)		●	2014	SE4All (2017a)
	Access to non-solid fuels (%)		●	2012	SE4All (2017b)
	CO_2 from fuels & electricity ($MtCO_2$/TWh)		-	2014	IEA (2016)
	Renewable energy in final consumption (%)	[a]	○	2009-2012	OECD et al. (2017)
8	Adjusted GDP growth (%)		○	2015	World Bank (2017a)
	Child labor (%)		○	2000-2015	UNICEF (2016)
	Access to bank account or mobile-money (% adult pop.)		●	2011-2014	World Bank (2017)
	Employment-to-population ratio (%)	[a]	○	2015-2016	OECD (2017a)
	Youth not in employment, education, training (%)	[a]	●	2013-2015	OECD (2017a)
	Unemployment rate (%)	[b]	○	2016	ILO (2017b)
9	Internet use (%)		●	2011-2015	ITU (2017)
	Mobile broadband subscriptions (per 100)		●	2015	ITU (2017)
	Quality of overall infrastructure (1-7)		-	2016-2017	Schwab and Sala-i-Martín (2016)
	Logistics Performance Index (1-5)		-	2016	World Bank (2016c)
	Average of top 3 university rankings (0-100)		-	2016	Cornell University et al. (2017)
	Scientific and technical journal articles (items per capita)		-	2013	National Science Foundation, (2017)
	Gross Domestic Expenditure on R&D (% GDP)		●	2008-2014	UNESCO (2017a)
	R&D researchers (per 1000 employed)	[a]	○	2010-2015	OECD (2017a)
	Patent applications (per million)	[a]	-	2013	OECD (2017a)
10	Gini index (0-100)		-	1990-2015	World Bank (2017c); OECD (2017a); UNU-WIDER (2017)
	Palma ratio	[a]	-	2012-2014	OECD (2017a)
	PISA Social Justice Index (0-10)	[a]	-	2015	OECD (2017b)
11	PM2.5 in urban areas ($\mu g/m^3$)		●	2015	Brauer et al. (2016)
	Improved water source, piped (%)		-	2015	WHO and UNICEF (2016b)
	Rent burden (% disposable income)	[a]	-	2011-2014	OECD (2017a)
12	E-waste (kg/capita)		-	2013	UNU-IAS (2015)
	Wastewater treated (%)		○	2014	Hsu et al. (2016)
	Production-based SO_2 emissions (kg/capita)		-	2007	Zhang et al. (2017)
	Net imported SO_2 emissions (kg/capita)		-	2007	Zhang et al. (2017)
	Nitrogen production footprint (kg/capita)		-	2017	Oita et al. (2016)
	Net imported emissions of reactive nitrogen (kg/capita)		-	2017	Oita et al. (2016)
	Non-recycled municipal solid waste (kg/person/year)	[a]	○	2012	World Bank (2012); OECD (2017a)
	Municipal solid waste (kg/person/year)	[b]	○	2012	World Bank (2012)

Table 2.1 (continued)

SDG	Description/Label	Notes	UNSC List	Year(s)	Source
13	CO_2 emissions from energy (tCO_2/capita)		-	2013	Oak Ridge National Laboratory (2017)
	Imported CO_2 emissions, tech-adjusted (tCO_2/capita)		-	2016	Kander et al. (2015)
	Climate change vulnerability (0-1)		-	2014	HCSS (2015)
	Effective Carbon Rate (€/tCO_2)	[a]	-	2016	OECD (2017a)
14	Marine sites, mean protected area (%)		●	2017	BirdLife International et al. (2017)
	Ocean Health Index - Biodiversity (0-100)		-	2016	Ocean Health Index (2016)
	Ocean Health Index - Clean waters (0-100)		-	2016	Ocean Health Index (2016)
	Ocean Health Index - Fisheries (0-100)		-	2016	Ocean Health Index (2016)
	Fish stocks overexploited or collapsed (%)		○	2010	Hsu et al. (2016)
15	Terrestrial sites, mean protected area (%)		●	2017	BirdLife International et al. (2017)
	Freshwater sites, mean protected area (%)		●	2017	BirdLife International et al. (2017)
	Red List Index of species survival (0-1)		●	2017	IUCN and BirdLife International (2017)
	Annual change in forest area (%)		○	2014	Hsu et al. (2016)
	Imported biodiversity impacts (species/million people)		-	2016	Chaudhary and Kastner (2016)
16	Homicides (per 100,000)		●	2010-2014	UNODC (2016)
	Prison population (per 100,000)		○	2014-2015	ICPR (2016)
	Feel safe walking at night (%)		●	2016	Gallup (2016)
	Government efficiency (1-7)		-	2016-2017	Schwab and Sala-i-Martín (2016)
	Property rights (1-7)		-	2016-2017	Schwab and Sala-i-Martín (2016)
	Registered births (%)		●	2010-2015	UNICEF (2016b)
	Corruption Perception Index (0-100)		○	2016	Transparency International (2016)
	Slavery Score (0-100)		-	2016	Walk Free Foundation (2016)
	Conventional weapons exports (US$m per 100,000 people)		-	2014	Stockholm International Peace Research Institute (2017)
17	Health, Education & R&D spending (% GDP)		-	2009-2015	UNESCO (2017b); WHO (2017g)
	Official development assistance (% GNI)		●	2015	OECD (2017a)
	Tax revenue (% GDP)		●	2009-2015	World Bank (2017c)
	Tax Haven Score (best 0-5 worst)		-	2016	Oxfam (2016)
	Secrecy Score (best 0-100 worst)	[a]	-	2015	Tax Justice Network (2015)

Source: Authors' analysis

Table 2.2 | Changes made to indicators for the 2017 edition compared with the 2016 version

SDG	Indicator	Change
1	Poverty headcount ratio at $1.90/day (%)	Change of indicator source
	Projected poverty headcount ratio at $1.90/day (%) in 2030	New addition
3	HIV prevalence (per 1,000)	New addition
	Death rate from NCDs (per 100,000)	New addition
	Death rate from household and ambient pollution (per 100,000)	New addition
	Births attended by skilled health personnel (%)	New addition
	Universal Health Coverage Tracer Index (0-100)	New addition
6	Imported groundwater depletion (m^3/year/capita)	New addition / Spillover indicator
8	Access to bank account or mobile-money (% adult pop.)	Replaces "Number of ATMs per 1000"
9	Logistics Performance Index (1-5)	Revised methodology
	Average of top 3 university rankings (0-100)	New addition
	Scientific and technical journal articles (items capita)	New addition
11	Rent burden (% disposable income)	Replaces "Rooms per person" (OECD only)
12	E-waste (kg/capita)	New addition
	Production-based SO_2 emissions (kg/capita)	New addition
	Net imported SO_2 emissions (kg/capita)	New addition / Spillover indicator
	Nitrogen production footprint (kg/capita)	New addition
	Net imported emissions of reactive nitrogen (kg/capita)	New addition / Spillover indicator
13	Imported CO_2 emissions, tech-adjusted (tCO_2/capita)	New addition / Spillover indicator
	Effective Carbon Rate (€/tCO_2)	New addition (OECD only)
14	Marine sites, mean protected area (%)	Replaces "Marine sites of importance completely protected (%)"
15	Terrestrial sites, mean protected area (%)	Replaces "Terrestrial sites of importance completely protected (%)"
	Freshwater sites, mean protected area (%)	New addition
	Imported biodiversity impacts (species/million people)	New addition / Spillover indicator
16	Slavery Score (0-100)	New addition
	Conventional weapons exports (US$m per 100,000 people)	New addition / Spillover indicator
17	Health & Education spending (% GDP)	Replaces "Health, Education & R&D spending (%GDP)"
	Official development assistance (% GNI)	New addition / Spillover indicator
	Tax Haven Score (best 0-5 worst)	New addition / Spillover indicator
	Secrecy Score (best 0-100 worst)	New addition / Spillover indicator

Source: Authors' analysis

Table 2.3 | Countries not included in the SDG Index and Dashboards due to insufficient data availability

"Missing indicators" denotes the share of the 83 indicators used in the global version of the SDG Index and Dashboards for which the country lacks data.

Country	Missing Indicators (%)	Country	Missing Indicators (%)
Andorra	52%	Micronesia, Fed. Sts.	45%
Antigua and Barbuda	39%	Monaco	62%
Bahamas, The	29%	Nauru	65%
Brunei Darussalam	28%	Palau	59%
Cabo Verde	22%	Papua New Guinea	22%
Comoros	32%	Samoa	34%
Dominica	52%	San Marino	71%
Equatorial Guinea	27%	Sao Tome and Principe	24%
Eritrea	22%	Seychelles	35%
Fiji	23%	Solomon Islands	30%
Grenada	44%	Somalia	26%
Guinea-Bissau	23%	South Sudan	32%
Kiribati	44%	St. Kitts and Nevis	56%
Korea, Dem. People's Rep.	34%	St. Lucia	34%
Libya	22%	St. Vincent and the Grenadines	44%
Liechtenstein	73%	Tonga	35%
Maldives	22%	Tuvalu	59%
Marshall Islands	51%	Vanuatu	27%

Source: Authors' analysis

Table 2.4 | Summary statistics for indicators included in the SDG Index and Dashboards

Number of observations (N), statistical mean (Mean), standard deviation (SD), the minimum (Min) and maximum (Max) values across all countries with data availability. * Indicator only included in augmented SDG Index for OECD countries.

