GLOBAL ECONOMY & DEVELOPMENT
WORKING PAPER 123 | SEPTEMBER 2018

Global Economy and Development at BROOKINGS

HOW MANY PEOPLE WILL THE WORLD LEAVE BEHIND?

Assessing current trajectories on the Sustainable Development Goals

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Disclaimer/Disclosures:

Brookings gratefully acknowledges the program support provided by the Bill & Melinda Gates Foundation and the Australian Department of Foreign Affairs and Trade.

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Acknowledgments:

We thank Margaret Biggs, Kaysie Brown, Elizabeth Cousens, George Ingram and Tony Pipa for helpful comments at various stages of research and drafting.

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I. Introduction

Do the Sustainable Development Goals (SDGs) matter for real people? In 2015, at the United Nations, all countries agreed on the set of ambitious economic, social and environmental targets to be achieved by no later than 2030, guided by a central motivation to "leave no one behind." But is the world on track to do so? What are the consequences if it falls short? How many lives are at stake? This paper considers these questions by estimating the extent to which, if recent trends persist, issues and countries will still see people left behind.

There is ample evidence that trends can change over time. Indeed our study is partly motivated by the significant shifts in trends that took place during the Millennium Development Goal (MDG) era, which concluded in 2015 (McArthur and Rasmussen 2018). Health indicators showed the most notable acceleration in gains compared to pre-MDG rates of progress, leading to at least 20.9 million and as many as 30.3 million additional lives saved compared to if previous trajectories had continued, with sub-Saharan Africa accounting for around two-thirds of the total. Educational enrollment also experienced significant acceleration, leading to at least an incremental 74 million children completing primary school. But the MDG patterns varied by issue, as indicators like undernourishment, access to water, and access to sanitation showed more consistent rates of progress and less evidence of acceleration.

In that context, this paper looks forward at the SDG horizon to consider which current trends need to change. With only 12 years remaining to 2030, there is limited time available to "bend the curves" toward greater success.[1] Specifically, we tackle two basic questions. First, which issues are currently on track to make the most and least progress in relation to the stated SDG targets? Second, which countries face the most severe challenges, in terms of their distance to the targets and their share of the world's population being left behind? In line with the universal nature of the SDGs, these questions are applied to all countries at all stages of economic development.

It is important to note that we focus on SDG targets that are assessable at the country level and measurable in terms of the number of people making progress.[2] The paper does not address many other important SDG targets focused on geographically-defined environmental outcomes like climate change or ocean conservation. Nor do we analyze targets where broad societies frame a synthesis unit of analysis, such as economic growth or Gini coefficient measures of inequality.

Our assessment segments "life-and-death" targets (e.g., child mortality, non-communicable disease mortality) from those focused on "basic needs" that are essential for a decent quality of life, (e.g., proper nutrition, access to drinking water and sanitation, gender equality of opportunity). We also distinguish between targets defined in absolute terms (e.g., eradicate extreme poverty, end violence against women) from those defined in relative terms, on which each country needs to make progress compared to its own

[1] Although most SDG targets have a 2030 deadline, some have an earlier horizon, including target 3.6 for traffic deaths, which is assessed in this paper and has a 2020 deadline.

[2] This leads to a sample of targets drawn from Goals 1, 2, 3, 4, 5, 6, 7, 11, and 16.

starting point (e.g., cut traffic deaths by half, reduce non-communicable disease mortality by one-third).[3] We include a select number of "proxy targets" when the official SDG language is quantitatively ambiguous. For instance, we interpret target 11.6's language to "reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality," as requiring a 50 percent reduction in the share of people exposed to harmful air pollution.

Overall, our findings show that most countries are making progress on most issues, but the SDGs still require much faster progress in order to leave no one behind.

In considering which issues face the biggest challenges if recent trends continue, we find:

- The world is on track to achieve at least half the SDG standard on only 5 assessed indicators—child mortality, hepatitis B, malaria, access to electricity, and extreme poverty—while achieving less than half the objective on 18 indicators and moving in the wrong direction on 2 indicators—air pollution and children overweight.
- Approximately 44 million lives are at stake, including more than 29 million people under age 70 at risk due to non-communicable diseases and 9 million children under age 5 vulnerable to preventable causes of death.
- On indicators of basic needs, often hundreds of millions—and in some instances billions—of people's needs are at stake. This includes an estimated 475 million people, or 6 percent of world population, who will still be living in extreme poverty in 2030, well short of eradication.
- Distressingly, measures of gender equality are nowhere near on track for full success by 2030, including 850 million women subject to violence and nearly half of all women and girls still facing discrimination in opportunities for public leadership.

In considering which countries face the biggest challenges if recent trends continue, we also find:

- A small number of countries will account for the majority of people left behind on each issue, although the mix of countries differs by indicator. On multiple indicators, Nigeria, India, Democratic Republic of Congo, Pakistan, and China are home to a large share of the people left behind, as are the United States and Brazil in some instances.
- Independent of population size, countries like Central African Republic, Chad, South Sudan, and Somalia will be furthest from the absolute targets in 2030.
- All OECD countries will face shortfalls on both absolute and relative targets. Every country has its own mix and depth of challenges to address, demonstrating the universal relevance of the SDG framework.

The paper is organized in five parts. Following this introduction, Section II briefly summarizes relevant previous literature. Section III describes our methodology, with further details available in the Appendix. Readers most interested in the results might wish to jump to Section IV, which estimates the scale of

[3] Note that here we also interpret all SDG targets as country-level objectives. For example, if the official SDG language calls for a the world to achieve a specific numerical target or to reduce a problem by half, then we interpret this as each country needing to meet that same numerical target or to reduce its own problem by half.

progress and resulting gaps for each issue under business as usual. Section V then estimates which countries face the biggest challenges on each issue. Section VI presents a brief discussion and conclusion.

II. Previous literature

A number of SDG benchmarking studies have either taken stock of countries and issues at the outset of the SDG era or assessed their most recent status (e.g., UN, 2018; WHO, 2017b; World Bank 2018a; Sachs et al. 2017; OECD, 2017). Other work provides forward-looking assessments of trends out to 2030. Nicolai and colleagues (2015), for example, examine aggregate global trajectories out to 2030 on one representative indicator per goal. The Sustainable Development Solutions Network's (Sachs et al. 2018) recent index includes country-level trend analysis for a series of SDG-aligned indicators, although not all of these match the United Nations' official targets.

Some studies focus on specific geographies. For instance, McArthur and Rasmussen (2017) assess Canada's domestic trajectories across all 17 SDGs, including an array of subnational trajectories. The United Nations Economic and Social Commission for Asia and the Pacific (2018) considers aggregate regional trajectories. The European Union (2017) diagnoses performance by comparing near- and longer-term rates of progress with those required for the EU to meet a cross-section of targets.

Other research has focused on specific thematic priorities. World Poverty Lab (2018), for example, presents country-level trajectories for extreme income poverty out to 2030. The Global Burden of Disease 2016 SDG Collaborators project (2017) estimates country-level health trends out to 2030 too. UNICEF (2018) calculates 2030 country-level projections for a number of child-related indicators. McArthur and colleagues (2018) examine trends for maternal mortality and child mortality, estimating the approximate number of "lives at stake" in each country out to 2030, if current trajectories continue to fall short.

The current study builds on previous research in several ways. For example, we directly incorporate the World Poverty Lab's results for extreme poverty. We deploy McArthur and Rasmussen's (2017) method for identifying assessable targets. We also follow the methods from McArthur and Rasmussen (2018) and McArthur and colleagues (2018) to calculate "lives at stake" and "needs at stake." Like the EU (2017), we use recent short-term trends as the basis for business-as-usual trajectories. Our "distance to the frontier" method for estimating each country's starting and final gap to SDG objectives was developed in parallel to Sachs and colleagues (2018) and is implemented with a similar spirit.

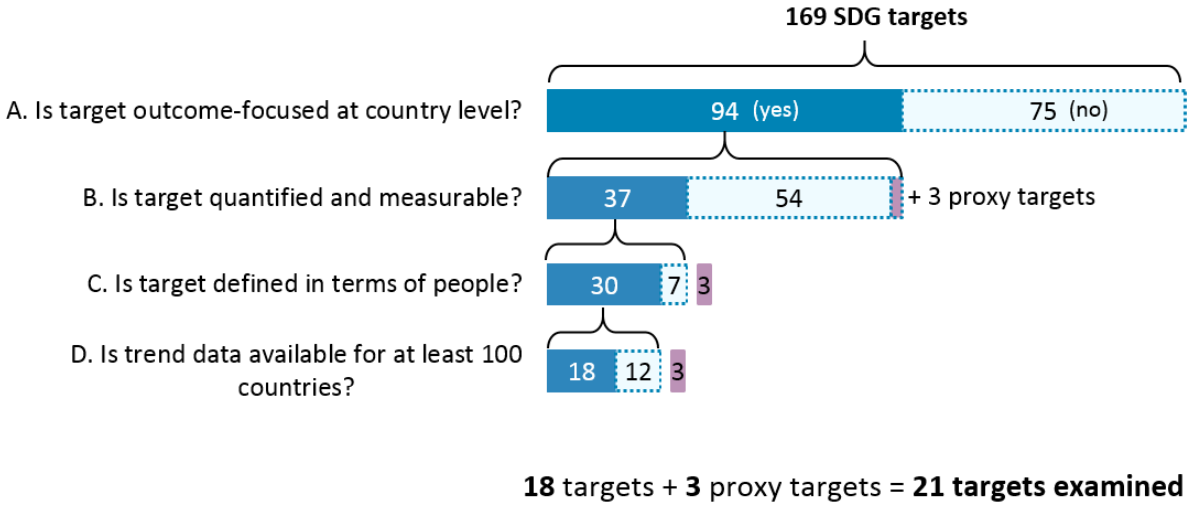
III. Methodology

Our primary methodological innovation is to estimate trajectories for people-centered SDG measures across all countries, irrespective of development status, and to translate these into absolute human terms—the number individual lives and individual people's needs at stake. Throughout, we prioritize using the U.N.'s formal framework of targets and indicators wherever practical. The methodology entails five steps. First, we identify relevant targets and indicators; second, we classify targets by type; third, we calculate country-level trajectories; fourth, we estimate success ratios and the number of lives and people's needs at stake; and fifth, we estimate each countries' average starting and finishing distance to the SDG target frontier. Each step is described below and further details are available in the Appendix.

1. Identifying targets and indicators

Figure 1 illustrates the sequence of questions used to identify targets for analysis. This builds on the sorting logic presented in McArthur and Rasmussen (2017), which identifies 37 assessable, country-level outcome targets. Of these, 30 can be defined in terms of the number of people affected. As mentioned earlier, this does not include geographically-defined environmental outcomes or aggregate societal metrics like Gini coefficients of inequality. Therefore, in the context of Goal 7, for example, we include target 7.1, which focuses on the share of the population with access to electricity, but we do not include target 7.3, which measures energy efficiency without reference to population.

Fig 1. We examine 18 people-focused SDG targets and 3 proxy targets



Note: Proxy targets are those not quantified as written in U.N. target language but where a reasonable proxy objective can be set. In this paper, we identify 3 such targets with available data. Other proxies could also potentially be set, as identified in McArthur and Rasmussen (2017).
Source: Authors' calculations based on McArthur and Rasmussen (2017).

We aim to identify a representative indicator for each key concept embedded in the 30 targets, striving for at least one indicator per target. Wherever practical, we use official indicators and draw data from the U.N. SDG Indicator Global Database. We supplement with other data sources when they have information that is more recent, more pertinent, or offer broader country coverage. We use unofficial indicators for five targets. Most data sources were collated as available up to May 2018. The range of our analysis is clearly constrained by data gaps, as discussed in Boxes 1 and 2.

Overall, we find 18 targets have available recent trend data for at least 100 countries—defined as at least one observation in 2012 or later and at least one observation 5 years prior, but no earlier than 2000. We use 25 indicators to assess these targets. There are more indicators than targets because some targets are written with multiple objectives. For example, to assess progress on target 3.3 on incidence of infectious disease, we include respective indicators for HIV, tuberculosis (TB), malaria, and so forth.

We also include three targets that are not quantified as written, but where a reasonably proxy objective can be set and quantitative trend indicators are available: target 5.5 on gender equality in leadership; target 11.6 on exposure to poor air quality; and target 16.1 on violence, specifically homicides.[4] This brings the full sample to 28 indicators for assessing 21 targets. The Appendix includes a list of exact indicators used and corresponding country coverage.

Box 1. Data gaps and limitations

Our analysis is only as comprehensive as the data available. Country-level data gaps are common across SDG targets, including problems of time-series availability, country coverage, and measurement of "last mile" populations. Lags in publication are also a concern. At the time of writing, only a handful of indicators examined in this paper have observations available for 2017. For many indicators, the most recent observation is from 2015 or earlier.

Of the 30 people-focused outcome targets identified, only 18 have relevant trend data for at least 100 countries. Among the other 12 targets, only four have trend data for 50 to 100 countries: targets 1.2 on national measures of poverty (84 countries); 4.6 on youth literacy (76); 5.3 on early and forced marriage (56); and 11.1 on population living in slums (74). Two targets have trend data for less than 50 countries: targets 1.3 on coverage of social protection systems (28 countries) and 8.7 on child labor (28). Four targets have data on current levels but lack adequate observations to calculate trajectories: targets 1.4 on land tenure; 5.6 on women making informed decisions on reproductive health care; 10.1 on income growth rate of bottom 40 percent; and 16.2 on human trafficking. For two targets, we were not able to identify appropriate cross-country data: 2.3 on small-scale food producers, and 3.8 on universal health coverage (see Box 2 regarding the latter).

Separately, three targets have ample indicator trend data and country coverage but an analytical structure that does not does not lend itself to calculations of the absolute number of lives left behind: 4.5 on gender parity in education; 5.1 on gender discrimination in income; and 3.3 on neglected tropical diseases.

Even when it is possible to estimate the number of people left behind on an indicator, we are not able to estimate exactly which people are being left behind. On extreme poverty, for example, we are not able to estimate the number of children in poverty with available data. Nor do our data permit us to identify whether an issue is concentrated among people with disabilities, indigenous people, ethnicities, age groups, or within a particular sub-national geography. More detailed assessments of such questions will be crucial to identifying within-country strategies to ensure people are not left behind.

2. Classifying targets

As visualized in Figure 2, we segment targets across two dimensions. First, we distinguish between issues of "life and death" (e.g., child mortality, non-communicable disease mortality) and "basic needs" that are essential for a decent quality of life (e.g., proper nutrition, access to sanitation, gender equality of opportunity). Second, we separate targets defined in absolute terms (e.g., ending extreme poverty, measured by a zero poverty headcount rate) from those defined in relative terms (e.g., cutting traffic deaths by half).

[4] Additional proxy targets could potentially be set where data permit, in line with assessment methods presented in the Canadian context in McArthur and Rasmussen (2017).

3. Calculating trajectories

We extrapolate each country's recent trend out to 2030—or in one case 2020, the deadline for target 3.6 on traffic deaths—assuming progress maintains a business-as-usual trajectory. For mortality and disease-related indicators, we use proportional rates of progress; for extreme poverty, we use the country-specific trajectories published by World Data Lab (2018); for all other indicators we use linear (absolute) rates of progress. For a small number of indicators with year-to-year volatility in reported data (e.g., homicides, primary school completion rates), we use a simple regression analysis to calculate a fitted linear trend for each country, as discussed further in Box 3.

We next identify the trajectory required for each country to meet each target, starting from the estimated 2018 value. For absolute targets like extreme poverty and child mortality, we apply the same benchmark in every country.[5] For relative targets like non-communicable disease mortality and traffic deaths, we calculate benchmarks for each country, relative to their initial 2015 values.

As mentioned earlier, we take steps to enable assessment of some quantitatively ambiguous SDG targets. Specifically, for targets 11.6 and 16.1, we set proxy benchmarks as each country cutting the relative problem by half by 2030. For target 5.5, we define "full and effective participation and equal opportunity" as gender parity in public leadership. For target 3.3, we apply the WHO global incidence reduction target to each country for HIV (reduce by 90 percent), tuberculosis (reduce by 80 percent), malaria (reduce by 90 percent), and neglected tropical disease (reduce by 90 percent) and we define "combat hepatitis" as reduce incidence by 50 percent. See the Appendix for additional details on indicator-specific assumptions.

Box 2. Measuring progress on SDG 3.8: Universal health coverage

Debate is ongoing on how best to measure progress for target 3.8 on universal health coverage (UHC). As one contribution to the effort, the Global Burdens of Disease collaborators (2017) present a UHC index for 188 countries that averages 41 inputs, each rescaled so that 0 is the worst level observed and 100 is the best. Hypothetically, if all countries were doing very poorly on an input, the best observation would still receive a score of 100. While this offers a method for comparing countries' relative performance over time, it does not inform assessment of absolute measures of access, including how many people lack access.

As an alternative approach, the WHO's (2017a) UHC index averages 16 tracer indicators that measure the share of people with access or distance towards a target. While this indicator has broad country coverage, it lacks trend data. It also uses two proxy indicators that measure risk—smoking prevalence and elevated blood pressure—rather than access to services. A forthcoming index from the WHO Expert Reference Group on the General Programme of Work 13 (2018) seeks to resolves these issues. In light of the embedded measurement challenges and ongoing technical debates, we decided not to include the UHC target in this paper's results.

[5] For extreme poverty and undernourishment, there are data constraints in measuring "last mile" populations so we use a combination of target structures. Due to the asymptotic nature of extreme poverty estimates, we apply a 3 percent threshold for calculations of country-level "success," as reported in the Appendix, and a zero percent threshold for all estimations of global aggregates and people's needs at stake. For the undernourishment indicator, country-level data are only reported down to a data floor of 2.5 percent, so we assume countries that reached this floor by 2015 have already met the elimination target, while other countries' trajectories must reach zero in order to achieve the target by 2030.

Fig 2. Classifying the 21 targets by type

	Life and death	Basic needs
Absolute outcomes	(3.1) Maternal mortality down to 70 per 100,000 live births (3.2) Under-5 child mortality to no more than 25 per 1,000 live births	(1.1) End extreme poverty (2.1) End undernourishment (2.2) End stunting; End wasting; End child obesity (3.7) Universal access to family planning (4.1) Universal primary school completion (*U*) (4.2) Universal pre-primary enrollment (4.5) Gender parity in primary and secondary enrollment* (5.1) Gender parity in income* (*U*) (5.2) End violence against women (5.5) Gender equality in government (*P*) (6.1) Universal access to water (*U*) (6.2) Universal access to sanitation (*U*) (7.1) Universal access to electricity (16.9) Birth registration for all
Relative outcomes	(3.4) Reduce non-communicable disease (NCD) mortality by one-third; Reduce suicide deaths by one-third (3.6) Reduce traffic deaths by half by 2020 (16.1) Reduce homicides by half (*P*)	(3.3) Reduce new HIV infections by 90%; Reduce tuberculosis incidence 80%; Reduce malaria incidence by 90%; Reduce neglected tropical disease prevalence by 90%;* (WHO targets) Reduce Hep B incidence 50% (*P*) (11.6) Reduce people living with air pollution by half (*P, U*)

Notes: (P) indicates proxy target. (U) indicates unofficial indicator. Targets 2.2, 3.3, and 3.4, use multiple indicators. We establish proxy outcomes to quantify targets 5.5, 11.6, 16.1, and for one indicator under 3.3 (Hepatitis B).

