USAID
FROM THE AMERICAN PEOPLE

FY 2022 USAID Country Roadmap Methodology Guide

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1. Overview

The United States Agency for International Development (USAID) is focused on ensuring that it is best supporting its partner countries' abilities to plan, finance, and implement solutions to address their own development challenges. To that end, USAID must understand each country's overall development strengths and challenges based on a set of objective and transparent metrics to ensure our programs and partnerships are well-suited to supporting partner countries' abilities across the range of contexts within which USAID operates. To facilitate that contextual assessment, each year USAID releases Country Roadmaps, an analytical tool for assessing global development progress across all low- and middle-income countries. This Methodology Guide has been updated based on the FY 2022 Country Roadmap, which will be launched in October 2021.

This Methodology Guide provides the conceptual framework underlying the Roadmaps, the metric definitions, data sources, and linkage between each metric and the overall conceptual framework. It also summarizes data techniques and analyses used to assess overall country-level commitment and capacity levels and to ensure comparability across metrics and time.

2. Conceptual Framework

The Country Roadmaps aim to capture, at a high level, a country's development along two key dimensions: **commitment** and **capacity**. A country's commitment and capacity to plan, finance, and manage its development journey are key, mutually reinforcing aspects that largely determine development outcomes in USAID partner countries. Development progress depends on a country's ability to govern effectively and accountably; design and implement transparent, responsible, and effective policies; mobilize adequate resources effectively; deliver services efficiently and equitably; grow its economy inclusively; and adapt to changing circumstances. The development journey is typically long and seldom linear, often characterized by setbacks.

Country commitment is the degree to which a country's laws, policies, actions, behaviors, and informal governance mechanisms—such as cultures and norms—enable the country to create and strengthen institutions in order to solve its own development challenges. This includes commitment toward democracy (or open and accountable governance), inclusive development (inclusiveness across gender, social groups, and geographic sub-regions), and sound economic policy (micro-economic and macro-economic policy).

Country capacity, on the other hand, relates to a country's political, social, and economic development, including its ability to work across these sectors. A country's capacity to plan, resource, and manage its own development hinges on the capacity of the government (including the quality of government services, the competence of civil servants, government's ability to mobilize domestic resources, and the ability to maintain stability and security), the capacity of civil society including free

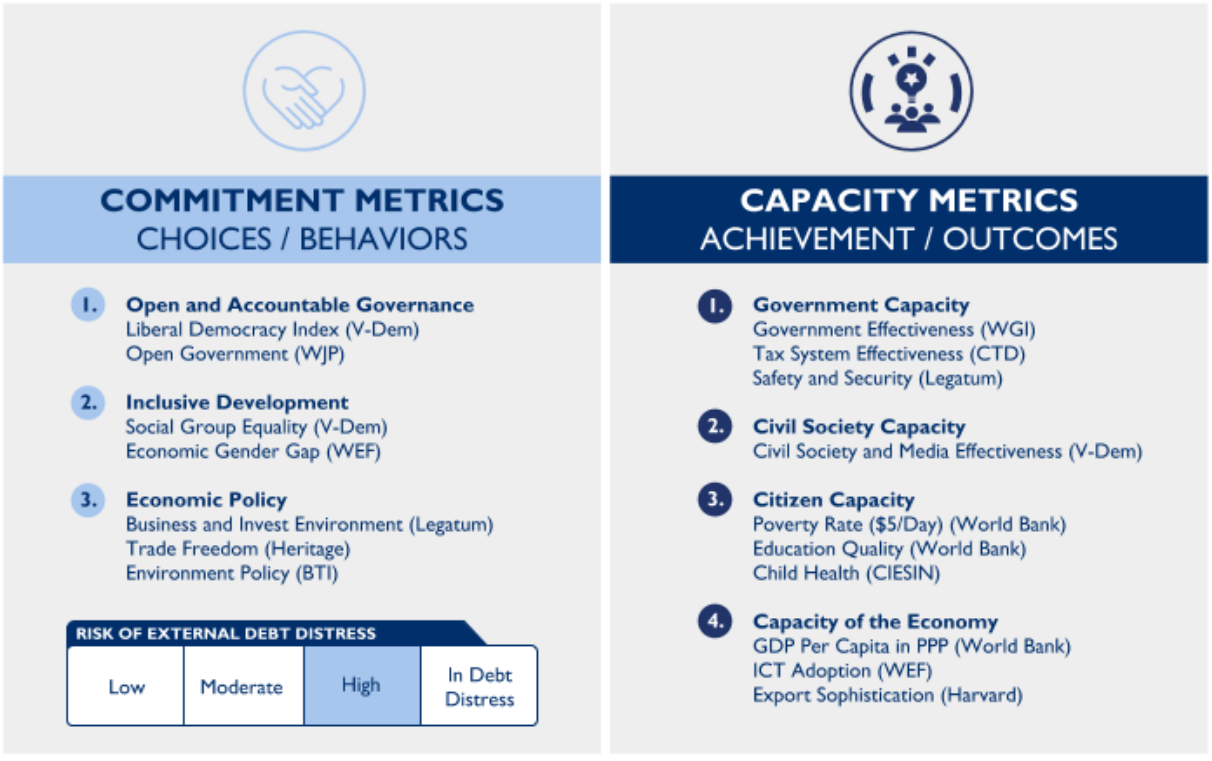
media (as a means to hold government accountable and to provide mechanisms beyond elections by which citizens can be heard), the capacity of a country's citizens (the extent to which citizens are engaged and informed, and able to lead productive and meaningful lives), and the productivity and functioning of the economy (including the extent to which the private sector is capable of generating sustained, broad-based economic growth).