SDG	Variable	N	Mean	SD	Min	Max
1	Poverty headcount ratio at $1.90/day (%)	181	13.7	20	0	79.7
	Projected poverty headcount ratio at $1.90/day (%) in 2030	181	9.7	17	0	82
	Poverty line 50% (%)*	36	11.4	3.8	4.6	18.6
2	Prevalence of undernourishment (%)	162	10.1	11	1.2	53.4
	Prevalence of stunting, under-5s (%)	182	18.1	14.7	1.3	59.3
	Prevalence of wasting, under-5s (%)	181	4.9	4.8	0	22.7
	Prevalence of adult obesity (%)	189	19.3	10.6	2.2	47.6
	Cereal yield (t/ha)	175	3.6	3.2	0	24.5
3	Maternal mortality (per 100,000 live births)	181	170.2	233.2	3	1360
	Neonatal mortality (per 1000 live births)	192	13.7	11.3	0.7	48.7
	Under 5 mortality (per 1000 live births)	192	32	32.7	1.9	156.9
	Incidence of tuberculosis (per 100,000)	192	118	153.8	0	834
	HIV prevalence (per 1,000)	186	1.1	3.7	0	27.4
	Death rate from NCDs (per 100,000)	172	19	5.8	9.1	40.8
	Death rate from household and ambient pollution (per 100,000)	190	67.9	81.9	0	460.9
	Traffic deaths (per 100,000)	178	16.7	10	0	73.4
	Healthy life expectancy at birth (years)	183	62.8	7.2	44.4	74.9
	Adolescent fertility (births per 1,000)	183	47.5	39.7	0.5	201.2
	Births attended by skilled health personnel (%)	161	82.7	22.8	15.5	100
	Infants who receive 2 WHO vaccines (%)	192	85.3	15.8	16	99
	UHC Tracer Index (0-100)	186	75.2	15.2	23.3	94.6
	Subjective wellbeing (0-10)	136	5.4	1.2	2.7	7.7
	Daily smokers (%, age 15+)*	44	19.2	5.8	7.6	37.9
4	Net primary school enrolment rate (%)	159	89.4	12.1	28.1	100
	Expected years of schooling (years)	186	8.4	3.1	1.4	13.4
	Literacy rate of 15-24 year olds (%)	149	90.2	15.2	26.6	100
	Population with tertiary education (%)*	35	34.5	10	16.3	55.2
	PISA score (0 -600)*	35	492	26.1	415.7	528.9
5	Unmet demand for contraceptives (%)	183	39.1	20.9	5.4	93
	Female years of schooling (% male)	167	87.8	18.7	27.1	132.7
	Female labor force participation (% male)	177	71	19.3	18.7	103.6
	Women in national parliaments (%)	193	20.7	12.1	0	63.8
	Gender wage gap (% male wage)*	38	14.2	7.3	3.3	36.7
6	Access to improved water (%)	187	88.5	15.1	31.7	100
	Access to improved sanitation (%)	185	72.2	29.4	6.7	100
	Freshwater withdrawal (%)	173	51.3	228.2	0	2075
	Imported groundwater depletion (m^3/year/capita)	170	10.4	18.3	0.1	148.2

Table 2.4 (continued)

SDG	Variable	N	Mean	SD	Min	Max
7	Access to electricity (%)	193	80.3	29.8	4.5	100
	Access to non-solid fuels (%)	191	66.4	36.9	2	100
	CO_2 from fuels & electricity ($MtCO_2$/TWh)	137	1.7	2.8	0.1	28.7
	Renewable energy in final consumption (%)	177	33.7	29.8	0	96.6
8	Adjusted GDP growth (%)	162	-2.4	4.7	-17.8	13.6
	Child labor (%)	162	10.9	12.2	0	49
	Access to bank account or mobile-money (% adult pop.)	151	56	30.9	2.2	100
	Employment-to-population ratio (%)*	37	67.1	8.3	43.7	84.7
	Youth not in employment, education, training (%)*	40	15	5.4	6.2	28.8
	Unemployment rate (%)	177	8.6	6.3	0.2	31.4
9	Internet use (%)	192	46.5	28.8	0	98.2
	Mobile broadband subscriptions (per 100)	178	47.4	34.1	0	144.1
	Quality of overall infrastructure (1-7)	149	3.9	1.1	1.6	6.5
	Logistics Performance Index (1-5)	165	2.7	0.7	1.5	4.4
	Average of top 3 university rankings (0-100)	172	16.8	26.3	0	99.1
	Scientific and technical journal articles (items capita)	190	0.34	0.57	0	2.6
	Gross Domestic Expenditure on R&D (% GDP)	148	0.71	0.92	0	4.29
	R&D researchers (per 1000 employed)*	41	8	4	0.6	17.4
	Patent applications (per million)*	53	21	31.6	0	147.7
10	Gini index (0-100)	161	39.1	8.3	24.1	63.4
	Palma ratio*	36	1.26	0.41	0.83	2.62
	PISA Social Justice Index (0-10)*	41	6.4	1.7	2	9
11	PM2.5 in urban areas ($\mu g/m^3$)	186	26	18.4	3.4	104.2
	Improved water source, piped (%)	174	74.6	29.5	3.5	100
	Rent burden (% disposable income)*	31	22.9	6.1	6.4	32.1
12	E-waste (kg/capita)	181	7.5	7.1	0.2	28.3
	Wastewater treated (%)	166	25.8	33.7	0	100
	Production-based SO_2 emissions (kg/capita)	159	13.5	23.5	0.4	176.3
	Net imported SO_2 emissions (kg/capita)	187	1.6	12	-52	60.9
	Nitrogen production footprint (kg/capita)	146	28	21.2	1	139.8
	Net imported emissions of reactive nitrogen (kg/capita)	128	6.9	217.2	-1223.5	965.4
	Non-recycled municipal solid waste (kg/person/year)*	32	1.41	0.44	0.51	2.36
	Municipal solid waste (kg/person/year)	159	1.52	1.54	0.09	14.4
13	CO_2 emissions from energy (tCO_2/capita)	190	4.6	5.9	0	40.5
	Imported CO_2 emissions, tech-adjusted (tCO_2/capita)	175	0.3	4.4	-19.5	48.5
	Climate change vulnerability (0-1)	158	0.11	0.09	0.01	0.43
	Effective Carbon Rate (€/tCO_2)*	41	15.6	16.3	-0.1	67

Table 2.4 (continued)

SDG	Variable	N	Mean	SD	Min	Max
14	Marine sites, mean protected area (%)	134	43	31.4	0	100
	Ocean Health Index - Biodiversity (0-100)	147	89	5.8	74.4	98.1
	Ocean Health Index - Clean waters (0-100)	147	57.4	13.7	24.4	94.3
	Ocean Health Index - Fisheries (0-100)	147	47.7	18	16.6	96.1
	Fish stocks overexploited or collapsed (%)	112	32.1	25.4	0	95
15	Terrestrial sites, mean protected area (%)	188	43.9	26.5	0	100
	Freshwater sites, mean protected area (%)	136	48.9	30.1	0	100
	Red List Index of species survival (0-1)	193	0.86	0.1	0.4	0.99
	Annual change in forest area (%)	120	5.96	4.5	0.28	24.61
	Imported biodiversity impacts (species/million people)	158	0.26	0.3	0.01	2.04
16	Homicides (per 100,000)	191	7.5	10.7	0	74.6
	Prison population (per 100,000)	189	168	136.5	6	799
	Feel safe walking at night (%)	128	60.9	15.9	12	97
	Government efficiency (1-7)	149	3.6	0.8	1.5	5.9
	Property rights (1-7)	149	4.3	1	1.8	6.5
	Registered births (%)	166	82.6	25.1	3	100
	Corruption Perception Index (0-100)	170	42.6	19.5	10	90
	Slavery Score (0-100)	164	65	28.3	0	100
	Conventional weapons exports (US$m per 100,000 people)	193	13.1	44.9	0	397.1
17	Health & Education spending (% GDP)	149	11.6	3.7	3.5	23.9
	Official development assistance (% GNI)*	37	0.38	0.34	0.07	1.41
	Tax revenue (% GDP)	96	17.4	11.1	0.3	99.9
	Tax Haven Score (best 0-5 worst)	157	0.25	0.9	0	5
	Secrecy Score (best 0-100 worst)*	35	45.5	10.3	30.9	72.6

Source: Authors' analysis

Table 2.5 | Indicator thresholds

Upper bounds (Best = 100) and lower bounds (Worst = 0) used in scaling indicators from 0 to 100, and thresholds used in constructing the SDG Dashboards. Green denotes SDG achievement, red highlights major challenges, while yellow and orange indicate that significant challenges remain.