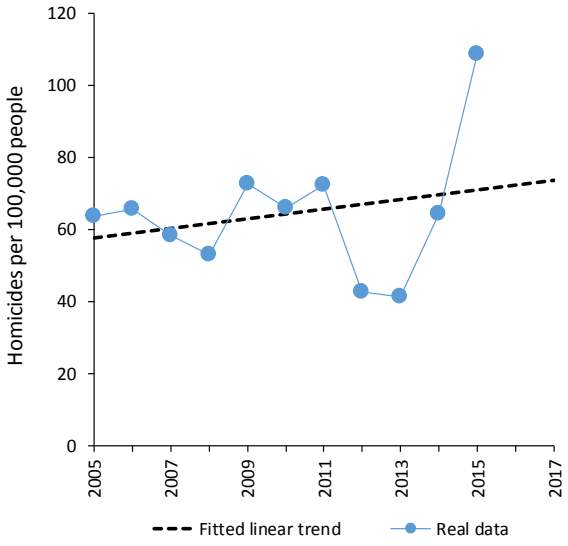
* For three indicators, we calculate countries' business-as-usual trajectories but do not calculate lives or needs at stake: 3.3 neglected tropical disease; 4.5 gender parity in primary and secondary enrollment; and 5.1 gender parity in income.
Source: Authors.

Box 3. Adjusting for indicators with volatility

For five indicators, the raw country-level data exhibit considerable year-to-year volatility: malaria cases, primary school completion rate, pre-primary school enrollment, women in national parliament, and intentional homicides. To identify the business-as-usual trajectory for these indicators, we conducted a simple regression analysis to calculate a fitted linear trend, using observations available from 2005 through 2017. As an illustration, Figure A plots the reported homicide rate in El Salvador from 2005 through 2015. The circles indicate the raw data, which are used to calculate the fitted linear trend indicated by the straight dotted line.

Countries must have data within a relevant time period to be included in this type of calculation. For countries that have trend data but are missing observations between 2005 and 2012, we instead calculate a linear fit using available observations from 2000 through 2017. For most calculations on the projected share of distance traveled by 2030, we use fitted 2015 values for the starting point. The exception is the indicator for women in national parliament, for which we use actual 2015 observations to identify the distance to the frontier.

Figure A: Homicide rate in El Salvador



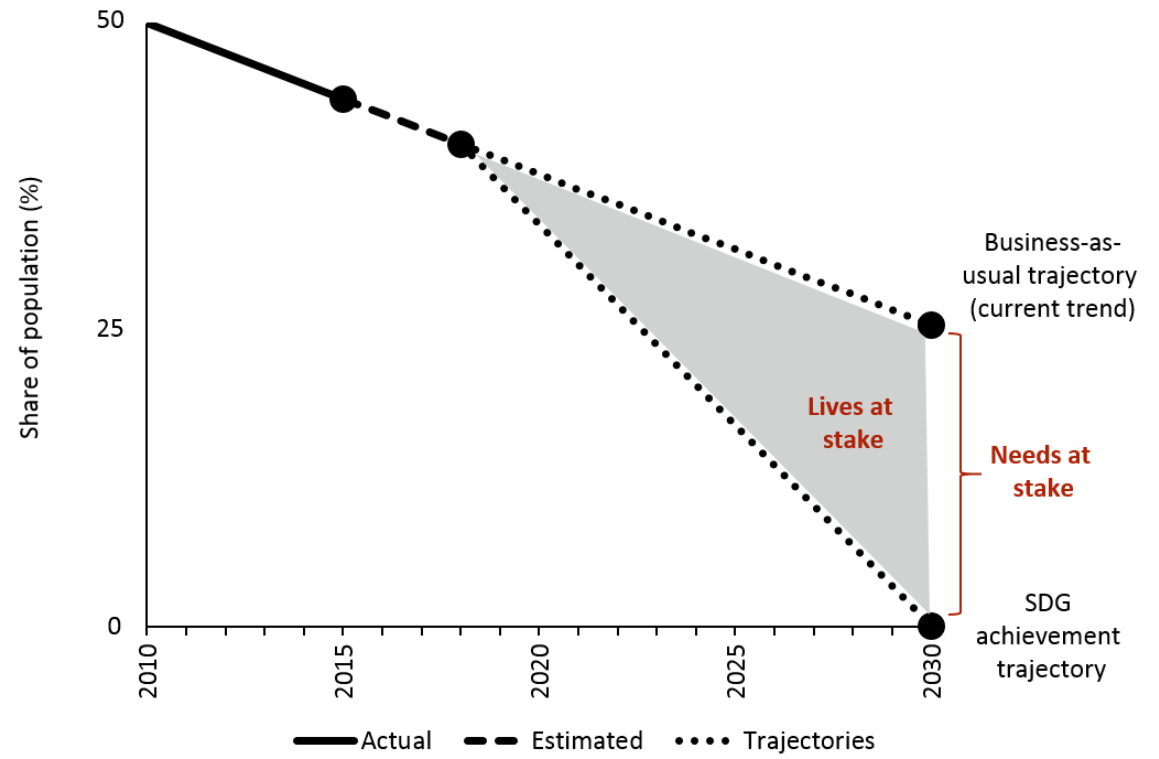
4. Estimating success ratios and the number of lives and people's needs at stake

Figure 3 demonstrates the logic for estimating the number of lives and people's needs currently at stake. We first translate business-as-usual and SDG achievement trajectory values into the number of people affected under each scenario, using the relevant country-level population or demographic group. On intimate partner violence against women, for example, we use females aged 15 and older as the relevant population; on primary school completion, we use 12-year-olds (see Appendix for demographic sources by indicator). We next calculate the difference between the two trajectories to find the total number of lives and needs at stake. On mortality and disease incidence, we examine the cumulative number of people from 2018 through 2030 (or the relevant target year).[6] To avoid double counting on issues of basic

[6] This follows methods previously presented in McArthur and Rasmussen (2018) and McArthur and colleagues (2018).

needs, we count only the number of people affected in 2030. To calculate aggregate world totals, we sum the number of people left behind in each country.[7]

Fig 3. Calculating lives (and needs) at stake



Source: Authors.

To estimate the share of the target achieved—or success ratio—between 2015 and 2030 on current trajectory, we define, for each country, 100 percent success as the difference between SDG achievement and a hypothetical baseline of no progress from 2015 onward. We then estimate the number of lives saved or affected under business-as-usual. The ratio of lives affected under business-as-usual to lives affected under SDG success is thus calculated as a percentage. So, for example, a 0 percent outcome for child mortality would mean that countries with child mortality rates greater than the SDG target (25 deaths per 1,000 live births) as of 2015 see no change in mortality rate by 2030, and potentially an increase in absolute number of child deaths due to underlying population growth. A 100 percent outcome represents all the lives saved between 2015 and 2030 if the same countries reduce their child mortality

[7] Although we do not have complete country coverage for all indicators, our trend data includes a large majority of the relevant global population for every indicator. Birth registration is the indicator with data available for the smallest share of the relevant global population, at 76 percent, largely due to a lack of observations for China. The next smallest shares are for primary school completion, at 83 percent, and pre-primary enrollment, at 84 percent. All other indicators have data for countries representing at least 90 percent of the relevant world population. See Appendix for details.

rate down to the SDG target or better by 2030. A 50 percent outcome implies that the total number of under-5 child deaths over the period declines by half as many as under the scenario of SDG success.

5. Estimating each country's average distance to the SDG target frontier

The final step is to develop a synthesized measure of each country's average distance traveled from 2015 to 2030, in relation to the operative targets. To do this, we first rescale the indicators for absolute targets to an indexed range from 0 to 100, with zero representing the fifth worst percentile country's distance to the target as of 2015 and 100 representing the 2030 target itself. We then calculate each country's average 2015 starting value across indicators alongside its average 2030 finishing value to estimate distance traveled during the SDG period. We calculate a similar synthesis measure for relative targets, with each country receiving a zero starting value, by definition, on each indicator in 2015. A 100 value would represent a country's full achievement of a relative target. Countries moving backwards on a relative indicator are given a value of zero distance covered for the relevant target.

6. Caveats

Our approach has inherent limitations. First, in the instances where we apply a linear trend methodology to indicators, doing so might overestimate current trajectories by ignoring possible "last mile" challenges, especially in countries that have registered rapid recent progress. For example, Nigeria had a reported child stunting rate of 50 percent in 2010, falling rapidly to 33 percent by 2016. Extrapolating this trend forward, Nigeria reaches 0 percent by 2030 and is one of only seven countries to do so. So we caution against interpreting any of our results with false precision, especially individual country-level results. Any country-specific follow-up to this study would need to study underlying trends with appropriate care. Second, the underlying quality of data varies across indicators. Some are a product of direct observation while others result from modeled estimates that might subsequently be revised. Third, any selected indicator may capture only one dimension of a respective SDG target's intended ambition. For example, for target 11.6 we use an indicator of the number of people exposed to air pollution; we do not measure other issues like municipal waste management that are explicitly mentioned in the target.

IV. Which issues face the biggest challenges?

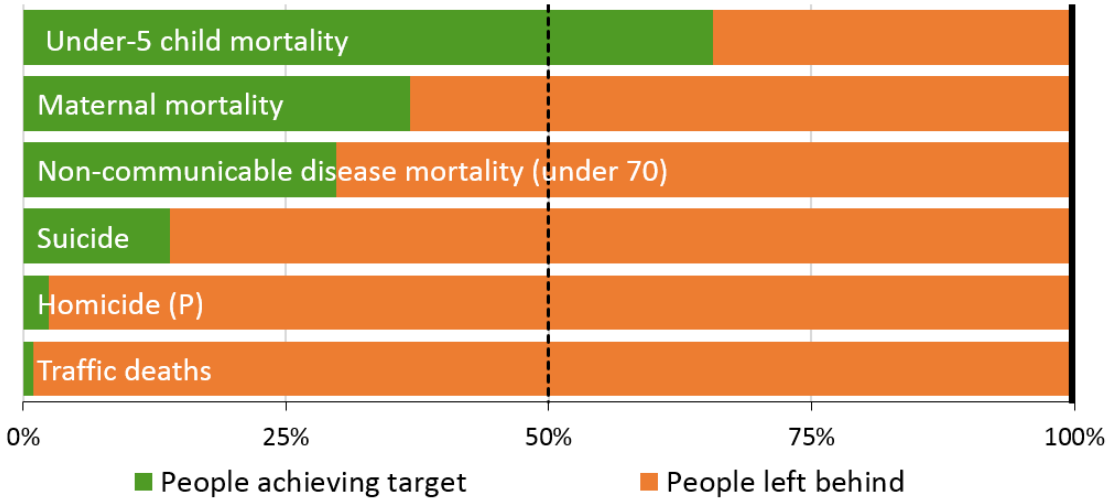
We examine our sample of indicators through two different lenses: the share of relevant world population on course to achieve—or be left behind on—each target, and the absolute number of people's lives or people's needs at stake on each issue. (The Appendix also reports the status of each country's current trajectory on each issue.) Here we consider each in turn.

1. How much success is the world currently likely to achieve on each issue?

Figure 4 shows the final success ratio for each life-and-death indicator, on current trend, compared to a hypothetical baseline of no progress from 2015 onward. Notably, only one indicator—under-5 child mortality—is currently on track to save more than half the relevant lives, with a current estimated trajectory achieving 66 percent of the cumulative progress required for SDG success. Meanwhile, maternal mortality and non-communicable disease (NCD) mortality are only en route to cover roughly

one-third the distance to the relevant targets.[8] Suicide, homicide, and traffic deaths are all on course to avert less than 15 percent of the relevant deaths. Since target 3.3 on traffic deaths frames one of the first SDG deadlines, in 2020, the results on that indicator are particularly noteworthy.

Fig 4. World performance on life-and-death SDG targets by 2030 under business-as-usual

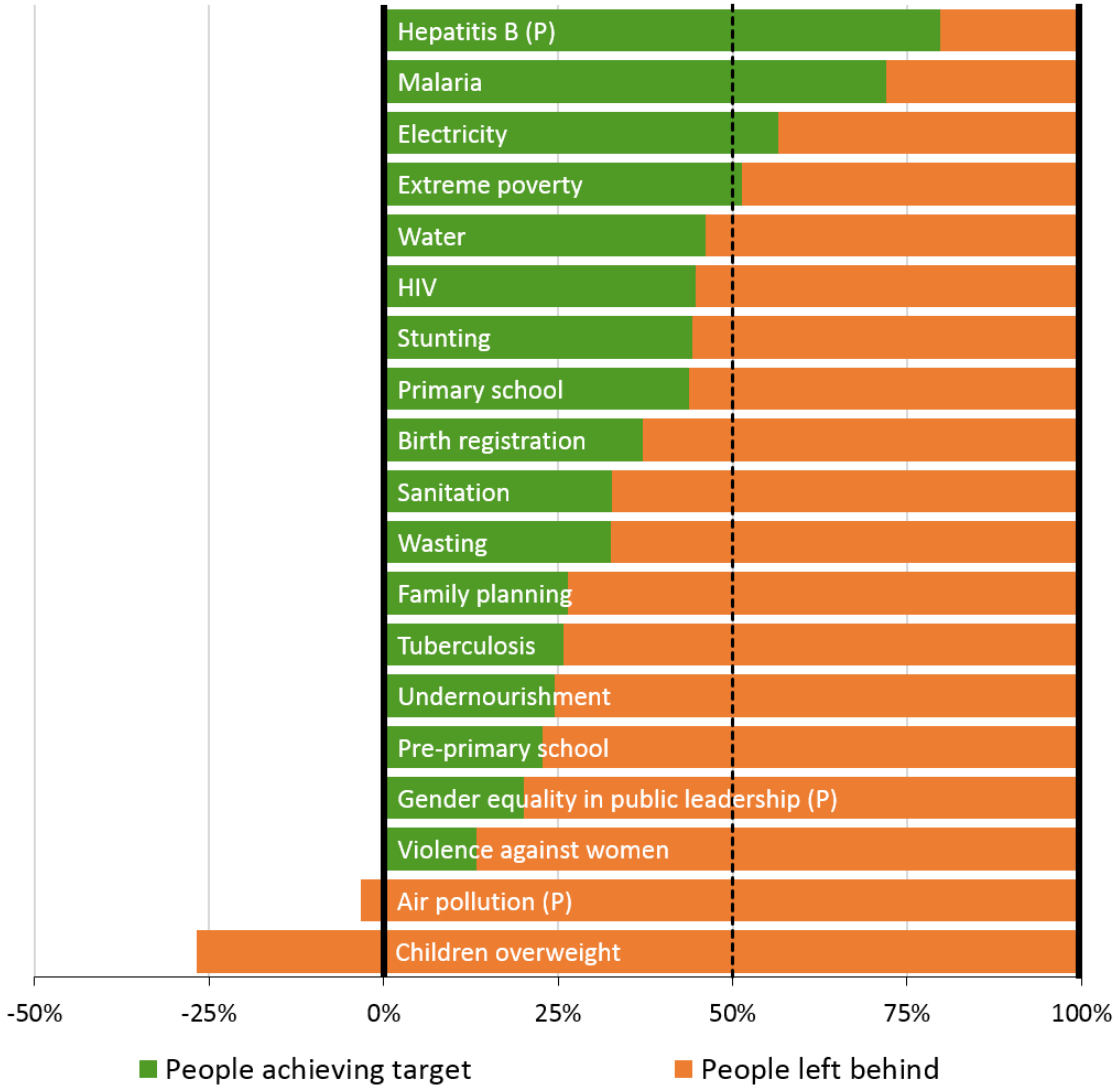


Notes: (P) indicates proxy target used: 50% reduction for homicide. Traffic deaths are cumulative over 2016 to 2020; maternal mortality applies the global target of 70 deaths per 100,000 live births to each country.
Source: Authors' calculations based on U.N.-DESA (2017a, b, d), U.N. Statistics Division (2018), World Bank (2018b), WHO (2018c, d).

For basic needs indicators, Figure 5 shows the share of each relevant population that meets the respective target by 2030, on current trend. Here only four indicators are on track to make it at least halfway to the global goal: Hepatitis B, malaria, electricity, and extreme income poverty. Nine targets are on track to meet the needs of between a quarter to a half of the relevant population: access to water, HIV infections, child stunting, primary school completion, birth registrations, access to sanitation, child wasting, access to family planning, and tuberculosis infections. Meanwhile, four indicators are on a path to leave the vast majority of the relevant population behind: undernourishment, preprimary education, gender equality in public leadership, and violence against women. Another two indicators—air pollution and children overweight—are on track for the relevant population to *increase* over the period. The results for children overweight are particularly troubling, driven by worsening rates in nearly every country alongside the world's growing absolute number of children.

[8] For NCDs, we use the age-adjusted mortality rate throughout this paper. Related calculations for absolute numbers of lives affected in Figures 4, 6, and 9 then use the same measure alongside data for size of population under 70 and the number of premature deaths due to NCDs among people under 70.

Fig 5. World performance on basic needs SDG targets by 2030 under business-as-usual

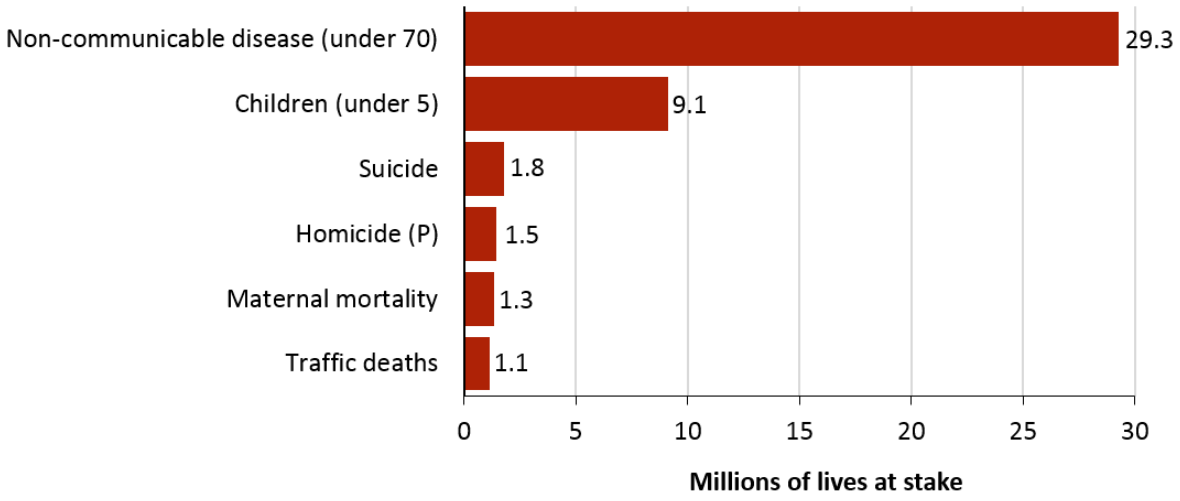


Notes: (P) indicates proxy target used: 50% reduction for air pollution and Hepatitis B; WHO (2015) target of 90% reduction applied to each country for malaria, tuberculosis, and HIV infections; parity for gender representation in public leadership. Figures are for 2030 except hepatitis B, malaria, HIV, and tuberculosis, for which figures are cumulative over 2016 to 2030.
Source: Authors' calculations based on GBD (2017), U.N.-DESA (2017b, c, d), World Bank (2018b), World Data Lab (2018), WHO (2017c).