These dimensions of country commitment and capacity are mutually reinforcing, and align closely with USAID's core values and priorities. The Country Roadmap's summary scatter plot depicts the relationship between the commitment and capacity dimensions for all low- and middle-income countries worldwide.

3. Primary Roadmap Metrics

USAID uses a set of 17 primary metrics to track country progress on the Country Roadmap: seven metrics focused on three key aspects of country commitment, and ten metrics on four key aspects of country capacity.

FIGURE 1. FY 2022 Primary Roadmap Metrics



The original 17 primary Roadmap metrics were derived over the course of a nine-month iterative process, drawing on extensive consultations within USAID and with key external stakeholders, as well as substantial analyses and testing toward identifying the most targeted, accurate, and comprehensive set of indicators available. Key parameters and considerations guided the choice of metrics, prioritizing those that are: 1) closely and directly aligned with commitment and capacity; 2) publicly available and easily accessible; 3) comparable across countries and over time; 4) widely available across low- and middle-income countries; and 5) developed by independent, reliable third-party institutions. Country Roadmaps are produced for all 137 low- and middle-income countries worldwide (as published by the World Bank in July 2021) considered to be independent by the U.S. Department of State (as well as West Bank and Gaza), and are updated on an annual basis following each year's release of updated World Bank income group classifications.

Each year, USAID reviews the primary metrics to ensure that the Country Roadmaps reflect the most relevant, complete, and timely data available according to the parameters listed above. USAID did not elect to integrate any changes to the Country Roadmaps as a result of its FY 2022 review; however, two metrics saw minor methodological changes instituted by their third-party source institutions, and one metric now has trend data available.

What's Different in FY 2022?

In this year's Roadmap, two metrics saw minor methodological changes, detailed below. In addition, newly available trend data for the Education Quality metric are now presented on the Roadmap's Trend Data Feature. Lastly, results for three other metrics—Environmental Policy, Information and Communication Technologies (ICT) Adoption, and Open Government—have not changed since the FY 2021 Roadmap release due to source organization release schedules and/or COVID-related data collection disruptions that did not allow for the incorporation of updated results within the FY 2022 Roadmap release timeline. Therefore, FY 2021 Country Roadmap scores are carried forward for these four metrics. Please refer to USAID's Secondary Metric Compendium via the IDEA data repository throughout FY 2022 for the latest available results for these and any Roadmap metric.

Business & Investment Environment: In 2020, the Legatum Institute incorporated two minor methodological revisions into its 'Enterprise Conditions' and 'Investment Environment' pillars that jointly comprise the Roadmap's Business & Investment Environment metric:

1. Legatum Institute created a new Price Distortions element in its Enterprise Conditions pillar, capturing the extent to which competitive markets are disrupted by subsidies and taxes. This new Price Distortions element constitutes 5% of the total weighting of the Roadmap's Business & Investment Environment metric. As a result of this addition, the weighting of two existing elements, Domestic Market Contestability and Environment for Business Creation, decreased by 2.5% each.