SDG	Description/Label	Best (value = 1)	Green	Yellow	Orange	Red	Worst (value = 0)
1	Poverty headcount ratio at $1.90/day (%)	0%	≤2%	2% < x ≤ 7.35%	7.35% < x ≤ 12.7%	>12.7%	72.6%
	Projected poverty headcount ratio at $1.90/day (%) in 2030	0.00	≤1%	1% < x ≤ 2%	2% < x ≤ 3%	>3%	66.9%
	Poverty line 50% (%)	6.8%	≤10%	10% < x ≤ 12.5%	12.5% < x ≤ 15%	>15%	18.6%
2	Prevalence of undernourishment (%)	0%	≤7.5%	7.5% < x ≤ 11.25%	11.25% < x ≤ 15%	>15%	42.3%
	Prevalence of stunting, under-5s (%)	0%	≤7.5%	7.5% < x ≤ 11.25%	11.25% < x ≤ 15%	>15%	50.2%
	Prevalence of wasting, under-5s (%)	0%	≤5%	5% < x ≤ 7.5%	7.5% < x ≤ 10%	>10%	16.3%
	Prevalence of adult obesity (%)	2.8%	≤10%	10% < x ≤ 17.5%	17.5% < x ≤ 25%	>25%	35.1%
	Cereal yield (t/ha)	13.7	≥2.5	2.5 > x ≥ 2	2 > x ≥ 1.5	<1.5	0.6
	Sust. Nitrogen Management Index	0	≤0.3	0.3 < x ≤ 0.5	0.5 < x ≤ 0.7	>0.7	1.2
3	Maternal mortality (per 100,000 live births)	3.4	≤70	70 < x ≤ 105	105 < x ≤ 140	>140	814
	Neonatal mortality (per 1000 live births)	1.1	≤12	12 < x ≤ 15	15 < x ≤ 18	>18	39.7
	Under 5 mortality (per 1000 live births)	2.6	≤25	25 < x ≤ 37.5	37.5 < x ≤ 50	>50	130.1
	Incidence of tuberculosis (per 100,000)	3.6	≤10	10 < x ≤ 42.5	42.5 < x ≤ 75	>75	561
	HIV prevalence (per 1,000)	0	≤0.2	0.2 < x ≤ 0.6	0.6 < x ≤ 1	>1	16.5
	Death rate from NCDs (per 100,000)	9.3	≤15	15 < x ≤ 20	20 < x ≤ 25	>25	31
	Death rate from household and ambient pollution (per 100,000)	0	≤25	25 < x ≤ 50	50 < x ≤ 75	>75	368.8
	Traffic deaths (per 100,000)	3.2	≤8.4	8.4 < x ≤ 12.6	12.6 < x ≤ 16.8	>16.8	33.7
	Healthy life expectancy at birth (years)	73.6	≥65	65 > x ≥ 62.5	62.5 > x ≥ 60	<60	46.1
	Adolescent fertility (births per 1,000)	2.5	≤25	25 < x ≤ 37.5	37.5 < x ≤ 50	>50	139.6
	Births attended by skilled health personnel (%)	100%	≥98%	98% > x ≥ 94%	94% > x ≥ 90%	<90%	23.1%
	Infants who receive 2 WHO vaccines (%)	100%	≥90%	90% > x ≥ 85%	85% > x ≥ 80%	<80%	42%
	UHC Tracer Index (0-100)	100%	≥80%	80% > x ≥ 70%	70% > x ≥ 60%	<60%	38.2%
	Subjective wellbeing (0-10)	7.6	≥6	6 > x ≥ 5.5	5.5 > x ≥ 5	<5	3.3
	Daily smokers (%, age 15+)	10.7%	≤20%	20% < x ≤ 22.5%	22.5% < x ≤ 25%	>25%	29.8%
4	Net primary school enrolment rate (%)	100%	≥98%	98% > x ≥ 89%	89% > x ≥ 80%	<80%	53.8%
	Expected years of schooling (years)	13.2	≥12	12 > x ≥ 11	11 > x ≥ 10	<10	2.3
	Literacy rate of 15-24 year olds (%)	100%	≥95%	95% > x ≥ 90%	90% > x ≥ 85%	<85%	45.2%
	Population with tertiary education (%)	48.7%	≥25%	25% > x ≥ 20%	20% > x ≥ 15%	<15%	16.3%
	PISA score (0 -600)	523.7	≥493	493 > x ≥ 446.5	446.5 > x ≥ 400	<400	415.7
5	Unmet demand for contraceptives (%)	0%	≤20%	20% < x ≤ 35%	35% < x ≤ 50%	>50%	85.8%
	Female years of schooling (% male)	100%	≥98%	98% > x ≥ 86.5%	86.5% > x ≥ 75%	<75%	41.8%
	Female labor force participation (% male)	100%	≥70%	70% > x ≥ 60%	60% > x ≥ 50%	<50%	21.5%
	Women in national parliaments (%)	50%	≥40%	40% > x ≥ 30%	30% > x ≥ 20%	<20%	1.2%
	Gender wage gap (% male wage)	0%	≤7.5%	7.5% < x ≤ 11.25%	11.25% < x ≤ 15%	>15%	36.7%

Table 2.5 (continued)

SDG	Description/Label	Best (value = 1)	Green	Yellow	Orange	Red	Worst (value = 0)
6	Access to improved water (%)	100%	≥98%	98% > x ≥ 89%	89% > x ≥ 80%	<80%	50.8%
	Access to improved sanitation (%)	100%	≥95%	95% > x ≥ 85%	85% > x ≥ 75%	<75%	12%
	Freshwater withdrawal (%)	12.5%	≤25%	25% < x ≤ 50%	50% < x ≤ 75%	>75%	100%
	Imported groundwater depletion (m^3/year/capita)	0.1	≤5	5 < x ≤ 12.5	12.5 < x ≤ 20	>20	42.6
7	Access to electricity (%)	100%	≥98%	98% > x ≥ 89%	89% > x ≥ 80%	<80%	9.1%
	Access to non-solid fuels (%)	100%	≥85%	85% > x ≥ 67.5%	67.5% > x ≥ 50%	<50%	2%
	CO_2 from fuels & electricity ($MtCO_2$/TWh)	0	≤1	1 < x ≤ 1.25	1.25 < x ≤ 1.5	>1.5	3.3
	Renewable energy in final consumption (%)	94.2%	≥20%	20% > x ≥ 15%	15% > x ≥ 10%	<10%	0.3%
8	Adjusted GDP growth (%)	9.1%	≥0%	0% > x ≥ -1%	-1% > x ≥ -2%	<-2%	-14.7%
	Child labor (%)	0%	≤2%	2% < x ≤ 6%	6% < x ≤ 10%	>10%	39.3%
	Access to bank account or mobile-money (% adult pop.)	100%	≥80%	80% > x ≥ 65%	65% > x ≥ 50%	<50%	8%
	Employment-to-population ratio (%)	76.1%	≥60%	60% > x ≥ 55%	55% > x ≥ 50%	<50%	43.7%
	Youth not in employment, education, training (%)	8.7%	≤10%	10% < x ≤ 12.5%	12.5% < x ≤ 15%	>15%	28.8%
	Unemployment rate (%)	0.5%	≤5%	5% < x ≤ 7.5%	7.5% < x ≤ 10%	>10%	25.9%
9	Internet use (%)	100%	≥80%	80% > x ≥ 65%	65% > x ≥ 50%	<50%	2.2%
	Mobile broadband subscriptions (per 100)	100%	≥75%	75% > x ≥ 57.5%	57.5% > x ≥ 40%	<40%	1.4%
	Quality of overall infrastructure (1-7)	6.3	≥4.5	4.5 > x ≥ 3.75	3.75 > x ≥ 3	<3	1.9
	Logistics Performance Index (1-5)	4.2	≥3	3 > x ≥ 2.5	2.5 > x ≥ 2	<2	1.9
	Average of top 3 university rankings (0-100)	91	≥20	20 > x ≥ 10	10 > x ≥ 0	<0	0
	Scientific and technical journal articles (items per capita)	2.2	≥0.5	0.5 > x ≥ 0.3	0.3 > x ≥ 0.1	<0.1	0
	Gross Domestic Expenditure on R&D (% GDP)	3.7%	≥1.5%	1.5% > x ≥ 1.25%	1.25% > x ≥ 1%	<1%	0%
	R&D researchers (per 1000 employed)	15.1	≥8	8 > x ≥ 7.5	7.5 > x ≥ 7	<7	0.6
	Patent applications (per million)	94	≥20	20 > x ≥ 15	15 > x ≥ 10	<10	0.2
10	Gini index (0-100)	25.6	≤30	30 < x ≤ 35	35 < x ≤ 40	>40	60.5
	Palma ratio	0.9%	≤1%	1% < x ≤ 1.15%	1.15% < x ≤ 1.3%	>1.3%	2.6%
	PISA Social Justice Index (0-10)	8.4	≥5.6	5.6 > x ≥ 4.8	4.8 > x ≥ 4	<4	2
11	PM2.5 in urban areas (µg/m^3)	6.3	≤10	10 < x ≤ 17.5	17.5 < x ≤ 25	>25	87
	Improved water source, piped (%)	100%	≥98%	98% > x ≥ 86.5%	86.5% > x ≥ 75%	<75%	6.1%
	Rent burden (% disposable income)	13.4%	≤20%	20% < x ≤ 25%	25% < x ≤ 30%	>30%	32.1%
12	E-waste (kg/capita)	0.2	≤5	5 < x ≤ 7.5	7.5 < x ≤ 10	>10	23.5
	Wastewater treated (%)	100%	≥50%	50% > x ≥ 32.5%	32.5% > x ≥ 15%	<15%	0%
	Production-based SO_2 emissions (kg/capita)	0.5	≤10	10 < x ≤ 20	20 < x ≤ 30	>30	68.3
	Net imported SO_2 emissions (kg/capita)	0	≤1	1 < x ≤ 8	8 < x ≤ 15	>15	30.1
	Nitrogen production footprint (kg/capita)	2.3	≤8	8 < x ≤ 29	29 < x ≤ 50	>50	86.5
	Net imported emissions of reactive nitrogen (kg/capita)	0	≤1.5	1.5 < x ≤ 75.75	75.75 < x ≤ 150	>150	432.4
	Non-recycled municipal solid waste (kg/person/year)	0.8	≤1	1 < x ≤ 1.25	1.25 < x ≤ 1.5	>1.5	2.4
	Municipal solid waste (kg/person/year)	0.1	≤1	1 < x ≤ 1.5	1.5 < x ≤ 2	>2	3.7