2. How many lives and how many people's basic needs are at stake?

The previous two figures described each issue's proportionate degree of overall success if business-as-usual trends continue. Now we turn to estimating the absolute human consequences of those same trends. Figure 6 provides arguably the most salient measure: lives at stake. Looking forward as of 2018, we estimate that the difference between SDG success and current trends adds up to 44 million additional deaths by 2030. This includes 29.3 million people under the age of 70 dying prematurely due to NCDs; 9.1 million children under-5 dying due to preventable causes; 1.8 million suicide deaths; 1.5 million homicide deaths; 1.3 million maternal deaths; and 1.1 million traffic deaths.[9]

Fig 6. Life-and-death targets: forty-four million lives at stake, cumulative 2019-2030

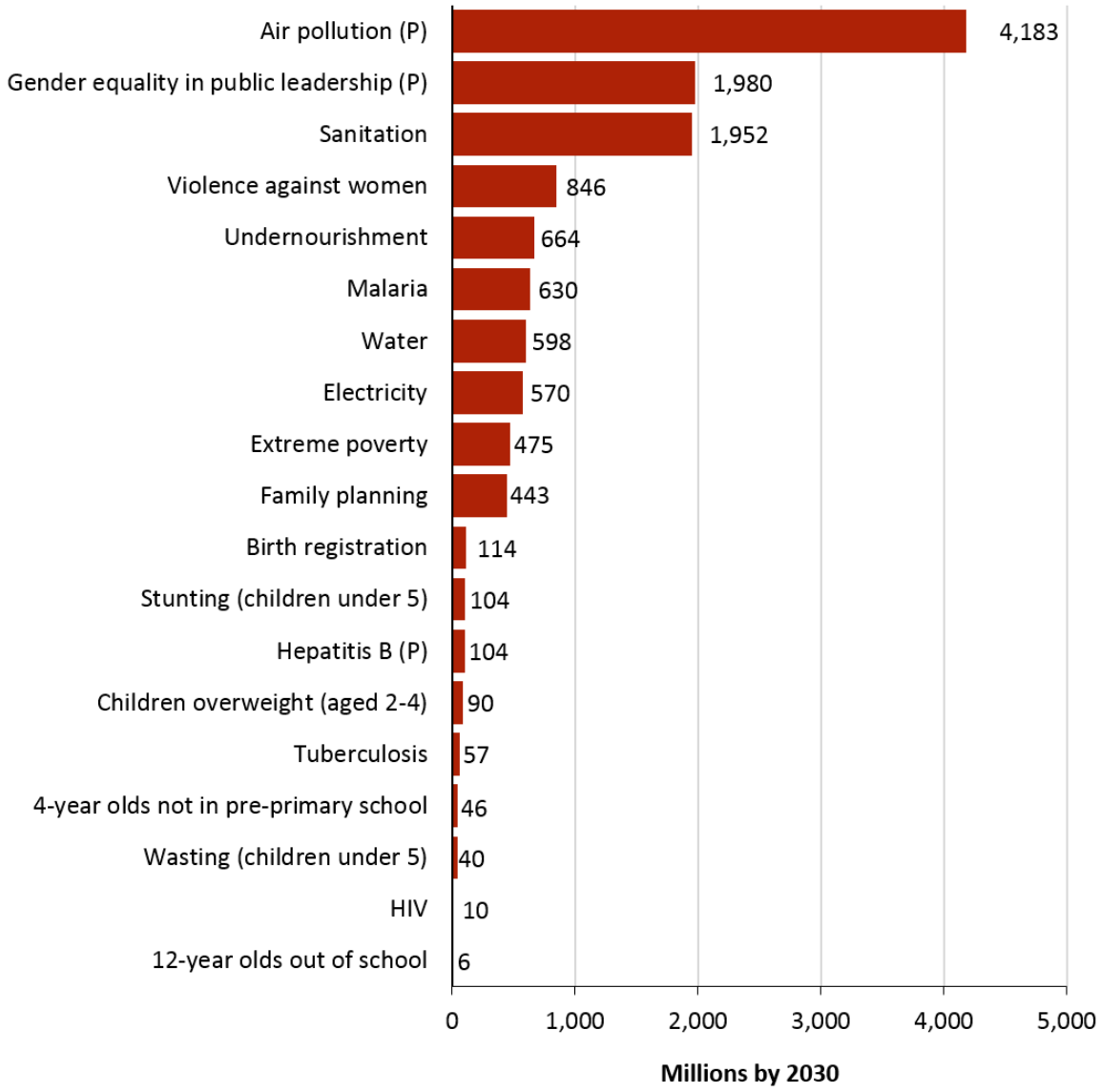


Notes: (P) indicates proxy target used: 50% reduction for homicide. Traffic deaths are cumulative over 2019 and 2020; maternal mortality applies the global target of 70 deaths per 100,000 live births to each country.
Source: Authors' calculations based on U.N.-DESA (2017a, b, d), U.N. Statistics Division (2018), World Bank (2018b), WHO (2018c, d).

Figure 7 presents corresponding estimates for the number of people's basic needs at stake as of 2018. For most of these indicators (other than for infectious disease, described below), we only consider final year outcomes i.e., the absolute difference in people affected in 2030 when comparing the SDGs and business-as-usual. Note that numbers are not strictly comparable across indicators. Some measures—like extreme poverty or access to water—are measured relative to the entire world population, projected to be 8.6 billion people in 2030 (U.N.-DESA 2017b). Other measures like 12-year-olds out of school are measured relative to a certain age group—in that case projected to be 134 million children in 2030.

[9] In the case of traffic deaths, the SDG target deadline is for 2020, so the cumulative deaths are calculated over 2019 and 2020.

Fig 7. Basic needs targets: millions of people's basic needs at stake by 2030



Notes: (P) indicates proxy target used: 50% reduction for air pollution and Hepatitis B; WHO (2015) target of 90% reduction applied to each country for malaria, tuberculosis, and HIV infections; parity for gender representation in public leadership. Figures are for 2030 except hepatitis B, malaria, HIV, and tuberculosis, for which figures are cumulative over 2019 to 2030.
Source: Authors' calculations based on GBD (2017), U.N.-DESA (2017b, c, d), World Bank (2018b), World Data Lab (2018), WHO (2017c).

Each indicator also represents a different dimension of basic needs. For infectious diseases, we estimate cumulative numbers of new infections. Malaria, for example, is treatable in the presence of appropriate medical care and a single person could have repeated cases over the course of the SDG period. We estimate 630 million such cases over 2018 to 2030 as the difference between current trends and SDG success. Meanwhile, HIV is treatable but not yet curable and an infection is permanent. We estimate 10 million new HIV infections are at stake out to 2030.

In that context, Figure 7's results are instructive. The top row shows nearly 4.2 billion people left behind on basic air quality. This number is a product of the "cut by half" proxy target we use to benchmark progress; it represents only half of the nearly 8.2 billion people we estimate to be living above the WHO target air quality standard in 2030 under business-as-usual. As described in Box 4, the WHO has other interim (lower air quality) standards en route to that target. Even under the weakest of these standards, fully 5.4 billion people will be living in polluted air by 2030. Regardless of which exact threshold is applied, it is clear that air quality represents one of the foremost universal SDG challenges.

We interpret gender equality in public leadership as a general proxy for gender discrimination. To illustrate the logic, consider a country with a population of 100 million people, half male and half female. If only 20 percent of the country's political leaders are women, we consider this to be a 30 percentage point shortfall to equality, and in turn interpret this to imply that 60 percent of women and girls do not have equal access to positions of leadership in society. We would thereby estimate that 30 million of the country's women and girls are being left behind. Aggregating this methodology across countries, we estimate that nearly 2 billion women and girls will be left behind in 2030 under business-as-usual, or nearly half of all women and girls. To be clear, we fully recognize the crude nature of this measure of inequality, especially since women in public leadership are still often subjected to many forms of gender discrimination. Nonetheless, we err on the side of drawing attention to the vast numbers of women and girls facing discrimination in achieving positions of societal leadership.

On other gender-related measures, we estimate that, by 2030, approximately 850 million women over the age of 15 will still be subjected to physical or sexual violence by an intimate partner during the previous year. The world is not yet anywhere near on track to eliminate this societal plague. We also estimate that more than 440 million women aged 15-49 will have unmet family planning needs.

Among other indicators of basic needs, access to sanitation represents a huge SDG challenge, with nearly 2 billion people still lacking access in 2030 under business-as-usual. Access to drinking water and access to electricity are also far from on track to leave no one behind, with at least 570 million lacking access on each measure by 2030. Extreme income poverty, the headline target of the SDGs, is on course to fall only to 475 million people by 2030. That would represent a considerable drop from approximately 650 million people in extreme poverty as of mid-2018, but would still fall far short of the elimination target.

Figure 7 highlights issues of poor nutrition too. In 2030, more than 660 people are on course to be undernourished, more than 100 million children under-5 (15 percent of the world's total) are on course to be stunted, and another 40 million children (6 percent) will be subject to wasting. At the same time, 90 million children aged 2 to 4, equal to 22 percent of the world's total, will be overweight. Looking at child-focused measures of education, 46 million 4-year olds, roughly one third of the total, will not be enrolled in pre-primary education. On a slightly more positive note, 95 percent of 12-year olds will complete primary school in 2030, but that still leaves 6 million not doing so in the same year.

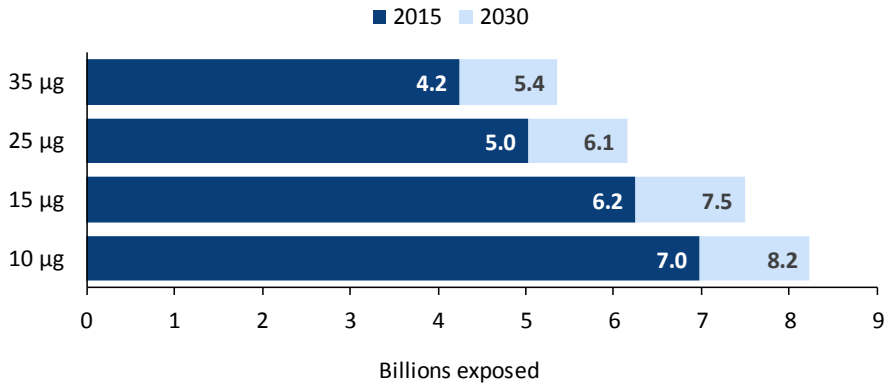
Box 4. Assessing the problem of air pollution

More than 90 percent of the world lives in places where average annual concentrations of particulate matter exceed WHO air quality guidelines. According to the World Health Organization, outdoor air pollution caused 4.2 million premature deaths in 2016, including one-quarter of all deaths from pulmonary disease and respiratory infections, 17 percent of deaths from heart disease and stroke, and 16 percent of lung cancer deaths (WHO, 2018a). While more than half the deaths occurred in China and India, the effects of air pollution are universal. The United States and Russia, for example, were among the top 8 countries in terms of absolute number of deaths. On a per capita basis, former Soviet countries had the highest reported air pollution-related mortality rates, with Ukraine, Bulgaria, Georgia and Belarus all above 100 deaths per 100,000 people.

There are many standards used to define the air pollution problem. The United States, for example, limits average annual exposure of particulate matter smaller than 2.5 um ($PM_{2.5}$) to 12 $\mu g/m^3$, while the European Union defines adequate levels as below 25 $\mu g/m^3$ (Environmental Protection Agency 2018; European Commission, 2017). The World Health Organization offers its own guidelines for $PM_{2.5}$ of 10 $\mu g/m^3$, which is the lowest level at which cardiopulmonary and lung cancer mortality increase with long-term exposure. It also established three interim targets to act as incremental steps in moving towards safer air (WHO, 2005). The first interim target for $PM_{2.5}$ is 35 $\mu g/m^3$, which is associated with significant mortality and a 15 percent higher long-term mortality risk compared to 10 $\mu g/m^3$. The second is 25 $\mu g/m^3$, which has a further 6 percent reduction in risk compared to the first target but is still associated with significant health impacts. The third target is 15 $\mu g/m^3$, a 6 percent reduction in mortality risk compared to the second target but still elevated risk. A recent study finds that if all countries met the WHO guideline of 10 $\mu g/m^3$, life expectancy would increase by a median of 0.6 years, similar to what the increase would be from eradicating lung and breast cancer (Apte et al. 2018).

Figure B shows the number of people affected in 2015 and 2030 (on current trajectory), according to the four different WHO thresholds. No matter which standard is applied, the majority of the world's people were exposed to unsafe levels of air pollution in 2015. Under the weakest standard (35 $\mu g/m^3$), 4.2 billion people or 58 percent of the population were exposed to annual average concentrations associated with significant mortality risk. On current trajectory, almost 5.4 billion or 63 percent will be exposed by 2030. Likewise, 68 percent of the world lives with levels exceeding 25 $\mu g/m^3$ and 85 percent with more than 15 $\mu g/m^3$. Under WHO's air quality guideline of 10 $\mu g/m^3$, fully 8.2 billion people are on track to live with unsafe pollution in 2030. We use this standard in our analysis, noting that adverse health effects have been shown to occur at lower concentrations too.

Figure B: Billions affected by air pollution, by annual average concentrations of $PM_{2.5}$ per m^3



Notes: µg indicates micrograms of particulate matter.
Source: Authors' calculations based on World Bank (2018b), U.N.-DESA (2017b).

V. Which countries face the biggest challenges?

The challenges quantified in the previous section all represent specific problems confronted by specific people in specific places. It is therefore important to ask where these shortfalls in meeting SDG targets are likely to be greatest, and hence where the need to shift trends is greatest. The rationale for focusing on countries is not to rank them or point fingers. Quite the opposite, we find that most countries are making progress on most issues. Some countries simply started the SDG period with profound domestic challenges and an extraordinary distance to cover. In that context, our aim is only to offer an objective assessment of where the challenges are likely to be greatest and where people on the ground might need the most support.

There are two ways to consider country-level challenges. A first is to ask which countries represent the biggest share of the world's overall challenge. A second is to ask which countries, independent of population size, face the largest average domestic challenge. We consider each in turn.

1. Countries home to the largest share of the world's challenge on each issue

Figures 8 and 9 show the countries where the estimated number of lives and people's needs at stake are most concentrated, for absolute and relative targets, respectively. The numerical values of each cell indicate each country's share of the global shortfall. For example, the first cell on the top-left suggests that, under business-as-usual, Nigeria will account for 25 percent of the total number of people in extreme poverty in 2030. The table only includes countries that fall in the top five with respect to the number of people affected—measured either by lives or basic needs—for at least one indicator. Only values at or above 1 percent are listed. Cells highlighted in red indicate a top five concentration on the relevant indicator.

Figures 8 and 9 show that a handful of countries, typically between five and ten, cumulatively account for at least half the world's number of people who are on course to be left behind on each indicator. However, it is not always the same countries. Brazil, China, and the Philippines are among the top five concentrations of lives at stake by 2020 due to traffic deaths. Dealing with children overweight (column 3) requires action in the United States, India, Indonesia, China, and other geographies. Dealing with primary education needs to include a focus on Ethiopia, Mozambique, Pakistan, Sudan, and Uganda. The challenges are universal.

Fig 8. Country contribution to global lives and needs at stake in 2030, by each absolute indicator

	Extreme poverty	Undernourishment	Children overweight	Stunting	Wasting	Maternal mortality	Child mortality	Family planning	Primary school	Pre-primary school	Violence against women	Gender equal. In leadership (P)	Water	Sanitation	Electricity	Birth registration
Nigeria	25%	5%	5%	-	10%	34%	30%	8%			3%	6%	6%	10%	7%	25%
India	-	26%	15%	33%	21%	3%	-	20%	-	41%	23%	25%	14%	26%	-	-
Congo, Dem. Rep.	15%		2%	5%	3%	11%	12%	3%	-	7%	2%	3%	10%	5%	15%	15%
Pakistan	-	6%	<1%	6%	8%	1%	14%	5%	10%	2%	4%	4%	5%	2%	-	10%
China	-	6%	12%	5%	3%	-	-	3%	-	-	12%	15%	-	8%	-	
Ethiopia	-	4%	2%	6%	4%	<1%	<1%	<1%	15%	2%	3%	-	9%	6%	4%	15%
Uganda	2%	6%	1%	2%	<1%	2%	-	1%	13%	4%	<1%	<1%	6%	3%	5%	
Indonesia	-	-	4%	3%	6%	-	-	3%	-	<1%	3%	3%	-	2%	-	-
United States	-	-	4%	<1%	<1%	-	-	3%		3%	2%	4%	<1%	<1%	-	-
Bangladesh	-	3%	<1%	2%	3%	-	-	2%	-	2%	3%	2%	<1%	3%	-	7%
Mozambique	3%	1%	1%	<1%	<1%	2%	<1%	1%	6%		<1%	<1%	2%	1%	4%	
Sudan	2%		<1%	2%	2%	1%	3%	2%	9%	<1%	<1%	<1%	2%	1%	5%	-
Brazil	-	-	4%	<1%	<1%	-	-	1%		-	2%	4%	-	<1%	-	-
Chad	2%	<1%	<1%	<1%	<1%	2%	4%	<1%	4%		<1%	<1%	2%	<1%	3%	3%
Cote d'Ivoire	<1%	<1%	<1%	<1%	<1%	3%	3%	1%	1%	2%	<1%	<1%	1%	1%	1%	<1%
Madagascar	5%	4%	<1%	2%	3%	<1%	-	1%	2%	1%	<1%	<1%	2%	2%	4%	<1%
Malawi	2%	2%	<1%	<1%	<1%	3%	-	-	-		<1%	<1%	<1%	<1%	4%	-
Mexico	-	<1%	2%	<1%	<1%	-	-	2%	-	3%	1%	-	-	-	-	<1%
Niger	2%	<1%	<1%	2%	3%	2%	3%	<1%	-	2%	<1%	<1%	3%	1%	5%	-
Somalia	2%		<1%	<1%	2%	2%	4%	<1%			<1%	<1%	1%	1%	2%	
South Sudan	4%		<1%	<1%	<1%	2%	1%	<1%			<1%	<1%			2%	
Tanzania	2%	3%	1%	2%	1%	2%	2%	1%	-	3%	1%	<1%	4%	3%	4%	6%
Other countries	36%	33%	42%	26%	25%	27%	22%	40%	40%	26%	35%	32%	32%	24%	35%	19%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Legend:

%	Top 5 country for relevant indicator
%	Country is not in Top 5
-	Country is on track for SDG
	No data
(P)	Proxy target

Notes: Percentage value in each cell represents the country's share of the global lives or needs at stake. Maternal mortality applies the global target of 70 deaths per 100,000 live births to each country; maternal mortality and child mortality are cumulative deaths over 2019 to 2030; gender equality in public leadership assumes proxy target of parity and applies the parity gap in national public officials to the female population.

Source: Authors' calculations based on GBD (2017), U.N.-DESA (2017a, b, c d), World Bank (2018b), World Data Lab (2018).