2. Legatum Institute replaced "Reliability of infrastructure index"—one of 49 Business & Investment Environment sub-indicators—with the broader "Quality of land administration index" to more fully capture land administration conditions in each country. The "Quality of land administration index" factors not only reliability of land administration infrastructure, but also transparency of information, geographic coverage, land dispute resolution mechanisms in place, and equal access to property rights.

Safety & Security: In 2020, the Legatum Institute moved the "One-sided conflict deaths" indicator within its Safety and Security pillar from the War and Civil Conflict element to the Politically Related Terror and Violence element, and focused the indicator solely on deaths of civilians by government forces. Previously, the indicator also captured deaths by non-government actors, which is already captured in the Terrorism element.

Education Quality: In September 2020, the World Bank released the Human Capital Index (HCI) 2020 Update, including new 2020 scores as well as revised 2018 and 2010 estimates for all HCI components, including learning-adjusted years of schooling (LAYS), the source indicator for the Education Quality metric. The 2020 HCI Update also added 17 new countries to the index, expanding its 2018 and 2020 coverage to 174 countries (2010 estimates are only available for 103 countries).

4. Secondary Metrics and Analytics

No dataset is perfect, and no single set of country-level metrics can comprehensively capture each country's unique development trajectory. The primary metrics are high-level, broad in scope, and limited in number. Furthermore, issues of interest, socioeconomic contexts, subnational variation, and data availability vary widely across and within regions and countries. While USAID staff and partners worldwide are encouraged to use these primary metrics as entry points during examinations of each country's development context, any such analytical exercise should also closely factor other quantitative and qualitative information at a secondary, deeper level to ensure the full picture of a country's development progress comes into focus.

Given that need, USAID has developed the Secondary Metrics Compendium to help identify the types of quantitative and qualitative information that might be needed in addition to the Roadmaps to bring a country's development story into full focus.[1] The compendium was developed in close consultation with technical sector experts across the Agency and the external partner community, and the tool remains a "living" analytical resource that is updated periodically as new rigorous development data become available. The secondary metrics are organized within the Country Roadmap conceptual framework, and are offered as additional tools to help users unpack any country's Roadmap, and to better

[1] Please consult the 'About' tab on the Secondary Metrics Compendium portal for more information on this resource, including a supplemental user guide.

understand that country's relative strengths, weaknesses, challenges, and opportunities. Users can use the Secondary Metrics Compendium to:

- Unpack the Roadmap and delve deeper by exploring the sub-indices of metrics included on the Roadmap;
- Triangulate and fill gaps by leveraging additional data on existing Roadmap concepts; and
- Explore and highlight new issues not explicitly captured in the Roadmap that are pertinent to understanding a country's development progress.

This secondary analytical tool includes a wide range of sector-level metrics, resources for capturing region-specific and issue-specific trends, and other relevant qualitative tools. Ultimately, these primary and secondary metrics and analytics are meant to augment, not replace, the wide range of country analyses the Agency already uses.

5. Country Commitment Metrics

The commitment dimension measures the degree to which a country's laws, policies, actions, behaviors and informal governance mechanisms—such as cultures and norms—support a country's development. The framework includes three aspects of country commitment measured using seven metrics. Commitment toward open and accountable governance comprises **Liberal Democracy** and **Open Government**. Commitment toward inclusive development includes **Social Group Equality** and **Economic Gender Gap**. Commitment toward sound economic policy consists of **Business and Investment Environment**, **Trade Freedom**, and **Environmental Policy**.

Open and Accountable Governance

1) Liberal Democracy

The *Liberal Democracy Index* measures freedom of expression and association, the share of the population with suffrage, clean elections, judicial and legislative constraints on the executive branch, equality before the law, and various other individual rights and freedoms. According to Varieties of Democracy, "the liberal principle of democracy embodies the intrinsic value of protecting individual and minority rights against a potential tyranny of the majority and state repression. This principle is achieved through constitutionally protected civil liberties, strong rule of law, and effective checks and balances that limit the use of executive power."[2]

[2] Varieties of Democracy, Methodology Report, March 2021, p. 4.