Table 2.5 (continued)

SDG	Description/Label	Best (value = 1)	Green	Yellow	Orange	Red	Worst (value = 0)
13	CO_2 emissions from energy (tCO_2/capita)	0	≤2	2 < x ≤ 3	3 < x ≤ 4	>4	23.7
	Imported CO_2 emissions, tech-adjusted (tCO_2/capita)	0	≤0.5	0.5 < x ≤ 0.75	0.75 < x ≤ 1	>1	3.2
	Climate change vulnerability (0-1)	0%	≤0.1%	0.1% < x ≤ 0.15%	0.15% < x ≤ 0.2%	>0.2%	0.4%
	Effective Carbon Rate (€/tCO_2)	100	≥70	70 > x ≥ 50	50 > x ≥ 30	<30	-0.1
14	Marine sites, mean protected area (%)	100%	≥50%	50% > x ≥ 30%	30% > x ≥ 10%	<10%	0%
	Ocean Health Index - Biodiversity (0-100)	100	≥90	90 > x ≥ 85	85 > x ≥ 80	<80	76
	Ocean Health Index - Clean waters (0-100)	100	≥70	70 > x ≥ 65	65 > x ≥ 60	<60	28.6
	Ocean Health Index - Fisheries (0-100)	100	≥70	70 > x ≥ 65	65 > x ≥ 60	<60	19.7
	Fish stocks overexploited or collapsed (%)	0%	≤25%	25% < x ≤ 37.5%	37.5% < x ≤ 50%	>50%	90.7%
15	Terrestrial sites, mean protected area (%)	100%	≥50%	50% > x ≥ 30%	30% > x ≥ 10%	<10%	4.6%
	Freshwater sites, mean protected area (%)	100%	≥50%	50% > x ≥ 30%	30% > x ≥ 10%	<10%	0%
	Red List Index of species survival (0-1)	1	≥0.9	0.9 > x ≥ 0.85	0.85 > x ≥ 0.8	<0.8	0.6
	Annual change in forest area (%)	0.6%	≤3%	3% < x ≤ 4.5%	4.5% < x ≤ 6%	>6%	18.4%
	Imported biodiversity impacts (species/million people)	0	≤0.1	0.1 < x ≤ 0.225	0.225 < x ≤ 0.35	>0.35	1.1
16	Homicides (per 100,000)	0.3	≤1.5	1.5 < x ≤ 2.25	2.25 < x ≤ 3	>3	38
	Prison population (per 100,000)	25	≤100	100 < x ≤ 150	150 < x ≤ 200	>200	475
	Feel safe walking at night (%)	90%	≥80%	80% > x ≥ 65%	65% > x ≥ 50%	<50%	33%
	Government efficiency (1-7)	5.6	≥4.5	4.5 > x ≥ 3.75	3.75 > x ≥ 3	<3	2.4
	Property rights (1-7)	6.3	≥4.5	4.5 > x ≥ 3.75	3.75 > x ≥ 3	<3	2.5
	Registered births (%)	100%	≥98%	98% > x ≥ 86.5%	86.5% > x ≥ 75%	<75%	11.3%
	Corruption Perception Index (0-100)	88.6	≥60	60 > x ≥ 50	50 > x ≥ 40	<40	13
	Slavery Score (0-100)	100	≥80	80 > x ≥ 65	65 > x ≥ 50	<50	0
	Conventional weapons exports (US$m per 100,000 people)	0	≤1	1 < x ≤ 25.5	25.5 < x ≤ 50	>50	171.1
17	Health & Education spending (% GDP)	20.7%	≥16%	16% > x ≥ 12%	12% > x ≥ 8%	<8%	5.1%
	Official development assistance (% GNI)	1%	≥0.7%	0.7% > x ≥ 0.525%	0.525% > x ≥ 0.35%	<0.35%	0.1%
	Tax revenue (% GDP)	30.4%	≥25%	25% > x ≥ 20%	20% > x ≥ 15%	<15%	1.2%
	Tax Haven Score (best 0-5 worst)	0	≤1	1 < x ≤ 2.495	2.495 < x ≤ 3.99	>3.99	5

Source: Authors' analysis

Table 2.6 | SDG Indices obtained by arithmetic and geometric average across SDG scores

Comparison of SDG Index rank and score for each country using the arithmetic mean and the geometric mean. The median rank difference records the difference between the rank based on the arithmetic mean and the median rank.

Country	Arithmetic mean		Geometric mean		Median rank difference
	Rank	Score	Rank	Score	
Sweden	1	85.6	1	84.3	0
Finland	3	84.0	2	82.9	-1
Denmark	2	84.2	3	82.5	1
Norway	4	83.9	4	81.8	0
Czech Republic	5	81.9	5	80.8	0
Austria	7	81.4	6	80.4	-1
Germany	6	81.7	7	80.3	1
France	10	80.3	8	79.3	-1
Slovenia	9	80.5	9	79.1	0
Belgium	12	80.0	10	78.8	-1
Japan	11	80.2	11	78.5	0
Switzerland	8	81.2	12	78.3	2
Netherlands	13	79.9	13	78.2	0
Estonia	15	78.6	14	77.4	-1
Hungary	18	78.0	15	76.5	-2
Canada	17	78.0	16	76.2	-1
United Kingdom	16	78.3	17	75.9	1
Ireland	19	77.9	18	75.8	-1
Croatia	24	76.9	19	75.5	-3
Iceland	14	79.3	20	75.3	3
Slovak Republic	23	76.9	21	75.2	-1
Spain	25	76.8	22	75.1	-2
Malta	22	77.0	23	74.8	1
New Zealand	20	77.6	24	74.4	2
Belarus	21	77.1	25	74.3	2
Italy	30	75.5	26	74.1	-2
Korea, Rep.	31	75.5	27	73.8	-2
Portugal	28	75.6	28	73.6	0
Latvia	32	75.2	29	73.6	-2
Poland	27	75.8	30	73.2	2
Australia	26	75.9	31	72.8	3
Luxembourg	33	75.0	32	72.4	-1
Romania	35	74.1	33	71.9	-1
Lithuania	36	73.6	34	71.8	-1
Serbia	37	73.6	35	71.3	-1
Greece	38	72.9	36	71.1	-1
Moldova	34	74.2	37	70.7	2
Bulgaria	40	72.5	38	70.6	-1
Argentina	41	72.5	39	70.2	-1
Cuba	29	75.5	40	69.4	6
Ukraine	39	72.7	41	69.3	1
United States	42	72.4	42	69.3	0
Azerbaijan	48	70.8	43	68.8	-3
Suriname	51	70.4	44	68.6	-4
Armenia	43	71.7	45	68.4	1
Kazakhstan	46	71.1	46	68.3	0
Chile	44	71.6	47	68.3	2
Uruguay	47	71.0	48	67.8	1
Thailand	55	69.5	49	67.8	-3
Uzbekistan	45	71.2	50	67.5	3
Macedonia, FYR	57	69.4	51	66.9	-3
Costa Rica	53	69.8	52	66.7	-1
Malaysia	54	69.7	53	66.6	-1
Israel	52	70.1	54	66.5	1
Cyprus	50	70.6	55	66.5	3
Tunisia	65	68.7	56	66.4	-5
Brazil	56	69.5	57	66.3	1
Turkey	67	68.5	58	66.3	-5
Mexico	58	69.1	59	66.3	1
Ecuador	60	69.0	60	65.9	0
Trinidad and Tobago	59	69.1	61	65.6	1
Russian Federation	62	68.9	62	65.6	0
Albania	63	68.9	63	65.4	0
Vietnam	68	67.9	64	65.4	-2
Georgia	66	68.6	65	65.3	-1
Kyrgyz Republic	49	70.7	66	65.3	9
China	71	67.1	67	65.3	-2
Algeria	64	68.8	68	64.8	2
Morocco	73	66.7	69	64.3	-2
Dominican Republic	70	67.2	70	64.1	0
South Africa	107	61.2	71	63.0	-18
Peru	79	66.0	72	63.0	-4
Barbados	78	66.0	73	62.9	-3
Jamaica	74	66.6	74	62.7	0
Bhutan	83	65.5	75	62.7	-4
Montenegro	69	67.3	76	62.7	4