Fig 9. Country contribution to global lives and needs at stake in 2030, by each relative indicator

	HIV	Hepatitis B (P)	Malaria	Tuberculosis	Non-communicable disease	Suicide	Traffic deaths	Air pollution (P)	Homicide (P)
India	8%	1%	-	22%	22%	11%	24%	18%	7%
China	2%	12%	-	6%	19%	23%	17%	17%	-
Nigeria	6%	8%	46%	6%	4%	4%	2%	3%	2%
Indonesia	1%	3%	-	11%	6%	<1%	2%	4%	<1%
Pakistan	1%	6%	-	6%	3%	<1%	2%	3%	9%
United States	3%	2%	-	<1%	8%	13%	2%	4%	<1%
Brazil	3%	2%	-	<1%	<1%	3%	4%	3%	23%
Kenya	7%	2%	8%	<1%	<1%	<1%	1%	<1%	2%
Philippines	4%	3%	-	8%	2%	<1%	3%	1%	6%
Bangladesh	-	6%	-	4%	2%	<1%	1%	2%	1%
Congo, Dem. Rep.	3%	5%	-	4%	1%	2%	2%	1%	3%
Ethiopia	5%	3%	-	<1%	1%	2%	3%	2%	<1%
Mali	<1%	<1%	7%	<1%	<1%	<1%	<1%	<1%	<1%
Mexico	2%	<1%	-	<1%	1%	3%	<1%	2%	17%
Niger	<1%	2%	6%	<1%	<1%	<1%	<1%	<1%	
Rwanda	-	<1%	6%	<1%	<1%	<1%	<1%	<1%	<1%
South Africa	6%	<1%	<1%	3%	<1%	1%	<1%	<1%	1%
Sri Lanka	<1%	<1%	-	<1%	<1%	3%	<1%	<1%	-
Ukraine	5%	<1%	-	<1%	-	<1%	<1%	<1%	
Venezuela, RB	<1%	<1%	-	<1%	<1%	-	1%	<1%	9%
Other countries	42%	42%	26%	25%	27%	35%	32%	36%	19%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Legend:
- % — Top 5 country fo relevant indicator
- % — Country is not in Top 5
- - — Country is on track for SDG
- (blank) — No data
- (P) — Proxy target

Notes: Percentage value in each cell represents the country's share of the global lives or needs at stake. Malaria, Tuberculosis, and HIV apply WHO global target to each country; air pollution and Hepatitis B assume proxy target of 50% reduction; Hepatitis B, malaria, HIV, NCD mortality, Tuberculosis, suicide, and homicide are cumulative over 2019 to 2030; traffic deaths are cumulative over 2019 and 2020.
Source: Authors' calculations based on GBD (2017), U.N.-DESA (2017b, d), U.N.-Statistics Division (2018), World Bank (2018b), WHO (2017c, 2018c, d).

2. Countries with greatest average challenge across issues

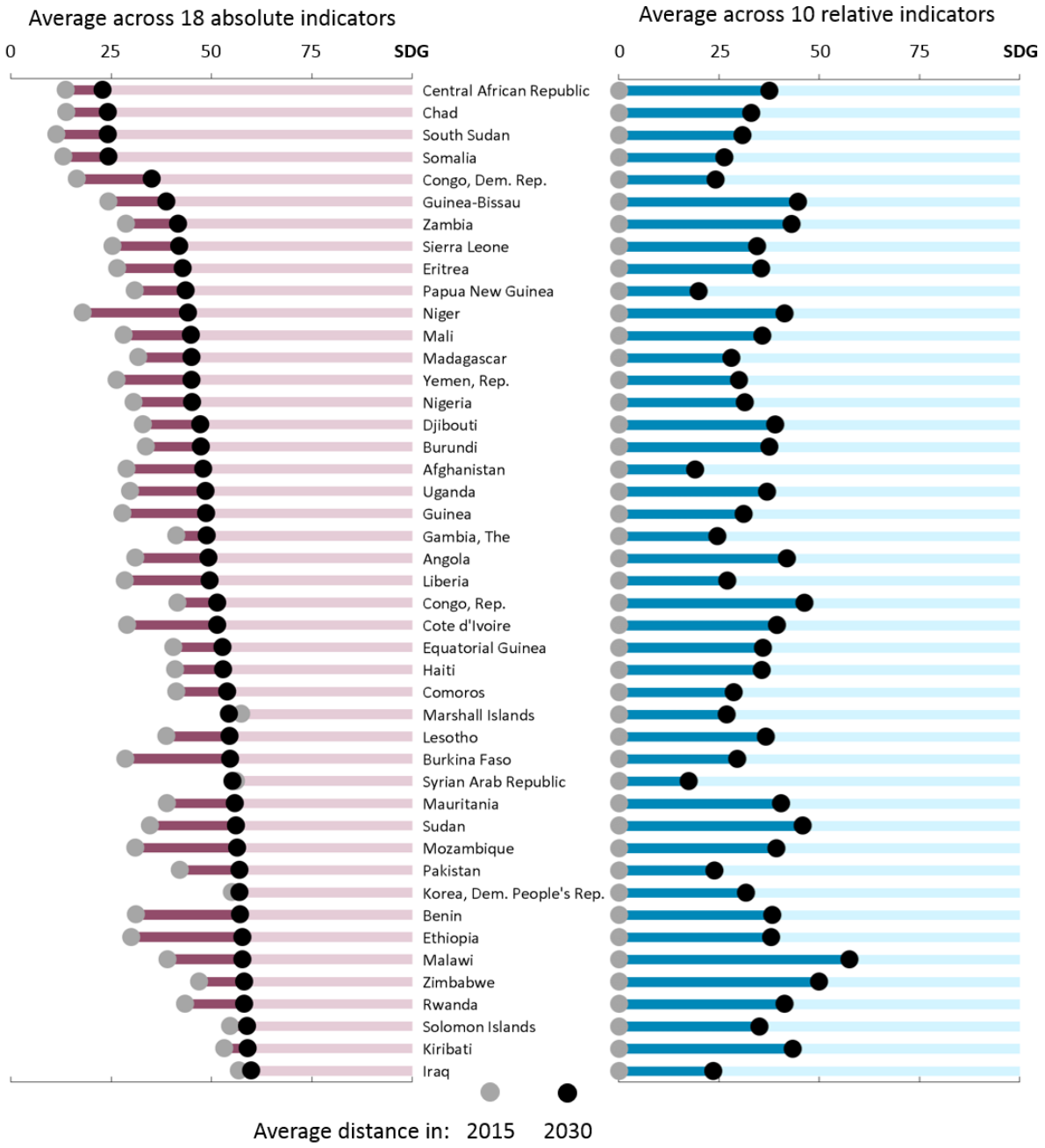
Using the "distance to frontier" methodology described in section III, Figure 10 shows the estimated distance each country travels between 2015 and 2030 on current trend, with averages for absolute targets in the left panel and averages for relative targets in the right panel (see Figure 2 for list of indicators). For the sake of space, only the 45 countries with indexed distance scores of 60 or less as of 2030 on absolute targets are included in the figure. Thirty-three of these countries are in sub-Saharan Africa. (Results for all countries are available in the Appendix.)

The countries at the top of the figure are those on a trajectory to be furthest from achieving the absolute SDG targets in 2030. These include the Central African Republic, Chad, South Sudan, and Somalia. Fully 23 countries are on course to arrive at 2030 still less than halfway to the absolute targets.

Although Figure 10 draws stark attention to the global challenge of "no one left behind," it also provides grounds for optimism. Nearly every country is making progress across the absolute targets, with Marshall Islands and Syria being the recent exceptions. In some cases—like Niger, Burkina Faso, Benin, and Ethiopia—the absolute amount of progress is considerable. On the right side, all countries are on course to make discernible progress on relative targets. Notably, Malawi is the only one of the 45 countries in the figure on trend to cover more than half the aspired relative distance by 2030.

To a certain degree, the challenges highlighted by the left panel in Figure 10 are a function of the starting point. Many of the countries with the greatest remaining distance to travel in 2030 also started the SDG era furthest from the targets. In any case, the "most severely off track" countries can be identified as those requiring the most significant breakthroughs and accelerations. Building on the similarly spirited logic previously presented by Gertz and Kharas (2018), the methodology presented here allows for a more sophisticated and comprehensive approach to the concept. We propose that such a list be used to focus attention on the policy, institutional, and resource constraints holding these countries back. Because most of these countries are low-income, it is also likely that international cooperation will be essential for helping them achieve the needed breakthroughs. While each country must drive its own progress, severely resource-constrained countries need the means and support to drive dramatic accelerations.

Fig 10. The most off-track countries' progress by 2030 under business-as-usual



Notes: For absolute targets, "distance to the frontier" ranges from index of 0 (worst score in 2015) to 100 (SDG target). For relative targets, share of distance traveled is from each country's 2015 starting value. The 45 countries listed are on average at least 40 from the absolute targets in 2030 on business-as-usual. Data for other countries available in the Appendix.

Source: Authors' calculations based on GBD (2017), U.N. Development Programme (2016), U.N.-Statistics Division (2018), World Bank (2018b), World Data Lab (2018).

OECD country performance

For purposes of comparison, Figure 11 shows OECD countries' absolute and relative challenges across indicators. In the left panel, countries start much closer to the absolute frontier than the countries in Figure 10, but the rates of progress are slow. Although country-specific analysis would be needed to unpack the results, it suggests a common challenge of domestic populations getting left behind. This is consistent with previous findings for Canada, for example, where indicators like access to drinking water and sanitation have stagnated short of achieving universal access (McArthur and Rasmussen 2017). Inequalities and deprivation among select groups appear to be structural across many if not all OECD countries, exactly the situation that "leave no one behind" is meant to address.

The right panel in Figure 11 shows tremendous variation across the OECD. Most of these countries are currently on course to fall well short on relative targets even though most countries appear to be making greater gains on these issues than on the absolute targets. Notably, the differences on distance traveled are much less between advanced and low-income economies on relative targets than on absolute targets. The relationship between starting points and subsequent rates of progress is not systematic, as has previously been shown for a range of indicators in the context of the Millennium Development Goals.[10] So it is noteworthy that some low-income countries are on a path to perform roughly as well on relative targets as some advanced economies. For example, Guinea-Bissau has a very large distance to travel on absolute targets, but it is on pace to cover almost half the average distance on relative targets. That would make it a median performer on relative targets among OECD countries, with more progress than, say, the United States.

In other words, no country is fully on track for all of the SDGs, and both the absolute and relative targets bring attention to national gaps in people being left behind. The key point is that a granular understanding of which countries are lagging behind in achieving which targets, and how many people are being left behind, is critical for the global community to prioritize its actions. China, for example, may have done well in reducing extreme poverty, but it is the country where the most additional lives will be lost to suicide if its current trajectory does not change. Large countries will inevitably have a high prevalence of global shortfalls, but small countries may have the greatest distance to travel to achieve the targets. Progress is needed on both fronts—assisting the greatest number of people and helping those furthest behind first.

[10] See regression results in Appendix 5 of McArthur and Rasmussen (2018).

Fig 11. OECD countries' progress by 2030 under business-as-usual

Notes: For absolute targets, "distance to the frontier" ranges from index of 0 (worst score in 2015) to 100 (SDG target). For relative targets, share of distance traveled is from each country's 2015 starting value. The 35 countries listed are OECD members as of June 2018.

Source: Authors' calculations based on GBD (2017), U.N. Development Programme (2016), U.N.-Statistics Division (2018), World Bank (2018b), World Data Lab (2018).

VI. Conclusion

The world is not yet on track to achieve the SDGs. By examining the trajectories of more than two-dozen indicators, we estimate that millions, and on some issues billions, of people will be left behind by 2030. Our most positive finding is that the world is on course to cover more than half the distance towards the SDG targets on five indicators—child mortality, hepatitis B, malaria, access to electricity, and extreme poverty. At the other end of the spectrum, we find that the challenges of air pollution and overweight children are universal and worsening.

Our starkest finding is that 44 million lives are currently at stake—the difference between business-as-usual and SDG success across all countries. Sixty-six percent of these lives are linked to non-communicable disease, underscoring the importance of this target's inclusion in the SDG framework. Twenty percent of the lives, 9 million, are children under age 5. Meanwhile, the world is making little progress on issues of homicide, suicide, and traffic deaths, the latter of which marks one of the first SDG deadlines in 2020.

On basic needs, the world is on course to leave billions of people behind in 2030 on three targets: air pollution, sanitation, and gender equality in public leadership, which we use as a proxy for broader gender discrimination. Eight-hundred and fifty million women will still be subject to violence on current trajectory. Several hundred million people will also endure undernourishment, malaria, extreme poverty, and lack of access to safe water, electricity, or family planning services. People left behind on issues of stunting, wasting, HIV, and pre-primary school enrollment will likely carry the consequences for their lifetimes.

The people on course to be left behind are often concentrated in a small number of countries. For 16 of our indicators, five or fewer countries account for more than half the people affected. For the absolute targets, Nigeria occurs the most often among these top five countries, followed by India, DRC, and Pakistan. These low- and lower-middle-income countries are typically both populous and facing large proportionate challenges. However, many other countries also appear on the top five list for at least one indicator, including more advanced economies like Brazil, China, and the United States.

We also identify which countries require the greatest acceleration in order to achieve the absolute SDG targets, including Central African Republic, Chad, South Sudan, and Somalia. While these countries started the SDG period with some of the worst average indicator values, their situation is not hopeless. Even the furthest off-track countries are making progress on both absolute and relative targets. They simply need faster progress. We recommend that the world place particular focus on supporting the most severely off-track countries to overcome their specific respective constraints.

Our results also demonstrate the universal relevance of the SDG framework. We find, for example, that OECD countries are close to meeting most of the absolute SDG targets, but are often making slow or no progress on addressing "the last mile" issues. Similar to lower-income countries, OECD trajectories on relative targets are mixed. No country is yet on track to leave no one behind. Faster progress is needed in all countries, at all income levels, of all sizes, and in all regions.

Follow-up research could usefully build on the results presented here by conducting more in-depth assessments of indicator-specific trajectories within countries, disaggregated by geographic and demographic groups. Research could also helpfully link the results with other key dimensions of the SDGs not assessed here, including environmental and synthesis societal targets. In many instances, the trends

for those issues will intersect with the trajectories of issues presented here, often in non-linear fashion. More sophisticated modeling of such intersections merits investigation both within and across countries.

Finally, we stress that the results in this paper are *not* intended as predictions of SDG outcomes. They are simply an estimation of the trajectories and problems that the SDGs aim to address. The entire point of the SDGs is to motivate constructive disruption of existing trends toward achieving better outcomes. This paper diagnoses the scale of each relevant challenge in order to inform debates on how best to address them. Policy analysts and decision-makers need to propose their own strategies for success.

In that regard, heads of state and government are slated to convene at the U.N. in 2019 for the first major global checkpoint on SDG progress. With more than a decade still remaining to the SDG deadline, that meeting offers a seminal opportunity for decisive action. This paper shows just how much the fate of the SDGs matters. Nothing less than millions of lives and billions of people's needs are at stake.

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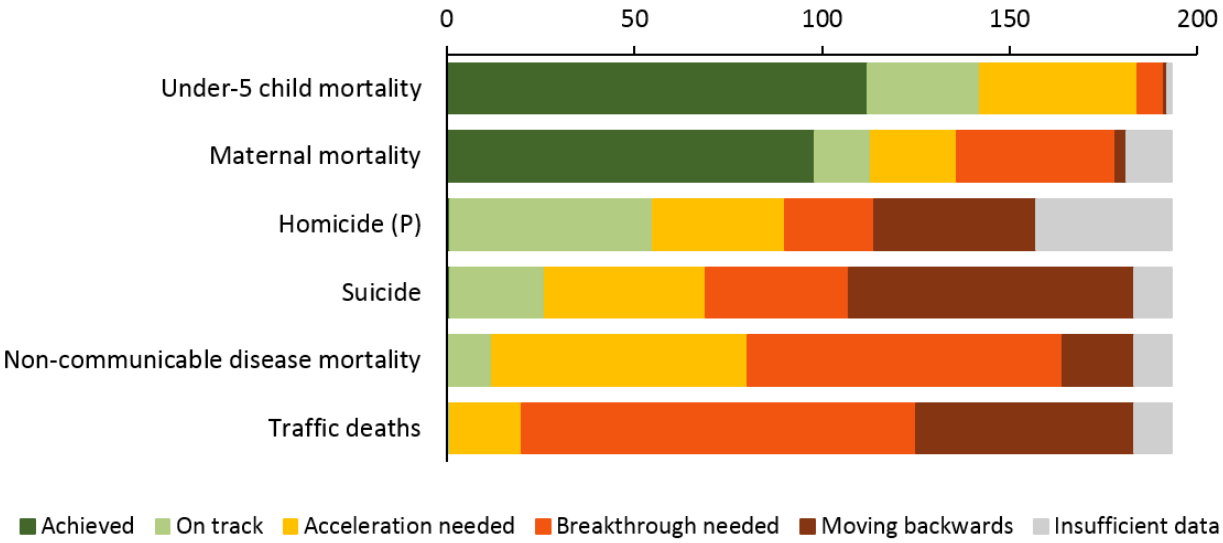
Appendix
How many people will the world leave behind?
Assessing current trajectories on the Sustainable Development Goals

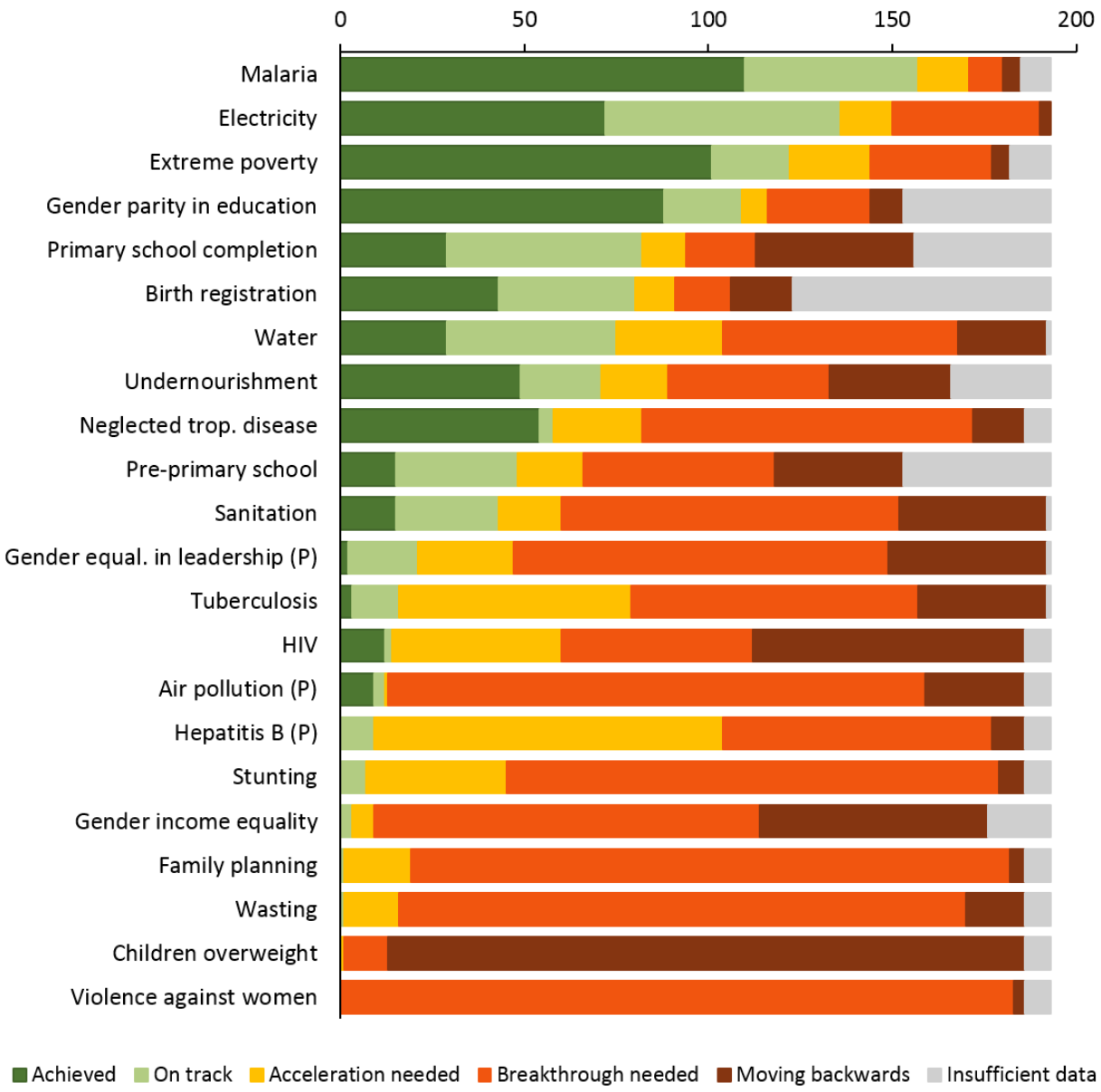
Homi Kharas, John W. McArthur, Krista Rasmussen

Appendix 1. Number of countries on track for life-and-death targets



Notes: "Acceleration needed" indicates country is on course to cover from 50 to 99 percent of 2015 distance to target. "Breakthrough needed" indicates country is on course to cover from 0 to 49 percent of 2015 distance to target. (P) indicates proxy target used: 50% reduction for homicide. Maternal mortality applies the global target of 70 deaths per 100,000 live births to each country.
Source: Authors' calculations based on U.N. Statistics Division (2018), World Bank (2018b).

Appendix 2. Number of countries on track for basic needs targets



Notes: "Acceleration needed" indicates country is on course to cover from 50 to 99 percent of 2015 distance to target. "Breakthrough needed" indicates country is on course to cover from 0 to 49 percent of 2015 distance to target. (P) indicates proxy target used: 50% reduction for air pollution and Hepatitis B; WHO (2015) target of 90% reduction applied to each country for malaria, tuberculosis, and HIV infections; parity for gender representation in public leadership.
Source: Authors' calculations based on GBD (2017), World Bank (2018b), World Data Lab (2018).

Appendix 3. Absolute targets: Share of distance to the frontier in 2030 on current trajectory, by indicator (100 = target met)

	2015	2030	Extreme poverty	Undernourishment	Children overweight	Stunting	Wasting	Maternal mortality	Child mortality	Family planning	Primary school	Pre-primary school	Gender parity in education	Gender income equality	Violence against women	Gender equal. in leadership (P)	Water	Sanitation	Electricity	Birth registration
Central African Republic	14	23	0	0	72	30	55	0	21	0	37		37	59	0	8	17	20	9	
Chad	14	24	37	74	78	31	21	35	11	9	0		0	54	13	48	0	0	0	0
South Sudan	11	24	0		56	21	12	19	57	0					0	64			12	
Somalia	13	24	7		72	33	0	28	13	0				23	0	74	24	0	43	
Congo, Dem. Rep.	16	35	0		61	41	64	37	52	39	100	0	100	70	0	12	4	3	13	0
Guinea-Bissau	24	39	23	0	50	69	70	32	67	59				62	7	26	72	20	22	0
Zambia	29	42	13	12	13	27	54	89	88	82	77			56	17	35	50	25	27	0
Sierra Leone	25	42	85	0	34	49	53	0	63	57	0	18	100	68	18	16	59	5	29	100
Eritrea	26	43	67		77	54	28	59	97	22	0	8	100	69	5	41	0	0	55	
Papua New Guinea	31	43	59		48	10	66	86	85	52	100			69	12	0	0	5	17	
Niger	18	44	52	71	85	21	0	58	71	78	100	10	61	18	1	38	13	7	9	100
Mali	28	45	50	100	57	63	54	35	39	24	16	0	47	22	8	9	98	33	49	100
Madagascar	32	45	0	0	70	20	0	81	100	32	62	34	100	61	19	72	35	1	24	98
Yemen, Rep.	26	45	63	2	42	38	0	62	60	54	76	0	100	10	0	0	100	76	90	36
Nigeria	30	45	16	67	58	100	30	3	46	24			100	46	45	4	76	17	83	6
Djibouti	33	47	97	100	13	66	0	90	75	49	74	3	25	31	19	17	60	44	38	
Burundi	34	47	0		79	12	63	33	81	17	100	23	100	76	15	84	23	51	0	
Afghanistan	29	48	74	36	32	0	33	91	79	35			0	0	0	54	100	49	100	84
Uganda	30	48	78	0	60	63	79	81	100	56	0	4		100	11	85	1	10	45	
Guinea	28	49	82	57	57	69	56	20	57	10	51		24	59	12	48	63	24	42	94
Gambia, The	41	49	95	59	64	56	9	18	78	17	14	61		64	33	11	73	18	59	100
Angola	31	49	57	100	6	51	69	64	86	33				59	12	100	0	51	48	0
Liberia	28	49	73	0	53	57	67	28	86	51	0	100	100	61	7	17	58	7	45	79
Congo, Rep.	41	51	0	48	63	77	50	65	83	42	17	19	100	66	17	20	63	3	87	100
Cote d'Ivoire	29	51	91	69	59	65	56	36	51	25	81	7		41	26	20	52	27	75	93
Equatorial Guinea	40	53	100		0	78	88	71	54	26	0	71		61	33	67	7	66	68	
Haiti	41	53	72	1	77	67	88	66	100	47				64	32	0	44	32	34	68
Comoros	41	54	71		24	59	48	77	68	31	99	6	100	22	24	11	65	31	100	83
Marshall Islands	57	54			4	81	63		96	72	0	18	72		29	27	56	86	100	
Lesotho	39	54	13	50	61	64	90	67	21	98	62	34	100	52	8	66	56	76	46	17
Burkina Faso	28	54	76	56	60	61	83	69	78	68	100	0	100	60	28	13	27	25	20	
Syrian Arab Republic	56	55			8	81	49	82	100	73	0	0	100	0	22	24	96	92	100	
Mauritania	39	56	100	100	64	54	18	55	59	0	98	14	77	7	30	62	70	61	55	78
Sudan	35	56	79		61	46	37	76	72	30	0	86	100	12	16	95	62	45	35	100
Mozambique	31	56	36	58	45	92	77	73	90	35	16		100	76	10	91	49	24	29	
Pakistan	42	57	100	58	88	38	8	94	58	52	72	79	30	0	15	35	77	82	100	38
Korea, Dem. People's Rep.	55	57	45	3	96	35	67	100	100	69		0			34	18	99	74	57	
Benin	31	57	50	87	48	100	92	63	33	14	100	47	100	69	16	5	50	4	50	100
Ethiopia	30	58	100	52	53	17	26	94	97	94	32	64	100	93	6	100	28	0	82	0
Malawi	39	58	27	1	70	44	90	7	100	100	100		100	70	18	39	67	44	0	100
Zimbabwe	47	58	76	0	81	76	85	42	100	99	74	5	100	60	20	100	28	24	32	43
Rwanda	43	58	77	0	45	50	82	91	100	69	36	15	100	70	17	100	36	75	70	13
Solomon Islands	55	59	72	39	18	72	67	100	100	59		100	100	37	15	5	0	34	82	100
Kiribati	53	59	87	95	0	67	47	100	80	55	98				9	16	37	35	100	

	2015	2030	Extreme poverty	Undernourishment	Children overweight	Stunting	Wasting	Maternal mortality	Child mortality	Family planning	Primary school	Pre-primary school	Gender parity in education	Gender income equality	Violence against women	Gender equal. in leadership (P)	Water	Sanitation	Electricity	Birth registration
Iraq	57	60	100	24	12	55	58	100	100	53				0	0	49	94	92	100	
Micronesia, Fed. Sts.	55	60	50		0	80	64	100	100	72					31	0	74	49	100	
Togo	40	62	45	100	70	96	67	63	64	42	94	34		71	27	56	62	3	82	71
Cameroon	42	62	80	100	32	57	78	46	80	36	100	64	72	60	16	100	52	28	72	45
Botswana	55	63	84	53	16	86	70	100	100	88	19	16		87	39	10	64	58	89	100
India	50	64	100	71	57	32	50	96	100	70	100	13	46	4	29	28	89	61	100	100
Tanzania	40	65	82	36	67	64	70	82	89	60	100	36	100	100	12	89	41	32	70	34
Swaziland	45	65	30	81	38	78	90	67	89	91	96		67	34	21	0	69	61	100	100
Lebanon	67	67	100	77	27	84	74	100	100	69	4	100	60	3	37	0	98	100	100	
Timor-Leste	45	68	91	65	62	33	58	100	94	61	100	17	100	22	29	93	84	49	100	
Senegal	49	69	77	84	75	92	66	81	100	69	43	21	53	49	22	100	78	51	86	84
Namibia	54	69	80	94	72	88	56	87	97	82	79	0		59	29	100	64	29	60	100
Tajikistan	60	70	100	82	54	43	39	100	97	44	81	4	100	62	43	38	79	100	100	86
Gabon	61	70	100	100	40	76	78	77	100	44				65	21	37	89	33	100	87
Iran, Islamic Rep.	69	70	100	88	47	86	64	100	100	85	100	21	80	0	32	9	89	87	100	
Guatemala	65	70	97	60	28	4	97	100	100	60	100	20	67	87	45	32	100	71	100	94
Libya	61	70	87		0	79	70	100	100	75				14	39	57	94	100	98	
Vanuatu	63	71	91	75	50	67	77	100	100	62	100	95	100	49	33	0	100	46	100	26
Kenya	49	71	78	86	62	69	75	62	95	75	100	100		58	17	77	43	17	100	85
Qatar	66	71	100		0	86	83	100	100	76	82	83	60	9	21	0	100	100	100	100
Bangladesh	51	71	100	75	85	65	43	100	100	80	100	67	61	45	21	56	100	62	100	21
Ghana	59	71	100	64	78	100	95	63	88	32	100	100	100	62	31	25	82	3	100	58
Azerbaijan	65	71	100	100	0	91	65	100	100	50	100	13		29	66	44	85	100	100	
Samoa	67	71	100	93	0	88	86	100	100	59	100	25	75	31	32	18	96	93	100	91
Venezuela, RB	74	72	60	0	0	83	65	98	100	82	94	94	100	53	58	41	97	100	100	
Myanmar	57	72	100	57	46	73	66	93	94	91	74	58	100	63	51	46	62	53	71	100
Bosnia and Herzegovina	70	72	100	100	21	76	44	100	100	10				34	71	61	98	94	100	
Suriname	70	72	73	81	58	83	82	92	100	78	100	100	0	37	60	38	95	74	73	
Kuwait	72	72	100	100	0	95	88	100	100	84	96	47	65	10	40	1	100	100	100	
Antigua and Barbuda	74	72	100	42	10	86	86		100	82	12	100	100		66	19	92	90	100	
Tonga	69	73	100		0	88	66	94	100	70	100	63	100	47	35	0	100	99	100	
Bhutan	65	73	100		47	72	66	100	100	81	100	48	74	56	34	19	100	67	100	
Oman	66	73	100	78	0	72	49	100	100	91	100	84	100	54	12	0	100	100	100	
Uzbekistan	70	73	100	100	1	75	71	100	100	81	93	16	100	32	61	27	88	100	100	
Dominica	78	73		81	27	83	84		3	80	100	70	100		60	65	95	79	100	
Mauritius	73	74	100	84	21	81	32	100	100	77	100	100	77	26	58	8	100	93	99	
Fiji	73	74	100	87	22	90	63	100	100	82	100		44	21	45	46	86	100	100	
Maldives	72	74	100	90	46	61	44	100	100	83	76	100		43	54	0	94	97	100	
Malaysia	73	74	100	100	0	53	45	100	100	84	100	100		40	56	19	90	100	100	
Jordan	72	74	100	85	62	90	87	100	100	54				0	22	51	95	93	100	
South Africa	68	74	62	83	13	68	70	95	98	87	57	100	72	43	40	100	84	83	85	100
Saudi Arabia	66	75	100	100	0	95	81	100	100	95	100	29	0	20	51	96	100	100	100	
Macedonia, FYR	72	75	100	93	20	92	81	100	100	6	71	27	100	39	69	88	95	90	100	
Bahamas, The	75	75	100	92	44	84	86	100	100	80	86	36	39	63	60	11	95	93	100	
Grenada	76	75	100	35	30	83	85	100	100	82	0	83	100		58	95	92	60	99	
Sri Lanka	69	75	100	71	29	78	30	100	100	85	100	100	100	23	54	8	100	100	100	
Morocco	65	76	100	100	6	75	81	100	100	79	100	43	100	14	30	64	100	96	100	

	2015	2030	Extreme poverty	Undernourishment	Children overweight	Stunting	Wasting	Maternal mortality	Child mortality	Family planning	Primary school	Pre-primary school	Gender parity in education	Gender income equality	Violence against women	Gender equal. in leadership (P)	Water	Sanitation	Electricity	Birth registration
Paraguay	75	76	100	71	18	93	90	93	100	85	41	41	100	67	57	36	100	100	100	
Armenia	71	76	100	99	3	86	82	100	100	48	73	84	78	0	78	51	100	91	100	95
Cabo Verde	67	76	85	81	32	87	80	100	100	87	56	82	100	38	30	66	91	82	100	
Albania	68	76	100	100	5	62	44	100	100	20	100	100	68	32	68	98	100	100	100	
Sao Tome and Principe	58	76	93	77	89	100	100	89	100	52	100	70	80	36	11	67	85	53	74	100
Honduras	67	76	83	67	56	61	90	99	100	81	69	49	100	29	46	56	100	96	100	92
United Arab Emirates	73	77	100	100	10	79	59	100	100	73	100	88		2	21	71	99	100	100	100
Bolivia	68	77	99	97	12	86	90	93	100	47	23	100	100	55	41	100	100	61	100	
Thailand	76	77	100	74	36	79	39	100	100	85	90		73	83	56	0	100	94	100	99
Cambodia	56	77	100	88	87	91	58	98	100	63	100	22		62	39	57	96	83	92	81
Turkey	74	77	100	100	16	87	90	100	100	70	66	58	100	20	37	51	100	100	100	100
Malta	80	78	100	100	2	97	94	100	100	68	100	100	0	27	77	31	100	100	100	100
Tunisia	74	78	100	86	20	88	81	100	100	77	100	69	78	6	37	83	100	100	100	
Bahrain	75	78	100		41	94	87	100	100	67	91	82	100	46	10	29	100	100	100	
St. Vincent and the Grenadines	75	78	100	90	0	81	84	100	100	74	100	100	100	49	53	5	94	100	100	
Nicaragua	72	79	100	86	28	75	88	93	100	82				40	53	100	70	91	89	88
Serbia	78	79	100	88	48	66	69	100	100	0	100	64	100	39	68	100	90	90	100	100
Georgia	76	79	100	90	8	79	84	100	100	51	100		100	57	69	43	96	69	100	100
Algeria	73	79	100	100	6	89	87	92	100	76	100			0	36	100	94	89	100	100
Bulgaria	79	79	100	100	7	82	76	100	100	51	89	76	100	48	73	45	98	84	100	100
Guyana	72	79	100	100	50	100	64	80	100	36	100	87	81	43	50	66	100	93	92	88
Lao PDR	59	80	100	84	72	43	66	100	80	67	100	75	100	67	44	58	100	100	100	78
Croatia	77	80	100	100	27	84	79	100	100	40	80	87	100	60	77	22	100	97	100	
Greece	79	80	100	100	21	97	94	100	100	54	77	24	100	39	77	50	100	100	100	100
Egypt, Arab Rep.	71	80	100	88	71	89	62	100	100	79	100	44	100	31	25	57	97	93	100	100
Panama	77	80	100	100	36	80	92	99	100	87	100	18	100	57	64	38	100	88	100	
Philippines	71	80	100	62	70	56	51	99	100	56	100	100	100	71	36	90	91	80	100	
Mongolia	73	80	100	59	32	85	90	100	100	61	89	100	100	65	54	62	98	62	87	100
Dominican Republic	75	80	100	88	23	93	85	84	100	94	100	57	100	22	53	66	95	83	100	100
Indonesia	66	80	100	100	42	71	29	100	100	79	100	92	100	36	54	54	100	88	100	100
Hungary	82	81	100	100	32	93	87	100	100	57	100	76	100	18	73	15	100	98	100	100
Jamaica	78	81	100	82	56	91	89	99	100	78		68		57	56	40	90	84	100	100
St. Lucia	76	81	62	58	70	93	82	100	100	78		94		59	58	56	100	100	100	
Turkmenistan	74	81	100	81	8	93	91	100	90	81				30	64	76	100	97	100	100
Nepal	63	81	100	95	80	73	65	95	100	50	100	100	50	60	29	100	92	68	100	100
Chile	79	81	100	94	0	100	98	100	100	76	71	96	100	41	69	30	100	100	100	
Barbados	81	81	100	93	44	85	66	100	100	78		76	100	50	67	42	96	100	100	
Kyrgyz Republic	74	81	100	97	56	100	78	100	100	58	100	46	100	31	46	61	90	100	100	100
Mexico	81	81	100	92	28	86	90	100	100	76	100	33	58	37	65	100	100	100	100	99
Romania	78	81	100	100	37	77	77	100	100	44	66	100	100	76	74	53	100	79	100	
Belize	74	82	79	79	54	94	83	100	100	71	100	82	100	78	45	17	100	90	97	98
Uruguay	80	82	100	100	0	84	93	100	100	74	100	91		52	66	52	100	97	100	
Montenegro	75	82	100	100	3	67	80	100	100	23	100	100	100	54	68	79	100	100	100	100
Ukraine	81	82	100	100	57	65	69	100	100	60	92	100	100	43	61	34	100	97	100	99
Korea, Rep.	82	82	100	100	14	94	89	100	100	81	92		100	25	78	39	100	99	100	
Luxembourg	85	82	100	100	22	98	94	100	100	85	8	100	100	31	77	69	100	97	100	100
Seychelles	84	82	100		26	77	69		100	82	100	100	100		48	56	96	100	100	