Table 2.6 (continued)

Country	Arithmetic mean		Geometric mean		Median rank difference
	Rank	Score	Rank	Score	
Jordan	80	66.0	77	62.5	-2
Egypt, Arab Rep.	87	64.9	78	62.2	-5
Lebanon	86	64.9	79	62.2	-4
Iran, Islamic Rep.	89	64.7	80	62.2	-5
Belize	76	66.0	81	62.0	3
Singapore	61	69.0	82	61.9	11
Tajikistan	72	66.8	83	61.8	6
Venezuela, RB	82	65.8	84	61.8	1
United Arab Emirates	77	66.0	85	61.8	4
Sri Lanka	81	65.9	86	61.7	3
Philippines	93	64.3	87	61.7	-3
Oman	94	64.3	88	61.6	-3
Bahrain	92	64.6	89	61.5	-2
Mongolia	95	64.2	90	61.0	-3
Guyana	91	64.7	91	60.9	0
Gabon	85	65.1	92	60.8	4
Qatar	98	63.1	93	60.6	-3
Paraguay	75	66.1	94	60.6	10
Bolivia	90	64.7	95	60.4	3
Indonesia	100	62.9	96	60.1	-2
Colombia	88	64.8	97	60.0	5
Panama	96	63.9	98	59.2	1
Bosnia and Herzegovina	84	65.5	99	59.0	8
Nicaragua	97	63.1	100	57.7	2
Ghana	108	59.9	101	57.6	-4
El Salvador	99	62.9	102	57.3	2
Lao PDR	106	61.4	103	57.3	-2
Kuwait	101	62.4	104	57.1	2
Honduras	103	61.7	105	56.6	1
Timor-Leste	105	61.5	106	56.4	1
Nepal	104	61.6	107	56.0	2
Mauritius	102	62.1	108	55.9	3
India	113	58.1	109	55.2	-2
Myanmar	109	59.5	110	53.9	1
Cambodia	111	58.2	111	53.9	0
Guatemala	110	58.3	112	53.4	1
Syrian Arab Republic	112	58.1	113	53.2	1
Kenya	122	54.9	114	52.7	-4
Zimbabwe	118	56.1	115	52.5	-2
Senegal	116	56.2	116	52.2	0
Swaziland	121	55.0	117	51.7	-2
Pakistan	119	55.6	118	51.4	-1
Bangladesh	117	56.2	119	50.2	1
Ethiopia	123	53.5	120	49.2	-2
Cote d'Ivoire	124	53.3	121	48.8	-2
Iraq	115	56.6	122	47.9	4
Tanzania	128	52.1	123	47.8	-3
Rwanda	120	55.0	124	47.2	2
Cameroon	127	52.8	125	46.8	-1
Lesotho	125	53.0	126	46.5	1
Angola	132	50.2	127	46.0	-3
Uganda	126	52.9	128	45.8	1
Zambia	130	51.1	129	45.1	-1
Nigeria	141	48.6	130	45.0	-6
Sudan	135	49.9	131	44.9	-2
Mauritania	129	51.1	132	44.8	2
Congo, Rep.	131	50.9	133	44.2	1
Mozambique	139	49.2	134	43.8	-3
Gambia, The	144	47.8	135	42.8	-5
Togo	133	50.2	136	42.3	2
Benin	138	49.5	137	42.3	-1
Yemen, Rep.	136	49.8	138	42.1	1
Burkina Faso	134	49.9	139	40.7	3
Djibouti	137	49.6	140	39.5	2
Guinea	140	48.8	141	39.3	1
Mali	142	48.5	142	37.6	0
Malawi	143	48.0	143	37.5	0
Afghanistan	146	46.8	144	36.9	-1
Sierra Leone	145	47.1	145	36.6	0
Turkmenistan	114	56.7	146	36.4	16
Congo, Dem. Rep.	149	42.7	147	33.8	-1
Niger	147	44.8	148	30.9	1
Chad	150	41.5	149	28.6	-1
Liberia	148	42.8	150	4.8	1

Source: Authors' analysis

Table 2.7 | Overall country scores by SDG (*n.d. – no data*)

COUNTRY	SDGI	SDG1	SDG2	SDG3	SDG4	SDG5	SDG6	SDG7	SDG8	SDG9	SDG10	SDG11	SDG12	SDG13	SDG14	SDG15	SDG16	SDG17
Sweden	85.6	99.4	70.1	97.6	95.0	86.5	95.2	97.5	91.3	89.6	95.0	100.0	57.7	80.1	59.9	63.1	81.1	96.3
Denmark	84.2	98.8	74.8	94.5	95.4	83.5	94.1	88.8	81.8	89.8	89.9	97.3	55.7	83.3	42.4	79.1	88.7	92.8
Finland	84.0	99.9	66.1	96.5	90.1	87.9	96.3	93.1	77.6	87.6	95.5	99.4	53.5	68.7	76.0	67.6	91.3	81.1
Norway	83.9	99.6	62.5	96.7	97.5	86.8	91.9	97.5	95.8	77.6	99.0	98.4	38.1	79.9	65.6	67.0	82.5	90.6
Czech Republic	81.9	99.7	64.5	91.4	91.6	69.9	95.9	87.9	87.9	60.9	98.4	90.9	70.4	85.0	n.d.	84.1	71.5	60.3
Germany	81.7	99.8	75.4	94.3	98.3	79.1	93.3	87.7	85.2	81.0	86.9	95.4	55.0	84.3	49.3	77.4	81.5	64.5
Austria	81.4	99.4	76.3	93.8	82.5	75.7	95.7	89.7	87.9	76.2	85.9	93.6	51.8	76.8	n.d.	68.3	86.5	62.7
Switzerland	81.2	99.9	70.9	97.3	93.3	80.9	95.1	94.4	85.6	93.9	82.6	96.1	36.7	81.9	n.d.	66.5	83.6	40.1
Slovenia	80.5	99.8	65.4	91.8	94.9	80.1	94.2	90.6	75.7	56.4	99.9	91.2	61.4	88.3	54.9	80.5	77.2	67.0
France	80.3	99.7	71.6	93.1	91.3	78.0	95.4	94.6	79.7	77.2	78.4	96.4	56.7	79.2	58.5	73.4	71.6	70.7
Japan	80.2	99.3	74.6	94.3	96.4	60.7	94.3	87.8	92.1	87.3	81.2	95.1	55.5	80.0	59.0	64.9	88.3	52.3
Belgium	80.0	99.6	80.4	93.3	90.1	83.0	84.6	87.1	80.8	74.8	94.2	94.4	52.8	75.0	58.8	64.8	82.6	62.9
Netherlands	79.9	99.5	72.5	95.8	93.4	81.2	93.5	84.8	87.8	83.0	93.1	95.0	52.1	65.9	49.5	74.6	81.5	55.8
Iceland	79.3	99.7	74.8	95.8	94.1	92.6	94.2	98.9	75.3	67.0	96.1	99.3	51.8	85.3	30.0	37.3	92.4	63.6
Estonia	78.6	99.2	63.6	87.4	94.0	73.9	96.3	81.4	79.5	61.0	78.3	98.2	60.9	75.1	74.4	78.7	79.2	54.4
United Kingdom	78.3	99.8	70.1	94.0	99.8	80.9	94.3	87.8	84.6	80.7	79.9	96.3	51.6	74.9	52.7	64.5	81.4	37.3
Canada	78.0	99.6	63.9	94.7	98.8	79.8	88.1	91.2	83.7	75.1	76.7	99.6	52.7	66.0	54.9	51.2	86.0	64.2
Hungary	78.0	99.5	69.9	83.7	89.1	66.1	97.6	81.7	79.7	46.5	85.7	88.7	68.9	92.3	n.d.	79.8	58.2	60.6
Ireland	77.9	99.7	73.2	94.4	90.0	72.9	90.2	86.4	82.4	70.5	80.1	96.8	46.9	85.7	48.1	74.6	87.5	45.2
New Zealand	77.6	100.0	64.3	93.4	94.9	80.6	94.5	92.7	78.3	71.1	n.d.	100.0	54.8	83.8	51.8	28.6	86.6	66.3
Belarus	77.1	99.9	51.6	80.7	92.7	76.3	95.9	82.4	90.0	31.0	95.4	91.6	67.6	88.7	n.d.	69.1	60.6	60.6
Malta	77.0	99.9	62.3	91.1	92.3	55.9	76.5	89.2	93.1	41.4	92.7	94.4	51.8	88.9	63.9	78.4	76.3	61.1
Slovak Republic	76.9	99.3	68.2	87.1	90.7	67.8	96.4	89.2	73.3	47.0	98.4	89.3	64.0	68.0	n.d.	77.4	63.8	51.2
Croatia	76.9	99.2	67.9	88.2	85.5	58.8	95.7	85.5	70.6	46.6	80.1	90.6	71.5	88.8	62.6	81.3	62.3	72.0
Spain	76.8	98.4	60.9	93.9	88.9	80.6	91.5	91.2	80.9	66.9	70.4	98.0	60.8	84.9	45.3	58.3	69.5	64.5
Australia	75.9	99.7	59.3	95.2	96.5	78.4	97.5	84.1	81.8	83.2	73.1	100.0	50.7	30.1	59.9	55.0	81.1	64.3
Poland	75.8	100.0	63.4	85.7	93.7	68.6	95.2	81.4	86.3	46.7	81.3	88.7	72.6	82.9	31.2	83.9	68.6	58.3
Portugal	75.6	99.2	60.8	90.6	85.4	82.2	96.1	91.4	78.3	56.6	70.0	98.0	55.5	86.3	50.2	48.9	71.9	63.4
Cuba	75.5	98.0	61.3	89.3	89.7	82.2	92.3	81.3	90.5	11.6	n.d.	84.9	74.3	81.7	43.3	61.7	66.6	100.0
Italy	75.5	98.5	68.3	91.8	90.9	67.3	90.9	88.0	79.0	60.7	72.5	91.8	56.7	75.7	47.6	78.2	59.8	65.7
Korea, Rep.	75.5	97.7	76.5	92.1	91.1	63.5	84.1	88.9	78.6	84.9	n.d.	86.1	64.8	79.8	49.7	48.3	65.9	55.7
Latvia	75.2	98.9	63.5	82.3	92.7	70.4	92.2	84.6	85.3	42.8	71.6	90.0	72.0	78.8	57.2	78.3	66.2	52.2
Luxembourg	75.0	99.6	66.9	93.9	86.5	72.7	88.1	66.7	92.5	64.6	73.6	93.9	34.3	72.8	n.d.	50.9	91.8	51.3
Moldova	74.2	100.0	59.1	74.4	86.0	68.7	86.3	80.2	54.7	23.3	96.4	86.0	80.4	94.4	n.d.	62.4	53.4	81.7
Romania	74.1	99.9	51.9	79.3	82.6	61.5	90.9	81.8	77.7	34.7	94.6	84.0	65.4	90.7	65.6	79.6	60.2	59.8
Lithuania	73.6	99.1	65.3	83.7	96.8	70.8	92.4	66.7	78.9	51.6	72.5	92.0	65.8	76.6	43.8	82.9	63.7	49.0
Serbia	73.6	99.8	59.2	80.7	89.0	59.0	97.7	78.2	49.3	36.3	90.0	89.0	64.4	77.7	n.d.	64.8	66.9	75.2
Greece	72.9	97.6	66.4	89.3	88.8	60.8	94.7	86.2	66.1	46.2	68.1	95.7	46.4	70.6	57.9	73.6	65.3	65.3
Ukraine	72.7	99.9	62.2	67.0	91.3	64.1	95.9	84.8	70.5	25.6	100.0	86.3	69.9	88.0	55.2	56.9	44.9	73.9

Table 2.7 (continued)

COUNTRY	SDGI	SDG1	SDG2	SDG3	SDG4	SDG5	SDG6	SDG7	SDG8	SDG9	SDG10	SDG11	SDG12	SDG13	SDG14	SDG15	SDG16	SDG17
Bulgaria	72.5	98.4	53.3	77.1	86.5	65.4	86.9	86.5	63.6	37.1	70.1	86.4	66.1	82.4	53.7	90.4	61.2	67.7
Argentina	72.5	99.8	65.3	82.8	88.7	72.9	98.5	84.4	71.7	40.5	51.0	94.8	69.9	85.6	55.5	52.4	51.7	66.1
United States	72.4	99.3	70.0	90.3	93.1	74.1	96.1	87.4	85.5	84.4	55.6	98.2	38.2	54.2	45.8	44.6	63.5	50.5
Armenia	71.7	97.9	51.9	73.7	91.1	54.6	85.5	90.3	47.0	26.4	83.1	90.6	79.1	89.3	n.d.	57.3	69.8	60.1
Chile	71.6	100.0	62.3	88.7	85.2	64.2	98.1	86.9	70.9	43.0	28.7	91.0	73.5	89.7	52.3	48.7	69.0	64.4
Uzbekistan	71.2	87.7	62.8	76.2	92.5	63.4	68.5	77.3	53.7	18.8	72.2	66.9	77.1	91.6	n.d.	52.4	78.8	100.0
Kazakhstan	71.1	100.0	49.2	74.1	86.0	76.3	92.4	74.0	75.0	36.9	97.8	88.3	55.0	75.6	n.d.	45.7	63.2	48.1
Uruguay	71.0	99.9	60.8	83.7	80.9	70.3	98.2	94.6	71.3	35.5	54.0	97.0	61.3	78.0	45.3	35.5	66.4	75.1
Azerbaijan	70.8	99.7	52.8	74.0	89.4	53.7	80.9	84.1	57.6	37.7	82.2	82.4	77.0	80.3	n.d.	63.7	62.1	55.4
Kyrgyz Republic	70.7	99.3	59.9	72.6	84.9	64.6	86.3	84.8	38.3	13.6	96.4	87.4	74.2	83.1	n.d.	58.6	56.9	69.6
Cyprus	70.6	99.9	55.4	92.4	93.3	67.7	89.9	85.9	73.8	39.6	74.9	92.8	39.6	68.1	43.7	81.6	75.1	26.4
Suriname	70.4	71.6	52.5	78.0	79.5	64.7	88.6	86.6	63.2	33.0	n.d.	82.2	80.9	62.0	67.4	75.2	59.0	81.4
Israel	70.1	99.5	61.0	96.1	94.2	73.5	74.8	88.6	82.7	69.7	50.7	91.1	47.2	83.1	35.1	31.3	62.7	51.2
Costa Rica	69.8	n.d.	54.8	87.6	83.1	75.2	91.5	90.6	73.3	32.1	34.2	91.5	72.9	87.7	50.6	60.7	59.7	71.4
Malaysia	69.7	98.2	54.1	83.1	88.1	51.2	90.0	84.1	71.2	60.8	40.7	94.5	69.7	82.4	45.9	31.6	79.0	59.9
Thailand	69.5	100.0	55.0	76.2	76.2	65.7	95.1	76.9	85.2	39.8	64.8	75.1	70.4	73.0	45.0	63.2	58.0	62.6
Brazil	69.5	94.6	65.6	77.8	77.0	67.2	93.9	89.7	61.3	46.2	25.7	95.8	70.3	87.2	60.7	58.2	44.0	66.5
Macedonia, FYR	69.4	99.5	56.0	80.9	79.1	53.9	93.8	72.4	49.2	32.2	47.0	78.8	66.9	85.4	n.d.	70.4	68.1	76.1
Mexico	69.1	97.9	53.6	83.7	81.3	74.9	87.5	79.4	70.3	38.5	35.1	89.5	73.3	85.0	61.1	42.0	52.2	70.0
Trinidad and Tobago	69.1	99.7	43.0	79.0	88.8	69.5	88.6	75.0	76.5	30.0	n.d.	87.0	58.6	63.1	41.8	53.8	51.4	100.0
Ecuador	69.0	94.7	48.5	77.7	78.2	76.6	87.7	81.5	65.3	25.3	43.2	92.3	73.4	88.1	52.3	57.5	55.0	76.3
Singapore	69.0	98.6	71.1	93.8	92.3	68.3	88.9	90.8	95.0	85.7	37.7	92.9	43.3	48.1	21.2	26.2	89.8	28.7
Russian Federation	68.9	100.0	28.9	76.0	92.6	65.5	88.3	85.9	71.9	45.3	54.1	90.9	70.5	79.8	70.5	59.0	35.3	57.5
Albania	68.9	99.5	39.7	78.2	85.2	52.6	92.1	78.3	56.9	24.6	90.3	86.0	72.8	68.2	46.3	76.1	62.5	62.1
Algeria	68.8	98.0	50.9	75.8	79.2	47.4	68.3	79.5	64.2	19.9	n.d.	75.4	81.5	90.5	45.4	60.1	64.1	100.0
Tunisia	68.7	99.4	49.6	79.3	78.6	55.4	76.1	86.0	53.4	30.0	70.6	74.2	81.1	80.9	49.9	64.2	65.0	73.5
Georgia	68.6	92.6	51.1	73.3	96.1	58.8	93.1	76.6	50.9	24.0	58.4	89.7	71.2	83.1	45.7	59.9	73.2	68.3
Turkey	68.5	99.9	54.1	83.2	78.2	42.9	93.0	85.7	67.6	46.3	58.1	81.8	68.6	82.9	47.2	48.0	63.5	63.2
Vietnam	67.9	99.0	62.1	74.6	81.3	76.4	90.7	72.4	60.8	24.9	65.5	66.4	71.2	73.4	51.8	46.6	65.6	71.4
Montenegro	67.3	100.0	47.6	77.9	88.4	49.6	94.2	79.8	55.3	26.4	81.8	86.8	50.2	66.2	33.6	35.1	71.1	100.0
Dominican Republic	67.2	99.8	51.0	69.1	72.3	72.2	78.9	82.4	65.1	24.8	38.4	79.7	78.8	87.5	56.3	68.7	46.4	71.6
China	67.1	99.5	66.8	79.5	74.1	74.8	88.2	67.7	71.9	57.7	52.4	61.6	74.8	58.7	31.1	58.5	69.1	54.5
Tajikistan	66.8	88.5	36.5	69.1	89.5	57.1	73.5	86.4	43.2	13.7	85.1	69.0	80.9	76.6	n.d.	59.8	70.8	68.5
Morocco	66.7	99.6	52.5	71.5	70.8	39.6	77.6	76.2	59.3	30.7	56.6	85.2	67.1	84.1	51.8	70.3	68.8	71.5
Jamaica	66.6	99.2	47.3	82.8	80.2	71.8	87.4	76.3	61.8	24.4	43.0	88.4	76.8	78.0	33.2	48.9	56.2	75.9
Paraguay	66.1	97.9	64.2	76.0	75.5	65.6	95.3	84.3	45.4	17.1	25.2	91.3	71.3	83.7	n.d.	45.4	52.6	67.2
Belize	66.0	87.3	57.1	79.8	83.0	54.9	92.2	88.6	70.9	27.0	n.d.	83.9	63.8	80.1	29.1	43.0	42.5	73.2