	2015	2030	Extreme poverty	Undernourishment	Children overweight	Stunting	Wasting	Maternal mortality	Child mortality	Family planning	Primary school	Pre-primary school	Gender parity in education	Gender income equality	Violence against women	Gender equal. in leadership (P)	Water	Sanitation	Electricity	Birth registration
Costa Rica	82	82	100	83	0	89	84	100	100	87	100	85	100	52	62	61	100	100	100	
Ecuador	80	83	100	70	36	70	88	100	100	77	100	42	100	48	55	100	100	100	100	100
Brazil	80	83	100	100	2	90	85	100	100	88		100	100	55	63	21	100	98	100	100
Moldova	80	83	100	100	68	87	88	100	100	60	55	100	100	74	63	41	79	82	100	100
Trinidad and Tobago	80	83	100	100	47	97	76	100	100	68				47	63	83	97	91	100	
Slovak Republic	82	84	100	100	35	86	81	100	100	64	97	84	100	49	73	40	96	99	100	100
Russian Federation	80	84	100	100	33	80	91	100	100	65	100	100	100	65	66	35	95	93	100	
Argentina	83	84	100	94	47	88	87	100	100	76	100	89	100	0	62	76	100	94	100	100
Latvia	84	84	100	100	41	88	85	100	100	67	100	77	100	64	73	21	99	100	100	100
Estonia	85	84	100	100	24	90	86	100	100	74	100	47	100	57	76	62	100	100	100	100
El Salvador	80	84	100	72	47	93	84	100	100	75	100	78	100	18	53	100	100	100	100	98
New Zealand	84	84	100	100	15	94	95	100	100	86			78	44	74	64	100	100	100	100
Japan	84	85	100	100	64	92	90	100	100	58	100	82	100	44	81	12	99	100	100	100
United States	84	85	100	100	35	96	96	100	100	74		71	100	54	74	45	99	100	100	100
Cyprus	84	85	100	86	28	97	94	100	100	80	90	87	100	60	74	34	100	98	100	100
Peru	78	85	100	100	33	99	96	100	100	61	85	100	100	62	59	50	97	88	100	100
China	80	86	100	93	38	83	86	100	100	94	100	100	100	54	64	55	100	88	100	
Poland	82	86	100	100	41	86	80	100	100	43	100	100	100	45	78	73	96	100	100	100
Lithuania	84	86	100	100	43	90	86	100	100	71	100	100	81	56	75	42	100	100	100	100
Czech Republic	84	86	100	100	36	94	79	100	100	56	100	100	100	61	76	48	100	99	100	100
Belarus	85	86	100	100	34	91	84	100	100	67	98	99	100	50	71	70	97	92	100	100
Singapore	82	86	100		35	94	81	100	100	72			100	95	79	52	100	100	100	
Sweden	87	86	100	100	28	97	94	100	100	77	100	93	47	66	74	78	100	99	100	100
Canada	86	87	100	100	25	95	96	100	100	83			100	52	76	64	95	98	100	100
Ireland	84	87	100	100	28	98	94	100	100	84			100	50	81	60	100	95	100	100
Cuba	87	87	100	100	30	71	85	100	100	90	100	94	100	39	71	100	95	91	100	100
Spain	87	87	100	100	21	98	91	100	100	76	97		100	37	81	86	100	100	100	100
Brunei Darussalam	81	87	100	100	48	86	81	100	100	76	100	91	100	50	72		99	96	100	
Australia	86	88	100	100	26	94	95	100	100	91		100		57	77	61	100	100	100	100
Netherlands	88	88	100	100	47	98	94	100	100	80		100	100	32	78	67	100	97	100	100
Kazakhstan	80	88	100	100	23	100	78	100	100	93	100	94	100	44	65	93	92	99	100	100
Slovenia	86	88	100	100	19	85	79	100	100	58	100	100	100	70	80	100	99	99	100	100
Italy	86	88	100	100	19	97	94	100	100	70	100	98	100	35	77	100	100	99	100	100
Vietnam	78	88	100	95	67	100	77	100	100	72	100	100		91	54	48	100	100	100	100
Belgium	87	89	100	100	53	97	95	100	100	82		100	58	61	75	85	100	99	100	100
Portugal	86	89	100	100	27	97	93	100	100	77		100	100	38	77	96	100	100	100	100
Austria	88	89	100	100	44	97	94	100	100	81	100	100	100	42	80	57	100	100	100	100
Israel	86	89	100	100	26	97	94	100	100	74	100	100	100	55	67	86	100	100	100	100
United Kingdom	86	89	100	100	33	94	94	100	100	87		100	100	40	76	89	100	99	100	100
Finland	88	89	100	100	36	97	94	100	100	88	100	100	67	52	78	91	100	99	100	100

(cont.)

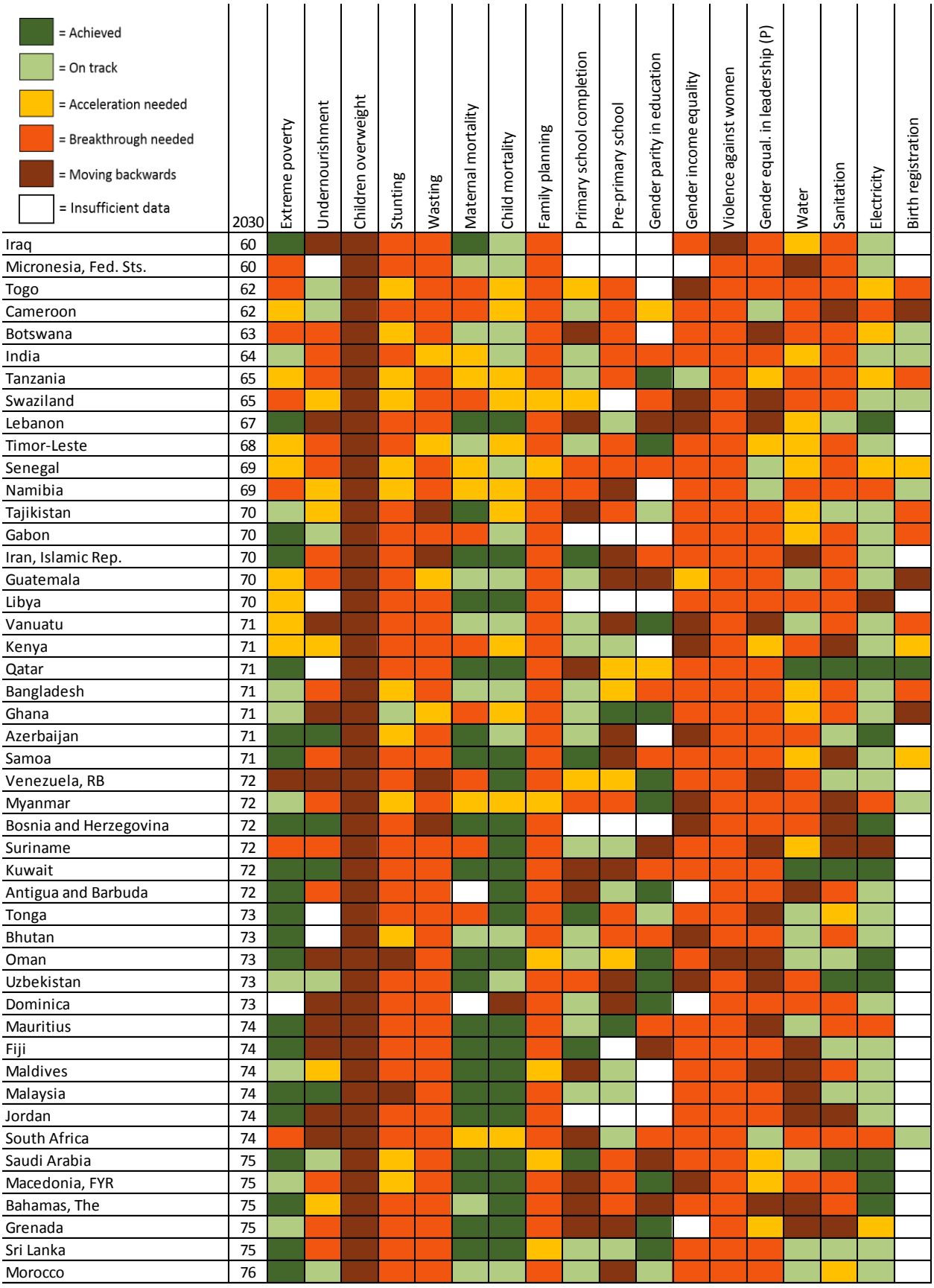
	2015	2030	Extreme poverty	Undernourishment	Children overweight	Stunting	Wasting	Maternal mortality	Child mortality	Family planning	Primary school	Pre-primary school	Gender parity in education	Gender income equality	Violence against women	Gender equal. in leadership (P)	Water	Sanitation	Electricity	Birth registration
Andorra	88	90			40	98	94		100	84					79	92	100	100	100	100
Iceland	89	90	100	100	5	98	94	100	100	86	100	95	100	59	78	100	100	99	100	100
Denmark	89	90	100	100	34	97	94	100	100	80	95	100	100	62	77	75	100	100	100	100
Germany	88	90	100	100	30	98	95	100	100	81	100	100	100	59	80	87	100	99	100	100
Colombia	82	91	100	100	59	83	92	100	100	97	100		100	100	54	62	100	91	100	100
Norway	90	91	100	100	26	97	94	100	100	80	99	100	100	82	77	85	100	98	100	100
France	89	92	100	100	50	97	94	100	100	84		100	100	67	77	100	100	98	100	100
Switzerland	89	92	100	100	42	97	94	100	100	83	98	100	100	93	78	78	100	100	100	100

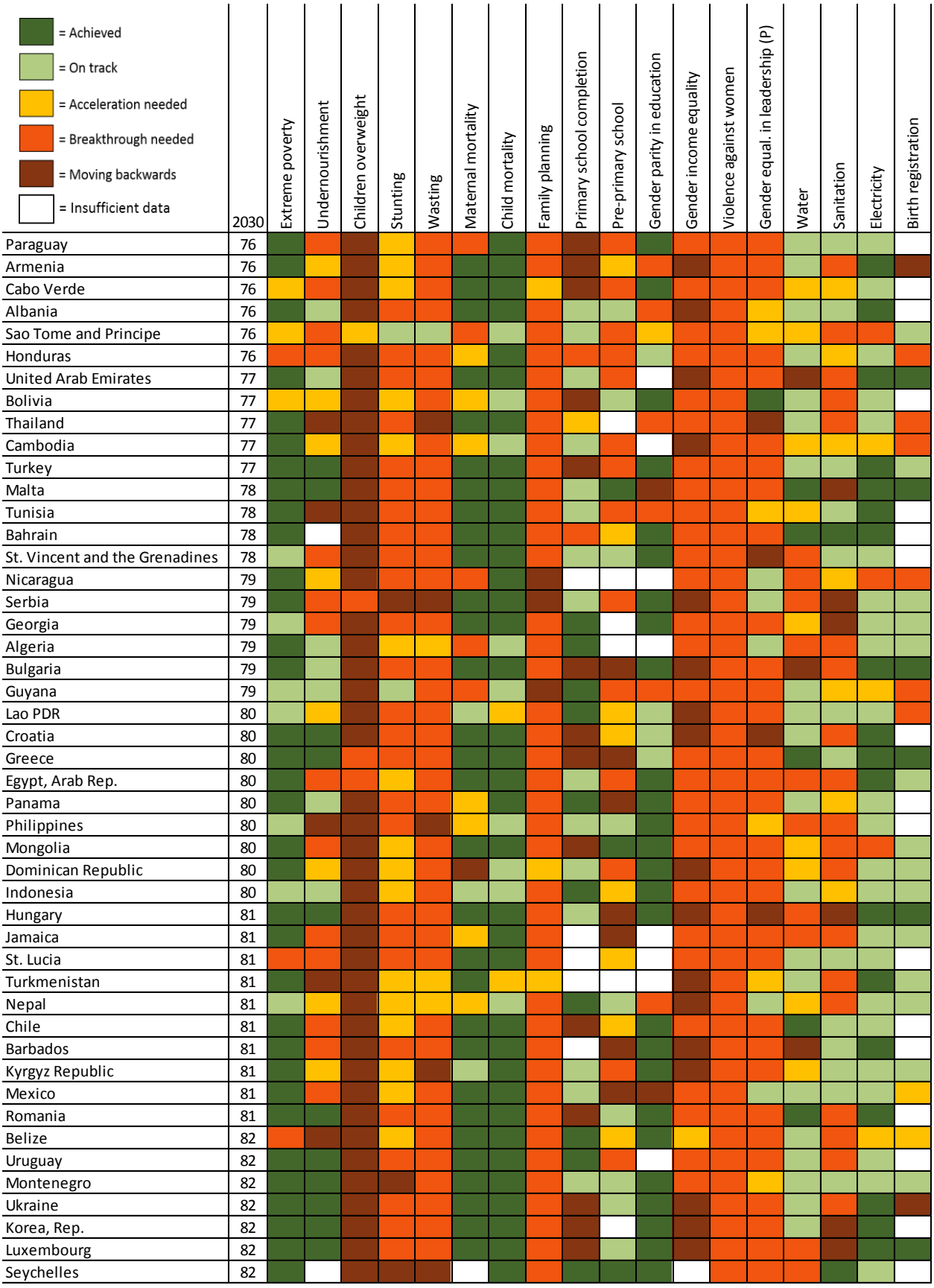
Notes: Green shading indicates target achievement; darker blue shading corresponds to further remaining "distance to the frontier" in 2030. Distance values range from index of 0 (worst score in 2015) to 100 (SDG target). Values under the columns for 2015 and 2030 represent the country's average distance to the frontier across indicators in each respective year. A country must have adequate trend data for at least 9 of the 18 absolute targets to be included in the list. Maternal mortality applies the global target of 70 deaths per 100,000 live births to each country. Gender equality in public leadership assumes proxy target of parity.
Source: Authors' calculations based on GBD (2017), World Bank (2018b), World Data Lab (2018).

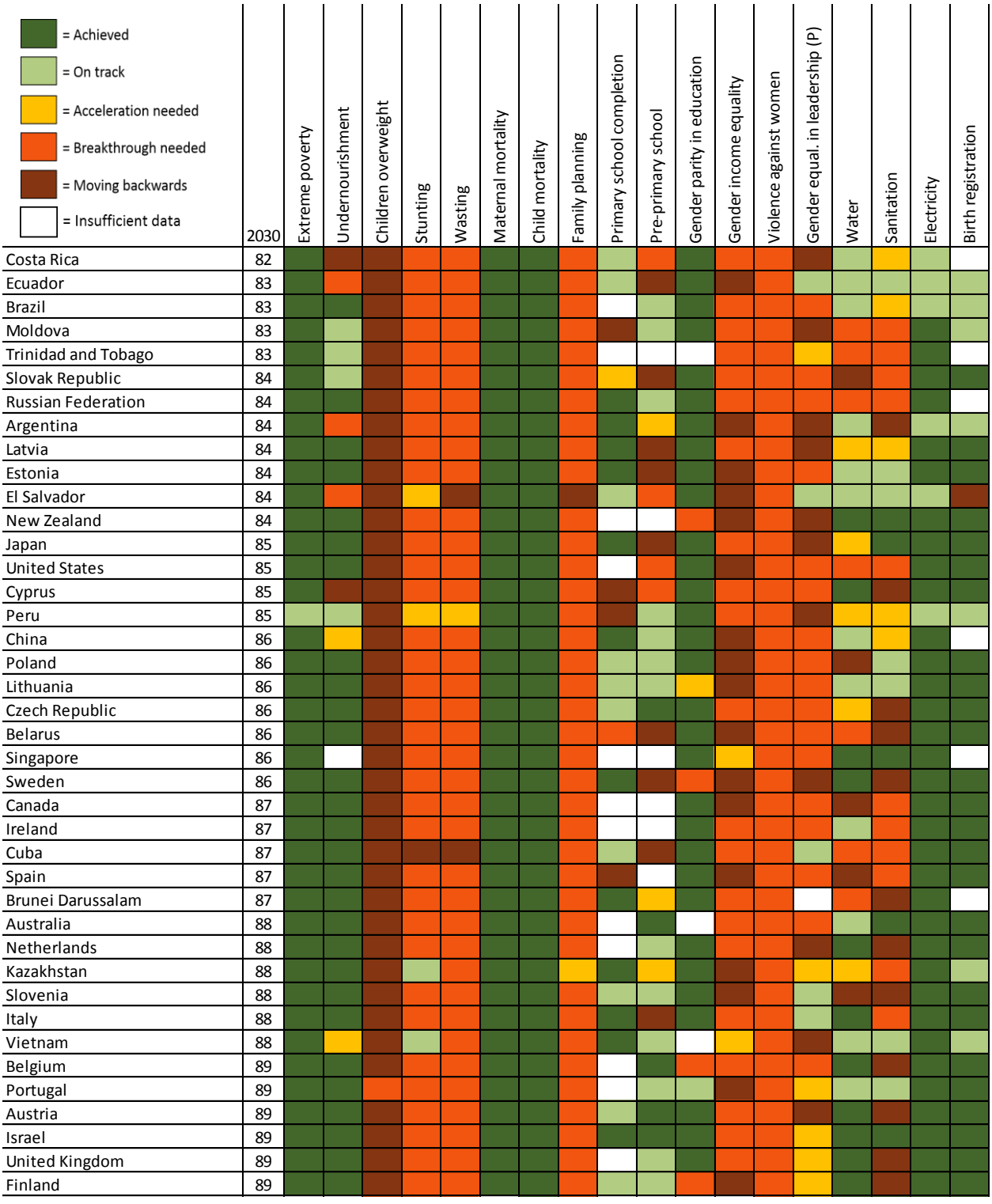
Appendix 4. Absolute targets: SDG status by indicator

= Achieved
= On track
= Acceleration needed
= Breakthrough needed
= Moving backwards
= Insufficient data

	2030	Extreme poverty	Undernourishment	Children overweight	Stunting	Wasting	Maternal mortality	Child mortality	Family planning	Primary school completion	Pre-primary school	Gender parity in education	Gender income equality	Violence against women	Gender equal. in leadership (P)	Water	Sanitation	Electricity	Birth registration
Central African Republic	23																		
Chad	24																		
South Sudan	24																		
Somalia	24																		
Congo, Dem. Rep.	35																		
Guinea-Bissau	39																		
Zambia	42																		
Sierra Leone	42																		
Eritrea	43																		
Papua New Guinea	43																		
Niger	44																		
Mali	45																		
Madagascar	45																		
Yemen, Rep.	45																		
Nigeria	45																		
Djibouti	47																		
Burundi	47																		
Afghanistan	48																		
Uganda	48																		
Guinea	49																		
Gambia, The	49																		
Angola	49																		
Liberia	49																		
Congo, Rep.	51																		
Cote d'Ivoire	51																		
Equatorial Guinea	53																		
Haiti	53																		
Comoros	54																		
Marshall Islands	54																		
Lesotho	54																		
Burkina Faso	54																		
Syrian Arab Republic	55																		
Mauritania	56																		
Sudan	56																		
Mozambique	56																		
Pakistan	57																		
Korea, Dem. People's Rep.	57																		
Benin	57																		
Ethiopia	58																		
Malawi	58																		
Zimbabwe	58																		
Rwanda	58																		
Solomon Islands	59																		
Kiribati	59																		