Table 2.7 (continued)

COUNTRY	SDGI	SDG1	SDG2	SDG3	SDG4	SDG5	SDG6	SDG7	SDG8	SDG9	SDG10	SDG11	SDG12	SDG13	SDG14	SDG15	SDG16	SDG17
United Arab Emirates	66.0	99.4	63.1	87.2	83.4	57.5	50.2	82.9	84.5	61.8	n.d.	30.7	44.5	48.0	48.0	29.5	85.2	100.0
Barbados	66.0	98.2	51.7	88.8	77.5	71.0	65.6	99.9	72.0	52.1	38.6	94.3	53.6	62.1	37.0	37.8	62.3	59.1
Peru	66.0	97.8	56.8	79.8	82.2	67.0	84.6	74.6	52.2	23.3	46.8	79.9	73.2	84.1	49.4	58.7	53.4	57.6
Jordan	66.0	100.0	47.7	77.7	87.5	42.0	65.5	85.8	56.9	31.5	65.5	76.7	75.5	86.3	33.4	40.2	74.8	74.3
Sri Lanka	65.9	99.6	41.2	86.2	90.1	47.6	86.2	58.0	80.2	17.9	61.0	73.1	67.0	83.7	54.5	60.7	70.0	43.5
Venezuela, RB	65.8	81.7	51.0	75.0	79.5	64.1	93.0	84.9	71.6	27.5	38.7	84.6	66.1	86.9	35.1	75.6	31.2	72.5
Bhutan	65.5	99.9	46.0	72.3	53.9	48.9	76.7	80.9	58.7	25.0	62.0	59.7	74.5	91.1	n.d.	63.3	78.6	56.5
Bosnia and Herzegovina	65.5	100.0	54.5	78.1	80.3	39.2	98.0	65.7	49.4	24.4	76.3	72.2	72.3	86.2	11.6	59.6	62.8	82.1
Gabon	65.1	97.9	50.7	52.9	66.4	50.6	78.7	73.7	49.4	17.0	52.4	69.5	78.2	89.6	44.6	83.0	52.7	100.0
Lebanon	64.9	95.5	44.5	80.5	72.1	39.1	80.5	87.5	75.6	35.4	67.2	72.0	73.4	77.7	36.6	50.7	59.0	56.5
Egypt, Arab Rep.	64.9	99.6	49.6	73.1	75.8	46.3	71.6	89.2	49.8	30.5	n.d.	50.0	73.1	88.5	47.6	56.9	67.6	69.5
Colombia	64.8	93.7	52.7	81.3	75.0	70.2	89.1	83.7	55.0	28.7	19.9	89.8	74.7	87.0	35.1	54.0	48.5	63.2
Iran, Islamic Rep.	64.7	100.0	51.3	77.2	84.5	41.9	68.4	78.2	71.4	26.7	66.2	74.9	68.3	73.4	52.4	56.7	57.5	50.9
Bolivia	64.7	94.0	51.5	67.7	53.8	73.2	80.6	66.4	51.2	17.1	34.6	85.1	75.3	87.4	n.d.	72.7	47.3	77.3
Guyana	64.7	94.0	55.4	64.6	68.4	63.8	92.0	89.4	58.2	18.3	73.0	81.8	43.8	44.6	52.3	86.3	52.7	60.7
Bahrain	64.6	98.9	63.6	89.9	82.3	48.0	49.8	88.6	79.1	49.5	n.d.	70.2	73.9	50.0	31.1	40.3	70.5	48.0
Philippines	64.3	92.5	50.2	61.1	84.0	64.5	85.5	64.6	60.8	24.5	49.9	68.0	82.2	88.5	50.7	51.5	61.1	53.9
Oman	64.3	98.7	53.9	85.1	79.8	32.2	50.1	78.6	73.0	42.5	n.d.	66.7	61.3	74.4	55.4	37.5	78.8	61.1
Mongolia	64.2	99.8	49.6	67.4	85.9	69.0	69.7	39.8	73.5	20.9	81.4	54.1	71.7	67.2	n.d.	60.8	57.2	59.0
Panama	63.9	98.0	46.9	78.0	85.5	63.8	85.1	80.1	71.4	28.8	28.0	94.4	70.6	82.5	38.6	53.5	52.0	29.9
Nicaragua	63.1	93.4	47.0	74.6	61.6	78.8	81.8	64.8	46.8	10.9	38.4	85.1	77.8	87.8	40.7	64.6	50.9	67.9
Qatar	63.1	99.8	57.8	89.3	81.4	48.0	49.4	78.4	80.6	50.1	57.5	46.9	56.7	58.6	39.2	40.1	86.9	52.0
El Salvador	62.9	96.4	48.8	78.4	73.1	67.7	84.8	81.5	55.8	15.1	53.4	75.4	74.9	87.8	21.6	58.8	35.6	60.4
Indonesia	62.9	94.6	46.9	60.7	76.2	59.3	81.6	64.8	67.7	25.4	60.2	58.7	79.3	88.5	44.5	44.2	69.9	46.5
Saudi Arabia	62.7	99.2	41.0	82.6	86.8	42.0	57.6	82.7	74.4	51.7	n.d.	0.0	58.6	73.0	45.8	35.3	72.1	100.0
Kuwait	62.4	99.5	64.2	86.0	76.3	48.9	49.5	85.9	91.7	43.8	n.d.	26.4	24.3	58.6	36.4	40.4	66.5	100.0
Mauritius	62.1	99.8	41.3	79.5	83.8	54.2	69.1	85.3	71.3	26.1	70.6	94.9	52.8	43.8	42.4	11.1	67.5	62.9
Honduras	61.7	80.2	47.2	73.0	71.6	65.5	86.9	67.2	49.3	12.6	28.1	80.1	76.3	87.1	41.8	60.1	48.6	72.4
Nepal	61.6	94.7	47.1	60.3	63.7	61.1	79.0	51.8	43.7	10.5	79.2	33.3	84.5	89.9	n.d.	66.2	57.6	62.5
Timor-Leste	61.5	88.3	37.3	51.1	59.1	48.3	67.7	22.4	76.0	17.5	82.8	66.6	93.6	91.1	48.9	63.7	55.9	75.3
Lao PDR	61.4	86.1	51.4	55.8	64.2	68.3	79.3	38.1	66.0	12.9	64.7	67.4	78.8	81.8	n.d.	51.3	63.6	52.3
South Africa	61.2	66.4	50.6	50.7	85.8	80.9	81.8	71.7	37.5	45.1	0.0	81.6	63.1	79.4	66.9	44.4	52.3	83.1
Ghana	59.9	79.5	54.3	54.9	68.6	48.5	68.8	53.6	54.0	22.6	50.7	54.4	78.1	88.0	45.2	71.6	67.0	58.5
Myanmar	59.5	87.5	52.2	56.7	67.9	67.8	84.3	36.9	51.5	13.3	n.d.	27.7	77.6	81.6	38.4	51.3	57.6	100.0
Namibia	59.3	75.5	28.0	55.9	69.4	84.1	76.2	38.8	38.0	25.7	0.0	76.0	69.7	54.5	63.9	89.3	69.9	92.7
Guatemala	58.3	90.4	39.6	68.6	64.9	56.5	82.4	57.0	60.7	13.4	33.8	81.5	74.7	88.7	31.6	43.9	51.0	52.8
Botswana	58.3	79.3	35.1	55.6	79.9	66.8	82.9	39.9	50.6	26.4	0.0	92.5	57.5	58.7	n.d.	63.4	60.1	83.3
Cambodia	58.2	99.8	49.7	62.1	60.4	55.4	71.2	33.4	52.2	16.8	85.1	75.9	80.8	64.4	29.3	43.7	54.6	54.1
Syrian Arab Republic	58.1	n.d.	27.5	73.1	48.8	36.1	68.6	85.3	50.5	17.4	81.6	77.1	76.2	89.3	31.9	42.6	63.9	60.5
India	58.1	93.4	36.9	55.2	65.3	33.3	73.7	54.0	68.3	33.1	72.5	34.3	81.6	74.7	42.9	47.0	69.4	51.7