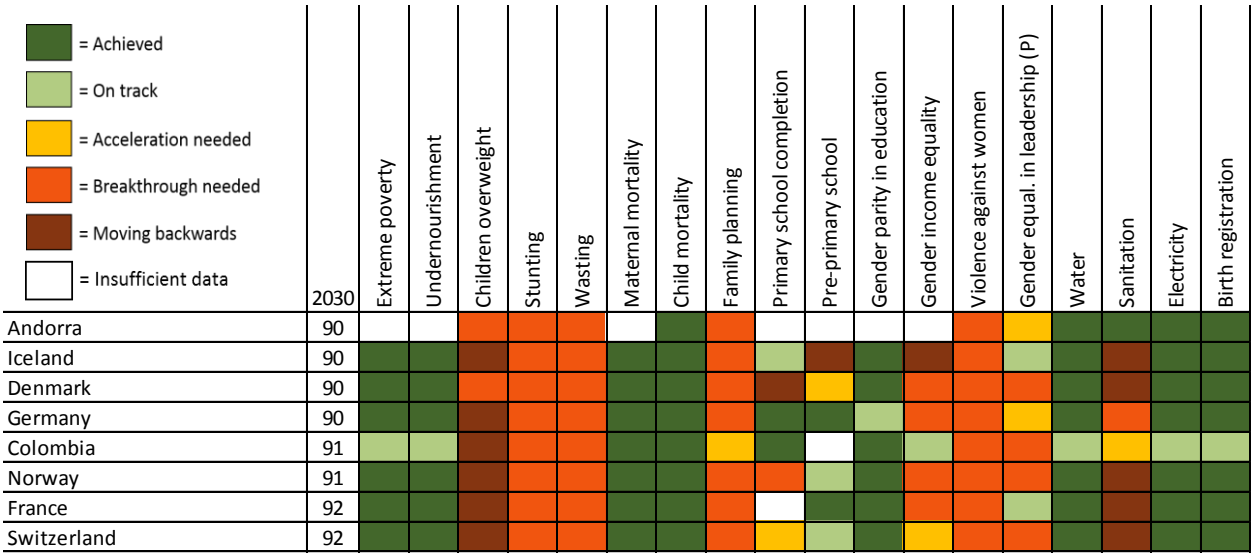

= Achieved
= On track
= Acceleration needed
= Breakthrough needed
= Moving backwards
= Insufficient data
2030
Extreme poverty
Undernourishment
Children overweight
Stunting
Wasting
Maternal mortality
Child mortality
Family planning
Primary school completion
Pre-primary school
Gender parity in education
Gender income equality
Violence against women
Gender equal. in leadership (P)
Water
Sanitation
Electricity
Birth registration
Iraq 60
Micronesia, Fed. Sts. 60
Togo 62
Cameroon 62
Botswana 63
India 64
Tanzania 65
Swaziland 65
Lebanon 67
Timor-Leste 68
Senegal 69
Namibia 69
Tajikistan 70
Gabon 70
Iran, Islamic Rep. 70
Guatemala 70
Libya 70
Vanuatu 71
Kenya 71
Qatar 71
Bangladesh 71
Ghana 71
Azerbaijan 71
Samoa 71
Venezuela, RB 72
Myanmar 72
Bosnia and Herzegovina 72
Suriname 72
Kuwait 72
Antigua and Barbuda 72
Tonga 73
Bhutan 73
Oman 73
Uzbekistan 73
Dominica 73
Mauritius 74
Fiji 74
Maldives 74
Malaysia 74
Jordan 74
South Africa 74
Saudi Arabia 75
Macedonia, FYR 75
Bahamas, The 75
Grenada 75
Sri Lanka 75
Morocco 76


= Achieved
= On track
= Acceleration needed
= Breakthrough needed
= Moving backwards
= Insufficient data
2030
Extreme poverty
Undernourishment
Children overweight
Stunting
Wasting
Maternal mortality
Child mortality
Family planning
Primary school completion
Pre-primary school
Gender parity in education
Gender income equality
Violence against women
Gender equal. in leadership (P)
Water
Sanitation
Electricity
Birth registration
Paraguay 76
Armenia 76
Cabo Verde 76
Albania 76
Sao Tome and Principe 76
Honduras 76
United Arab Emirates 77
Bolivia 77
Thailand 77
Cambodia 77
Turkey 77
Malta 78
Tunisia 78
Bahrain 78
St. Vincent and the Grenadines 78
Nicaragua 79
Serbia 79
Georgia 79
Algeria 79
Bulgaria 79
Guyana 79
Lao PDR 80
Croatia 80
Greece 80
Egypt, Arab Rep. 80
Panama 80
Philippines 80
Mongolia 80
Dominican Republic 80
Indonesia 80
Hungary 81
Jamaica 81
St. Lucia 81
Turkmenistan 81
Nepal 81
Chile 81
Barbados 81
Kyrgyz Republic 81
Mexico 81
Romania 81
Belize 82
Uruguay 82
Montenegro 82
Ukraine 82
Korea, Rep. 82
Luxembourg 82
Seychelles 82



	2030	Extreme poverty	Undernourishment	Children overweight	Stunting	Wasting	Maternal mortality	Child mortality	Family planning	Primary school completion	Pre-primary school	Gender parity in education	Gender income equality	Violence against women	Gender equal. in leadership (P)	Water	Sanitation	Electricity	Birth registration
Costa Rica	82																		
Ecuador	83																		
Brazil	83																		
Moldova	83																		
Trinidad and Tobago	83																		
Slovak Republic	84																		
Russian Federation	84																		
Argentina	84																		
Latvia	84																		
Estonia	84																		
El Salvador	84																		
New Zealand	84																		
Japan	85																		
United States	85																		
Cyprus	85																		
Peru	85																		
China	86																		
Poland	86																		
Lithuania	86																		
Czech Republic	86																		
Belarus	86																		
Singapore	86																		
Sweden	86																		
Canada	87																		
Ireland	87																		
Cuba	87																		
Spain	87																		
Brunei Darussalam	87																		
Australia	88																		
Netherlands	88																		
Kazakhstan	88																		
Slovenia	88																		
Italy	88																		
Vietnam	88																		
Belgium	89																		
Portugal	89																		
Austria	89																		
Israel	89																		
United Kingdom	89																		
Finland	89																		

(cont.)



	2030	Extreme poverty	Undernourishment	Children overweight	Stunting	Wasting	Maternal mortality	Child mortality	Family planning	Primary school completion	Pre-primary school	Gender parity in education	Gender income equality	Violence against women	Gender equal. in leadership (P)	Water	Sanitation	Electricity	Birth registration
Andorra	90																		
Iceland	90																		
Denmark	90																		
Germany	90																		
Colombia	91																		
Norway	91																		
France	92																		
Switzerland	92																		

Notes: A country must have adequate trend data for at least 9 of the 18 absolute targets to be included in the list. Values for 2030 are the country's indexed average distance to the frontier across indicators (ranging from index of 0, worst score in 2015, to 100, the SDG target). Maternal mortality applies the global target of 70 deaths per 100,000 live births to each country. Gender equality in public leadership assumes proxy target of parity.
Source: Authors' calculations based on GBD (2017), World Bank (2018b), World Data Lab (2018).

Appendix 5. Relative targets: SDG status by indicator, ranked by average share of distance traveled by 2030 on current trajectory

= Achieved
= On track
= Acceleration needed
= Breakthrough needed
= Moving backwards
= Insufficient data

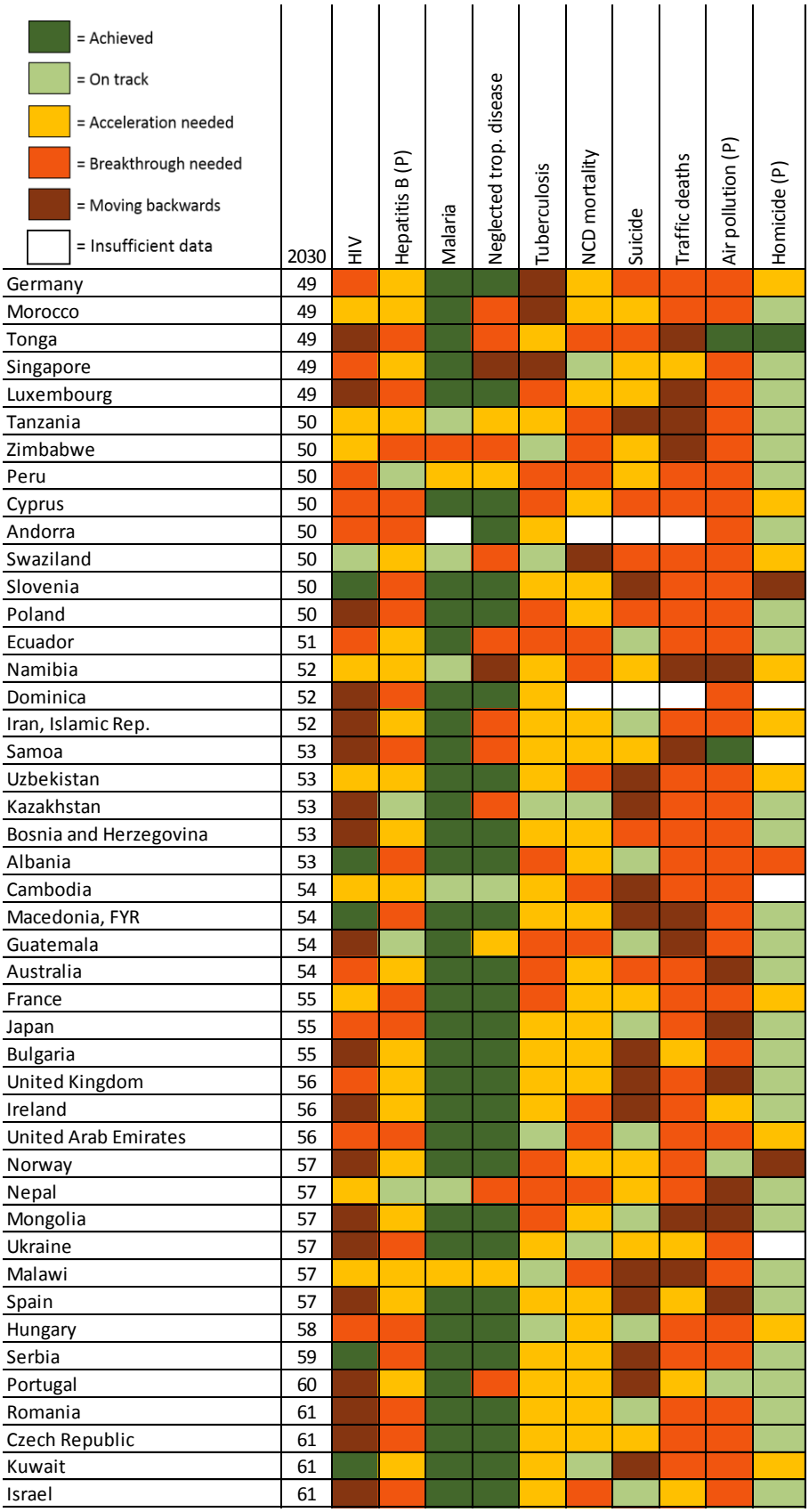
	2030	HIV	Hepatitis B (P)	Malaria	Neglected trop. disease	Tuberculosis	NCD mortality	Suicide	Traffic deaths	Air pollution (P)	Homicide (P)
Syrian Arab Republic	17										
Afghanistan	19										
Micronesia, Fed. Sts.	19										
Papua New Guinea	20										
Mexico	23										
Kenya	23										
Bahamas, The	23										
Iraq	23										
Pakistan	24										
Congo, Dem. Rep.	24										
Seychelles	24										
Gambia, The	24										
Gabon	25										
Tunisia	25										
Uruguay	25										
Somalia	26										
Venezuela, RB	26										
Sao Tome and Principe	26										
Marshall Islands	27										
Liberia	27										
Oman	27										
Mauritius	28										
Cabo Verde	28										
Madagascar	28										
Panama	28										
Brazil	28										
Comoros	29										
Lebanon	29										
Argentina	29										
Burkina Faso	29										
Yemen, Rep.	30										
St. Lucia	31										
South Sudan	31										
Guinea	31										
Nigeria	31										
Sri Lanka	32										
Belize	32										
Korea, Dem. People's Rep.	32										
Malaysia	32										
Libya	32										
Bhutan	33										
Turkmenistan	33										

= Achieved
= On track
= Acceleration needed
= Breakthrough needed
= Moving backwards
= Insufficient data

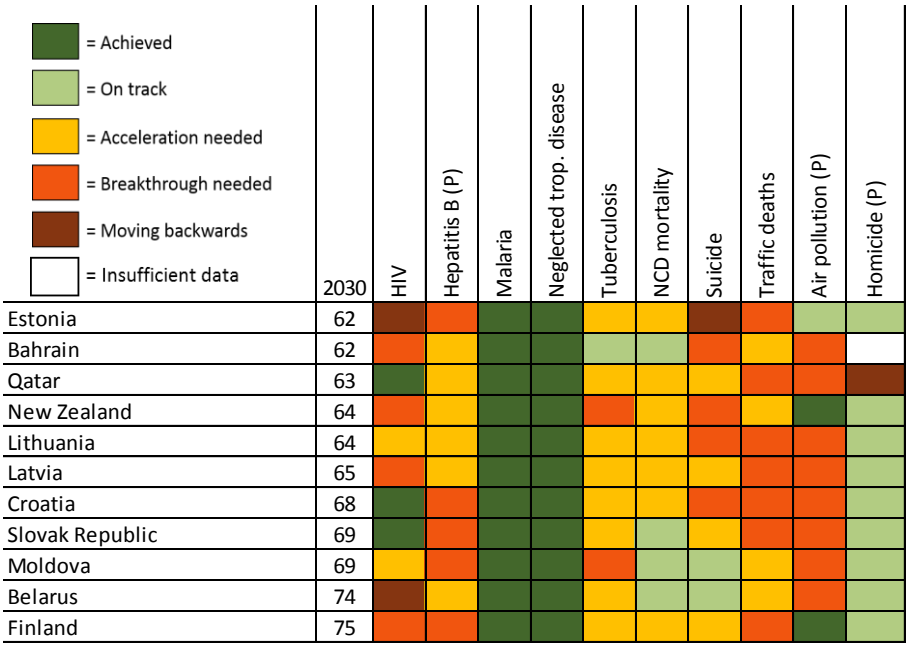
	2030	HIV	Hepatitis B (P)	Malaria	Neglected trop. disease	Tuberculosis	NCD mortality	Suicide	Traffic deaths	Air pollution (P)	Homicide (P)
Chad	33										
Paraguay	33										
Jordan	33										
Philippines	33										
Georgia	33										
Trinidad and Tobago	33										
Cuba	33										
Guyana	34										
Indonesia	34										
Myanmar	34										
Belgium	34										
Sierra Leone	34										
Chile	35										
Jamaica	35										
St. Vincent and the Grenadines	35										
Solomon Islands	35										
Dominican Republic	35										
Eritrea	35										
Haiti	36										
Egypt, Arab Rep.	36										
Mali	36										
Equatorial Guinea	36										
Brunei Darussalam	36										
Antigua and Barbuda	36										
Lesotho	37										
Thailand	37										
Tajikistan	37										
Uganda	37										
Austria	37										
Honduras	37										
Armenia	37										
Saudi Arabia	37										
Ghana	37										
Burundi	37										
Central African Republic	38										
Ethiopia	38										
Suriname	38										
Fiji	38										
Sweden	38										
Costa Rica	38										
Benin	38										
Algeria	39										
Djibouti	39										
Korea, Rep.	39										
Mozambique	39										

= Achieved
= On track
= Acceleration needed
= Breakthrough needed
= Moving backwards
= Insufficient data

	2030	HIV	Hepatitis B (P)	Malaria	Neglected trop. disease	Tuberculosis	NCD mortality	Suicide	Traffic deaths	Air pollution (P)	Homicide (P)
Cote d'Ivoire	39										
Malta	40										
Colombia	40										
Bolivia	40										
Mauritania	40										
India	41										
United States	41										
Rwanda	41										
Togo	41										
Niger	41										
Angola	42										
Vietnam	42										
Azerbaijan	43										
Zambia	43										
Kiribati	43										
Vanuatu	44										
Kyrgyz Republic	44										
South Africa	44										
Iceland	44										
Canada	44										
China	45										
Guinea-Bissau	45										
Bangladesh	45										
Grenada	45										
Maldives	45										
Montenegro	45										
Timor-Leste	46										
Sudan	46										
El Salvador	46										
Netherlands	46										
Lao PDR	46										
Congo, Rep.	46										
Switzerland	47										
Senegal	47										
Greece	47										
Botswana	48										
Barbados	48										
Nicaragua	48										
Turkey	48										
Cameroon	48										
Italy	49										
Denmark	49										
Russian Federation	49										



	2030	HIV	Hepatitis B (P)	Malaria	Neglected trop. disease	Tuberculosis	NCD mortality	Suicide	Traffic deaths	Air pollution (P)	Homicide (P)
Germany	49										
Morocco	49										
Tonga	49										
Singapore	49										
Luxembourg	49										
Tanzania	50										
Zimbabwe	50										
Peru	50										
Cyprus	50										
Andorra	50										
Swaziland	50										
Slovenia	50										
Poland	50										
Ecuador	51										
Namibia	52										
Dominica	52										
Iran, Islamic Rep.	52										
Samoa	53										
Uzbekistan	53										
Kazakhstan	53										
Bosnia and Herzegovina	53										
Albania	53										
Cambodia	54										
Macedonia, FYR	54										
Guatemala	54										
Australia	54										
France	55										
Japan	55										
Bulgaria	55										
United Kingdom	56										
Ireland	56										
United Arab Emirates	56										
Norway	57										
Nepal	57										
Mongolia	57										
Ukraine	57										
Malawi	57										
Spain	57										
Hungary	58										
Serbia	59										
Portugal	60										
Romania	61										
Czech Republic	61										
Kuwait	61										
Israel	61										



	2030	HIV	Hepatitis B (P)	Malaria	Neglected trop. disease	Tuberculosis	NCD mortality	Suicide	Traffic deaths	Air pollution (P)	Homicide (P)
Estonia	62										
Bahrain	62										
Qatar	63										
New Zealand	64										
Lithuania	64										
Latvia	65										
Croatia	68										
Slovak Republic	69										
Moldova	69										
Belarus	74										
Finland	75										

Note: Values for 2030 are the country's indexed share of distance traveled from their 2015 starting value, averaged across indicators. A country must have trend data available for at least 5 of the 10 relative targets to be included in the list. HIV, malaria, neglected tropical disease, and Tuberculosis apply WHO global target to each country. Hepatitis B, air pollution, and homicide assume proxy target of 50% reduction.
Source: Authors' calculations based on GBD (2017), U.N.-Statistics Division (2018), World Bank (2018b).

Appendix 6. Methodology notes

The following provides details regarding the methodology and calculations used in the paper.

1. Rate of progress calculations

For each indicator and country, we calculate a business-as-usual rate of progress, defined between at least one observation during the years 2012 to 2017 and one observation at least five years prior (but no earlier than 2000). We use proportional rates of progress for mortality and disease-related indicators and linear (absolute) rates of progress for all other indicators:

$$Proportional\ rate\ of\ progress = (\frac{m_{t+n}}{m_t})^{\frac{1}{n}} - 1$$

$$Linear\ rate\ of\ progress = \frac{(m_{t+n} - m_t)}{n}$$

where *m* represents the indicator value, *t* represents an index year, and *n* indicates the number of years since *t*.

For business-as-usual calculations, we set m_{t+n} as the most recent available observation from 2012 to 2017 and m_t as at least five years prior to m_{t+n} (no earlier than 2000). The ideal reference period for trend calculations is 2010 to 2017, although these observations are not available in most cases. To identify m_t , our model first checks 2010 for observations and then, if none are available, tries 2011, 2012, then 2009 and so forth down to 2000 (e.g. if m_{t+n} is in 2017, then 2010 is used even if 2012 is also available).

To account for indicators with volatility in reported data, we calculate a linear fit for business-as-usual trajectories using observations available from 2005 through 2017. Appendix 8 lists equations used by indicator. Countries must have adequate trend data to be included in the calculation. For countries that have trend data but their initial m_t observation is prior to 2005, we calculate a linear fit using observations available from 2000 through 2017.

2. 2030 trajectories

We use the same basic logic to calculate average rates of progress needed for each country to achieve the 2030 SDG targets (or 2020 where relevant), starting from 2015 and 2018 values, respectively. This means that, for each indicator and country, we calculate four distinct trajectories: (1) business-as-usual, which extrapolates recent rates of progress out to 2030 (or 2020); (2) SDG-Yes$_{2015}$, which estimates the rate of progress required as of 2015 to meet the target in 2030; (3) SDG-Yes$_{2018}$, which estimates the rate of progress required from a business-as-usual 2018 starting point to meet the target in 2030; and (4) constant, which assumes no change in the 2015 indicator observation out to 2030.

For business-as-usual and both SDG-Yes trajectories, we extrapolate the rate of progress out to 2030 using a proportional or linear trajectory, as appropriate:

$$Proportional\ trajectory = m_t(1+r)^n$$

$$Linear\ trajectory = m_t + (r * n)$$

where *r* represents the annual rate of progress. For most indicators that use a linear fit rate of progress, we use the predicted 2017 value as the most recent m_t value for business-as-usual trajectories and the fitted 2015 value to define the "constant" trajectory. For women in government, we instead use the actual most recent values as the reference point.

If a country's business-as-usual trajectory puts it on track to meet the target by 2030 then both SDG-Yes trajectories are also the same. Where relevant, we further adjust trajectories by establishing natural floors and ceilings as dictated from the data (e.g., a 100 percent ceiling on universal access indicators).

3. Setting targets and assessing status

For absolute targets, we set the value for target achievement using official language. For target 1.1 on ending extreme income poverty, we apply a 3 percent threshold for country-level calculations of target achievement, due to the asymptotic nature of the data, although all aggregate global calculations are made relative to a literal zero target. For target 2.1 on undernourishment, country data are only reported down to a floor of 2.5 percent, so we assume countries that reached that level by 2015 have already met the target, while other countries' trajectories must fully reach zero in order to achieve the target by 2030.

For indicators under target 3.3, we use two thresholds. Countries are considered to have met the target prior to 2015 if their observation that year is less than the relevant GBD (2017) threshold. If the observation is above the threshold, we apply the WHO's (2015) respective proportionate global objectives to define each country's specific target.

For targets with relative endpoints, we use the observation in 2015 to establish 2030 benchmarks unique to each country. When the 2015 observation is missing, we use the following logic: (1) if the most recent year available is prior to 2015, use the most recent available observation; (2) if the most recent year available is after 2015, use the 2014 observation; if 2014 is also missing, use 2016; (3) if both 2014 and 2016 observations are available, use the average of both; (4) for indicators sourced from GBD (2017), observations are available for only 2010 and 2016, so use the rate of progress calculation to interpolate 2015 values; and (5) for indicators using linear fit to establish trajectories, use the fitted 2015 value.

In Appendix 1, we categorize countries' trajectories relative to target values. On each indicator, countries are assigned to one of five categories:

- **Achieved***:* achieved target as of 2015
- **On track**: achieves target on current trajectory
- **Acceleration needed**: on course to cover more than 50 percent but less than 100 percent of its 2015 starting distance to the target
- **Breakthrough needed**: on course to cover between 0 and 50 percent of its 2015 starting distance to the target
- **Moving backwards**: most recent available trend is negative

4. People left behind: share of population achieving target by 2030 and number left behind

For each country, we convert the four trajectories (business-as-usual, SDG-Yes$_{2015}$, SDG-Yes$_{2018}$, and constant) into the number of people affected using relevant, country-level population projections. For indicators measuring access (e.g. share with access to water), we adjust the indicators to measure those without. To calculate the number of lives and needs at stake, we find the difference between the number of people affected under business-as-usual and SDG-Yes$_{2018}$ trajectories, starting from the estimated 2018 value. This number is zero for on track countries. To calculate the aggregate global total in each year, we sum each country's number of people left behind (Figures 6 and 7). On issues of basic needs, we sum only the 2030 final year values. On issues of mortality and disease incidence, we calculate the cumulative values from 2019 through 2030 (or the relevant target year).

To calculate the share of relevant aggregate population achieving the target (Figures 4 and 5), we look only at countries that had not achieved the target as of 2015. The numerator is the difference between the number of people affected under the constant and business-as-usual trajectories. The denominator is the difference between the number of people affected under the constant and SDG-Yes$_{2015}$ trajectories. For mortality and disease incidence indicators, we calculate the cumulative number of people from 2016 through 2030 or the final target year.

5. Distance to the frontier and average distance traveled towards targets

We implement a "distance to the frontier" measure that resets all indicator values to a 0 to 100 scale. For absolute targets, we use a distance to the frontier formula as:

$$Distance\ to\ the\ absolute\ frontier_t = \frac{dworst_{2015} - d_t}{dworst_{2015}}$$

where $dworst_{2015}$ indicates the distance to the target in 2015 at the 5th worst percentile of the indicator, and d_t indicates the country's distance to the target in year t, either 2015 or 2030. Countries whose distance to the target exceeds $worst_{2015}$ receive a value of 0 for distance to the absolute frontier. Countries that meet or surpass the target (e.g., a child mortality rate less than 25 deaths per thousand live births) are given a value of 100 for distance to the frontier.

For relative targets, each country's 0 to 100 scale is calculated for each indicator based on its own starting point (m_{2015}) and relative SDG target outcome (m_{SDG}), such that its starting distance to the relative frontier on each target is marked as zero, by definition, and its achievement of the relative SDG is equal to 100 (percent):

$$Distance\ to\ the\ relative\ frontier_t = \frac{m_{2015} - m_t}{m_{2015} - m_{SDG}}$$

Countries moving backwards on a relative target are allocated a *distance to the relative frontier*$_{2030}$ value of zero.

To calculate a country's average distance to the absolute frontier and average distance to the relative frontier, we calculate unweighted mean values for each respective category of targets. The denominator for each calculation of averages is set by the number of indicators for which a country has trajectory data. A country requires trajectory data for at least 9 of 18 absolute targets or at least 5 of 10 relative targets in order to be included in the rankings for Figures 10 and 11.

Appendix 7. Mapping indicator, population sources and data available

A. 21 targets assessed

SDG	Official target language	Indicator used	Data source	Countries with levels	Countries with trend	Population	Population source
1	1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day	1.1.1 Poverty headcount ratio at $1,90 (2011 PPP)	World Data Lab (2018)	182	182	Total	World Data Lab (2018)
2	2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round	2.1.1 Prevalence of undernourishment (% of population)	World Bank SN.ITK.DEFC.ZS	167	166	Total	U.N.-DESA (2017d)
	2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons	2.2.1 Prevalence of stunting in children under 5 (%)	GBD (2017)	186	186	Aged 0-4	U.N.-DESA (2017b)
		2.2.2a Prevalence of wasting in children under 5 (%)	GBD (2017)	186	186	Aged 0-4	U.N.-DESA (2017b)
		2.2.2b Prevalence of overweight in children aged 2-4 (%)	GBD (2017)	186	186	Aged 2-4	U.N.-DESA (2017b)
3	3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births	3.1.1 Maternal mortality ratio (modeled estimate, per 100,000 live births)	World Bank SH.STA.MMRT	181	181	Births	U.N.-DESA (2017a)
	3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births	3.2.1 Mortality rate, under-5 (per 1,000 live births)	World Bank SH.DYN.MORT	192	192	Births	U.N.-DESA (2017a)

SDG	Official target language	Indicator used	Data source	Countries with levels	Countries with trend	Population	Population source
3 (cont.)	3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases	3.3.1 Age-standardised rate of new HIV infections (per 1,000 population)	GBD (2017)	186	186	Total	U.N.-DESA (2017d)
		3.3.2 Incidence of tuberculosis (per 100,000 population)	World Bank SH.TBS.INCD	192	192	Total	U.N.-DESA (2017d)
		3.3.3 Incidence of malaria (per 1,000 population at risk)	World Bank SH.MLR.INCD.P3	185	185	People at risk	WHO (2017c)
		3.3.4 **[Proxy target]** Age-standardised rate of hepatitis B incidence (per 100,000 population)	GBD (2017)	186	186	Total	U.N.-DESA (2017d)
		3.3.5 Age-standardised prevalence of the sum of 15 neglected tropical diseases (NTDs) (%) *Prevalence estimates reported here may exceed 100% as they reflect the sum of prevalent cases of 15 NTDs.	GBD (2017)	186	186	n/a	n/a
	3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being	3.4.1 Age-standardized non-communicable disease (NCD) mortality rate (per 100,000 population)*	WHO (2018d)	183	183	Aged 0-69	U.N.-DESA (2017b)
		3.4.2 Suicide mortality rate (per 100,000 population)	U.N. Statistics Division (2018)	183	183	Total	U.N.-DESA (2017d)
	3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents	3.6.1 Mortality caused by road traffic injury (per 100,000 population)	World Bank SH.STA.TRAF.P5	183	183	Total	U.N.-DESA (2017d)
	3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes	3.7.1 Proportion of women of reproductive age (15-49 years) who have their need for family planning satisfied with modern methods (%)	GBD (2017)	186	186	Females aged 15-49	U.N.-DESA (2017c)

SDG	Official target language	Indicator used	Data source	Countries with levels	Countries with trend	Population	Population source
4	4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	4.1.1 Primary completion rate, total (% of relevant age group)	World Bank SE.PRM.CMPT.ZS	160	156	Aged 12	U.N.-DESA (2017b)
	4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education	4.2.2 School enrollment, preprimary (% gross)	World Bank SE.PRE.ENRR	164	153	Aged 4	U.N.-DESA (2017b)
	4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations	4.5.1 School enrollment, primary and secondary (gross), gender parity index (GPI)	World Bank SE.ENR.PRSC.FM.ZS	160	153	n/a	n/a
5	5.1 End all forms of discrimination against all women and girls everywhere	5.1.1 Estimated GNI per capita (PPP, US$), Female/Male ratio	UNDP (2016)	176	176	n/a	n/a
	5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation	5.2.1 Age-standardised prevalence of women aged 15 years and older who experienced physical or sexual violence by an intimate partner in the last 12 months (%)	GBD (2017)	186	186	Females aged 15-79	U.N.-DESA (2017c)
	5.5 **[Proxy target]** Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	5.5.1 Proportion of seats held by women in national parliaments (%)	World Bank SG.GEN.PARL.ZS	193	192	Females aged 0-79	U.N.-DESA (2017c)
6	6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all	6.1.1 People using at least basic drinking water services (%)	World Bank SH.H2O.BASW.ZS	193	192	Total	U.N.-DESA (2017d)
	6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations	6.2.1 People using at least basic sanitation services (%)	World Bank SH.STA.BASS.ZS	193	192	Total	U.N.-DESA (2017d)

SDG	Official target language	Indicator used	Data source	Countries with levels	Countries with trend	Population	Population source
7	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	7.1.1 Access to electricity (%)	World Bank EG.ELC.ACCS.ZS	193	193	Total	U.N.-DESA (2017d)
11	11.6 **[Proxy target]** By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	11.6.2 PM2.5 air pollution, population exposed to levels exceeding WHO guideline value (%)	World Bank EN.ATM.PM25.MC.ZS	186	186	Total	U.N.-DESA (2017d)
16	16.1 **[Proxy target]** Significantly reduce all forms of violence and related death rates everywhere	16.1.1 Intentional homicides (per 100,000 population)	World Bank VC.IHR.PSRC.P5	168	157	Total	U.N.-DESA (2017d)
	16.9 By 2030, provide legal identity for all, including birth registration	16.9.1 Completeness of birth registration (% of children under age 5)	World Bank SP.REG.BRTH.ZS	132	123	Aged 0-4	U.N.-DESA (2017b)

Notes: * Lives at stake calculation also uses data for the number of premature deaths due to NCDs in people under 70 (WHO 2018c).
"n/a" indicates item is not applicable.

B. 12 targets with insufficient trend data

SDG	Official target language	Indicator used	Data source	Countries with levels	Countries with trend
1	1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	1.2.1 Poverty headcount ratio at national poverty lines (% of population)	World Bank SI.POV.NAHC	95	84
	1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable	1.3.1 Proportion of poor population covered by social protection floors/systems OR Proportion of the poorest quintile population covered by social assistance programs	U.N. Statistics Division (2018)	80	28
	1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance	1.4.2 Perceived tenure security: percentage of respondents feeling secure Total	ODI and Global Land Alliance (2018)	8	0
2	2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment	2.3 Agricultural productivity and incomes of small-scale food producers	none		
3	3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all	3.8.1 Universal health coverage: coverage of essential health services	none		
4	4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy	4.6.1 Literacy rate, youth total (% of people ages 15-24)	World Bank SE.ADT.1524.LT.ZS	77	72

SDG	Official target language	Indicator used	Data source	Countries with levels	Countries with trend
5	5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation	5.3.1 Women who were first married by age 18 (% of women ages 20-24)	World Bank SP.M18.2024.FE.ZS	69	56
		5.3.2 Female genital mutilation prevalence (%)	World Bank SH.STA.FGMS.ZS	18	16
	5.6 Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences	5.6.1 Women who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care	U.N. Statistics Division (2018)	29	0
8	8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms	8.7.1 Proportion of children aged 5-17 years engaged in labour	U.N. Statistics Division (2018)	39	28
10	10.1 By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average	10.1.1 Annualized average growth rate in per capita real survey mean consumption or income, bottom 40% of population (%) and total population	World Bank SI.SPR.PC40.ZG & SI.SPR.PCAP.ZG	87	0
11	11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums	11.1.1 Population living in slums (% of urban population)	World Bank EN.POP.SLUM.UR.ZS	83	74
16	16.2 End abuse, exploitation, trafficking and all forms of violence against and torture of children	16.2.2 Number of victims of human trafficking per 100,000 population	U.N. Statistics Division (2018)	50	0

Appendix 8. Rate of progress calculation and target value used by indicator

28 indicators with at least 100 countries with recent trend data

Indicator used	Rate of progress equation	Target category	Target value	Target direction	Target end year	Notes
1.1.1 Poverty headcount ratio at $1,90 (2011 PPP)	trajectory from source	absolute	0 / 3	<	2030	Use 3 % threshold for country-level achievement calculation. Use 0% for number of people in poverty
2.1.1 Prevalence of undernourishment (% of population)	linear	absolute	0	<	2030	Country-level data has floor of 2.5%. If country hits floor by 2015 (final year of data), assume has already met SDG target. If greater than 2.5% in 2015, trajectory must reach 0% to achieve SDG target
2.2.1 Prevalence of stunting in children under 5 (%)	linear	absolute	0	<	2030	
2.2.2a Prevalence of wasting in children under 5 (%)	linear	absolute	0	<	2030	
2.2.2b Prevalence of overweight in children aged 2-4 (%)	linear	absolute	0	<	2030	
3.1.1 Maternal mortality ratio (modeled estimate, per 100,000 live births)	proportional	absolute	70	<	2030	Applies global target of 70 to each country
3.2.1 Mortality rate, under-5 (per 1,000 live births)	proportional	absolute	25	<	2030	
3.3.1 Age-standardised rate of new HIV infections (per 1,000 population)	proportional	relative	reduce by 90%	<	2030	Countries meet target prior to 2015 if observation is < 0.005 (as per GBD 2017); “reduce by 90%” applies WHO global target (WHO 2015) to country's 2030 trajectory
3.3.2 Incidence of tuberculosis (per 100,000 people)	proportional	relative	reduce by 80%	<	2030	Countries meet target prior to 2015 if observation is < 0.5 (as per GBD 2017); “reduce by 80%” applies WHO global target (WHO 2015) to country's 2030 trajectory
3.3.3 Incidence of malaria (per 1,000 population at risk)	linear fit	relative	reduce by 90%	<	2030	Countries meet target prior to 2015 if observation is < 0.005 (as per GBD 2017); “reduce by 90%” applies WHO (2015) global target to country's 2030 trajectory; for 35 countries that previously eliminated malaria (WHO 2016) and 56 countries with 0% population at risk (McCord 2016), assume an incidence rate of zero from 2000-2015

Indicator used	Rate of progress equation	Target category	Target value	Target direction	Target end year	Notes
3.3.4 Age-standardised rate of hepatitis B incidence (per 100,000 population)	proportional	relative	halve	<	2030	Countries meet target prior to 2015 if observation is < 0.5 (as per GBD 2017); “reduce by half” is a proxy target for "combat hepatitis"
3.3.5 Age-standardised prevalence of the sum of 15 neglected tropical diseases (NTDs) (%) *Prevalence estimates reported here may exceed 100% as they reflect the sum of prevalent cases of 15 NTDs.	proportional	relative	reduce by 90%	<	2030	Countries meet target prior to 2015 if observation is < 0.5% (as per GBD 2017); “reduce by 90%” applies WHO global target (WHO 2015) to country's 2030 trajectory
3.4.1 Age-standardized non-communicable disease (NCD) mortality rate (per 100,000 population)	proportional	relative	reduce by 1/3	<	2030	To calculate lives at stake, use initial number of premature deaths as baseline and adjust based on changes in population under 70 and changes in mortality rate
3.4.2 Suicide mortality rate	proportional	relative	reduce by 1/3	<	2030	
3.6.1 Mortality caused by road traffic injury (per 100,000 people)	proportional	relative	halve	<	2020	
3.7.1 Proportion of women of reproductive age (15-49 years) who have their need for family planning satisfied with modern methods (%)	linear	absolute	100	>	2030	
4.1.1 Primary completion rate, total (% of relevant age group)	linear fit	absolute	100	>	2030	Data capped at 100% prior to rate of progress calculations
4.2.2 School enrollment, preprimary (% gross)	linear fit	absolute	100	>	2030	Data capped at 100% prior to rate of progress calculations
4.5.1 School enrollment, primary and secondary (gross), gender parity index (GPI)	linear	absolute	1 +/- .03	other	2030	If country crosses target value of 1 +/- 0.03 in either the initial or final observation used for the rate of progress calculation, the BAU trajectory stays constant from the final observation onward; if the BAU trajectory crosses the target value at any point from 2018-2030, then country has met the target

Indicator used	Rate of progress equation	Target category	Target value	Target direction	Target end year	Notes
5.1.1 Estimated GNI per capita (PPP, US$), Female/Male ratio	linear	absolute	1	>	2030	Source data is disaggregated by gender; calculate income ratio as females/males; data capped at 1 prior to rate of progress calculations
5.2.1 Age-standardised prevalence of women aged 15 years and older who experienced physical or sexual violence by an intimate partner in the last 12 months (%)	linear	absolute	0	<	2030	
5.5.1 Proportion of seats held by women in national parliaments (%)	linear fit	absolute	50	>	2030	Reach parity (50% female) is a proxy target; data are rescaled to 0-100, with 50% of seats held by women equaling 100; for people left behind, apply share of women in parliament to the total female population (i.e., if women hold 25% of seats, then 50% of the female population is left behind)
6.1.1 People using at least basic drinking water services (% of population)	linear	absolute	100	>	2030	
6.2.1 People using at least basic sanitation services (% of population)	linear	absolute	100	>	2030	
7.1.1 Access to electricity (% of population)	linear	absolute	100	>	2030	
11.6.2 PM2.5 air pollution, population exposed to levels exceeding WHO guideline value (% of total)	linear	relative	halve	<	2030	Reduce by half is a proxy target
16.1.1 Intentional homicides (per 100,000 people)	linear fit	relative	halve	<	2030	Reduce by half is a proxy target
16.9.1 Completeness of birth registration (% of children under age 5)	linear	absolute	100	>	2030	Countries with 100% birth registration in most recent observation are assumed to continue at 100%

Notes: “linear” indicates use of linear rate of progress; “proportional” indicates use of compound annual growth rate; “linear fit” indicates use of linear regression to fit a trend line to recent data.