Table 2.7 (continued)

COUNTRY	SDGI	SDG1	SDG2	SDG3	SDG4	SDG5	SDG6	SDG7	SDG8	SDG9	SDG10	SDG11	SDG12	SDG13	SDG14	SDG15	SDG16	SDG17
Turkmenistan	56.7	100.0	53.9	70.8	84.4	55.5	42.1	69.9	34.0	7.4	56.4	74.7	76.2	66.0	n.d.	52.9	63.4	0.0
Iraq	56.6	99.1	36.6	62.2	52.6	36.5	60.8	77.1	47.9	4.7	84.7	66.8	77.0	86.8	19.6	30.8	69.5	50.0
Senegal	56.2	63.3	51.1	55.8	29.0	51.8	71.0	47.0	53.0	14.3	57.8	70.9	81.7	81.6	29.7	69.7	63.8	64.6
Bangladesh	56.2	94.4	42.8	58.7	48.0	62.7	79.8	44.1	62.2	12.5	81.2	14.0	77.5	75.3	46.5	55.2	58.5	42.2
Zimbabwe	56.1	49.5	38.7	44.0	67.9	78.7	66.0	39.4	43.9	15.8	49.6	77.6	74.7	79.9	n.d.	67.0	44.5	60.6
Pakistan	55.6	97.0	36.0	51.6	40.2	28.7	66.8	65.2	45.6	18.8	85.3	44.0	79.2	88.0	46.0	57.9	52.0	43.4
Rwanda	55.0	52.0	41.9	61.6	59.3	79.2	75.7	5.9	52.6	17.8	28.7	39.9	82.2	81.2	n.d.	65.3	72.9	63.9
Swaziland	55.0	60.0	46.0	48.8	62.5	53.7	71.7	49.3	47.4	22.5	25.8	79.4	78.2	37.2	n.d.	52.7	52.7	91.6
Kenya	54.9	76.7	48.4	45.8	59.3	64.4	53.5	34.6	57.2	25.6	34.2	64.9	80.3	72.0	42.0	53.5	58.9	62.7
Ethiopia	53.5	82.8	38.2	49.0	38.6	53.2	57.2	30.4	41.4	11.9	78.2	61.9	78.6	75.0	n.d.	55.1	52.9	51.6
Cote d'Ivoire	53.3	86.9	46.7	37.3	29.6	32.8	64.1	46.7	28.1	22.6	49.5	73.4	77.4	94.0	26.5	72.1	59.4	59.8
Lesotho	53.0	31.6	51.2	34.3	54.9	73.8	71.0	28.6	27.5	16.0	18.0	76.4	79.2	73.0	n.d.	67.1	44.9	100.0
Uganda	52.9	67.4	44.8	46.0	57.6	58.8	65.0	6.5	59.0	15.9	55.7	27.7	78.4	91.0	n.d.	66.8	51.1	54.2
Cameroon	52.8	74.9	48.0	44.0	62.6	49.4	69.3	48.7	32.2	6.7	39.9	25.8	81.4	93.2	41.7	67.1	56.7	56.5
Tanzania	52.1	60.6	38.8	47.0	53.6	73.4	53.2	19.4	36.0	12.7	65.0	51.8	79.1	85.1	50.1	52.8	52.2	54.6
Burundi	51.8	0.0	42.0	53.1	56.8	64.3	72.9	0.0	40.6	3.8	77.7	54.0	83.1	78.6	n.d.	72.9	53.3	75.1
Mauritania	51.1	94.4	50.9	47.5	34.8	29.0	58.4	36.8	39.8	6.4	80.4	29.7	80.7	75.2	40.8	63.1	45.3	56.2
Zambia	51.1	27.7	33.5	48.2	66.4	62.3	66.4	43.1	36.4	12.3	13.9	55.4	76.3	80.0	n.d.	68.9	50.7	75.6
Congo, Rep.	50.9	39.7	38.7	51.1	61.0	49.5	51.9	38.0	38.1	4.8	33.0	44.0	78.1	94.7	31.1	88.3	66.9	56.1
Angola	50.2	55.0	42.7	29.6	46.7	55.2	60.1	35.1	50.5	9.7	50.8	49.5	80.6	90.8	38.5	63.0	42.0	53.2
Togo	50.2	62.7	48.3	42.2	61.6	42.7	54.0	14.3	42.5	5.2	41.4	41.4	82.4	84.7	18.5	80.2	65.4	65.4
Burkina Faso	49.9	70.3	34.0	44.3	15.5	35.1	64.1	7.2	33.8	9.6	72.1	44.0	80.4	86.6	n.d.	81.4	61.1	59.0
Sudan	49.9	78.1	23.9	52.5	19.2	38.9	38.6	44.1	36.8	14.1	71.8	55.4	74.9	77.9	50.8	34.4	68.5	67.7
Yemen, Rep.	49.8	52.5	21.8	52.2	51.8	14.2	29.2	49.1	37.7	6.5	65.2	57.4	71.9	95.0	52.9	46.2	43.1	100.0
Djibouti	49.6	83.9	37.0	56.9	8.0	32.4	55.0	62.7	48.5	5.1	46.8	61.1	79.2	62.9	32.3	12.3	77.1	81.9
Benin	49.5	46.5	49.9	47.7	38.4	36.7	61.8	10.6	61.8	6.2	48.8	50.9	81.3	79.3	26.4	77.6	59.3	57.8
Mozambique	49.2	23.5	38.3	30.9	48.2	56.3	46.9	36.1	30.7	8.0	42.6	53.6	84.7	78.0	64.7	63.2	55.1	76.2
Guinea	48.8	54.2	45.9	32.6	16.5	30.4	55.0	10.3	36.1	4.2	76.6	58.4	79.0	93.0	44.7	80.5	48.8	63.1
Nigeria	48.6	49.3	46.5	27.6	42.0	35.5	63.0	38.1	49.2	15.2	50.1	31.0	76.3	89.5	36.5	75.3	51.4	50.5
Mali	48.5	66.4	39.7	30.4	3.9	27.9	66.7	10.0	44.6	10.1	78.6	47.1	76.2	84.7	n.d.	66.9	63.0	60.4
Malawi	48.0	17.0	45.8	42.4	36.7	64.4	78.2	2.1	32.7	12.0	41.1	55.1	83.9	65.4	n.d.	65.0	49.0	77.4
Gambia, The	47.8	40.6	44.5	49.3	35.1	36.6	67.8	22.5	17.0	12.5	37.6	53.9	78.1	78.4	41.5	67.3	64.3	66.0
Sierra Leone	47.1	28.7	41.5	28.2	49.3	43.4	46.1	2.2	35.9	5.8	75.9	47.5	82.2	81.1	39.3	75.3	58.1	60.5
Afghanistan	46.8	53.3	38.8	39.2	17.4	21.8	43.1	53.1	32.2	1.8	93.6	38.7	82.1	87.3	n.d.	37.9	51.6	57.0
Niger	44.8	50.7	34.0	34.3	6.2	21.1	51.0	2.8	42.6	2.6	75.9	39.8	78.4	65.9	n.d.	66.3	71.1	74.0
Haiti	44.1	33.8	40.0	44.6	46.7	38.1	54.4	18.4	37.8	2.3	0.0	44.0	77.7	91.0	34.9	39.7	45.9	100.0
Madagascar	43.5	0.0	28.2	42.1	35.6	71.0	44.4	4.2	42.8	6.3	51.0	47.5	76.0	88.0	49.3	55.5	54.4	43.3
Liberia	42.8	9.8	43.6	31.0	12.1	37.4	59.6	0.0	47.4	8.8	68.7	49.3	82.9	74.5	44.8	55.9	52.6	49.8
Congo, Dem. Rep.	42.7	12.9	36.1	38.4	54.6	32.1	55.4	30.6	37.8	2.6	52.6	35.7	80.0	93.0	10.5	62.6	45.0	45.1
Chad	41.5	45.3	29.1	24.9	22.8	25.9	50.0	1.4	35.7	1.7	49.1	39.3	76.8	85.4	n.d.	79.2	42.8	54.3
Central African Republic	36.7	0.0	34.8	24.6	17.9	30.3	61.6	2.4	32.8	4.3	12.1	30.2	77.3	68.7	n.d.	89.9	57.8	43.4

Source: Authors' analysis

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