Source: Varieties of Democracy (V-Dem) project, V-Dem Institute of the University of Gothenburg [3]

Methodology: The *Liberal Democracy Index* is one of V-Dem's five high-level democracy indices measuring different "varieties," or core principles, of democracy. [4] The other four high-level "varieties of democracy" indices center on electoral, participatory, deliberative and egalitarian democracy—each representing a different way of understanding and defining "rule by the people." The *Liberal Democracy Index* comprises two primary elements:

1. The *Electoral Democracy Index* is formed by taking the average of, on one hand, the weighted average of five indices measuring freedom of association, clean elections, freedom of expression and alternative sources of information, elected officials, and suffrage, and, on the other, the five-way multiplicative interaction between those indices.[5] V-Dem uses the following aggregation formula to calculate Electoral Democracy Index scores, in order to capture each of these five variables' importance in their own right, as well as their influence on and contribution to "rule by the people" across the other four features:

   *Electoral Democracy Index = 0.5 * (1/8 * elected executive + 1/4 * clean elections + 1/4 * freedom of expression + 1/4 * freedom of association + 1/8 * suffrage) + 0.5 * (elected executive * clean elections * freedom of expression * freedom of association * suffrage)*

2. The *Liberal Component Index* comprises three sub-indices focused on three key "components" inherent in liberal democracies: 1) equality before the law and individual rights, 2) judicial constraints on the executive branch, and 3) legislative constraints on the executive branch. These three indices, in turn, draw on twenty-three individual indicators summarized in the table below. V-Dem considers these three "components" to be substitutive, and therefore takes the simple average of the three elements to construct the *Liberal Component Index*. For each of the three "components," V-Dem calculates scores by taking the point estimates from a Bayesian factor analysis model.[6]

[3] Coppedge, Michael, John Gerring, Carl Henrik Knutsen, Staffan I. Lindberg, Jan Teorell, Nazifa Alizada, David Altman, Michael Bernhard, Agnes Cornell, M. Steven Fish, Lisa Gastaldi, Haakon Gjerløw, Adam Glynn, Allen Hicken, Garry Hindle, Nina Ilchenko, Joshua Krusell, Anna Luhrmann, Seraphine F. Maerz, Kyle L. Marquardt, Kelly McMann, Valeriya Mechkova, Juraj Medzihorsky, Pamela Paxton, Daniel Pemstein, Josefine Pernes, Johannes von Römer, Brigitte Seim, Rachel Sigman, Svend-Erik Skaaning, Jeffrey Staton, Aksel Sundström, Ei-tan Tzelgov, Yi-ting Wang, Tore Wig, Steven Wilson and Daniel Ziblatt. 2021. "V-Dem [Country–Year/Country–Date] Dataset v11.1" Varieties of Democracy Project. https://doi.org/10.23696/vdemds21, and: Pemstein, Daniel, Kyle L. Marquardt, Eitan Tzelgov, Yi-ting Wang, Juraj Medzihorsky, Joshua Krusell, Farhad Miri, and Johannes von Römer. 2021. "The V-Dem Measurement Model: Latent Variable Analysis for Cross-National and Cross-Temporal Expert-Coded Data." V-Dem Working Paper No. 21 , 6th edition. University of Gothenburg: Varieties of Democracy Institute.

[4] *Liberal Democracy Index* raw data can be accessed by viewing code 'v2x_libdem' in V-Dem v11 dataset 'Country-Year: V-Dem.'

[5] Details on the *Electoral Democracy Index*'s components can be found in V-Dem's Codebook (V. 11.1, March 2021).

[6] V-Dem *Methodology Report* (V. 11.1, March 2021) provides elaboration on the Bayesian factor analysis model used to calculate scores, as well as V-Dem's general conceptual scheme, data collection methods, and measurement considerations.

The Liberal Democracy Index is an average of additive and multiplicative combinations of the Electoral Democracy Index and the Liberal Component Index: Liberal Democracy Index = 1/4 * electoral democracy$^{1.585}$ + 1/4 * liberal component + 1/2 * electoral democracy$^{1.585}$ * liberal component.

FIGURE 2. Variety of Democracy Project's Liberal Component Index

Component	Indicators[7]
Equality before the Law and Individual Liberty Index	Rigorous and impartial public administration Transparent laws with predictable enforcement Access to justice for men Access to justice for women Property rights for men Property rights for women Freedom from torture Freedom from political killings Freedom from forced labor for men Freedom from forced labor for women Freedom of religion Freedom of foreign movement Freedom of domestic movement for men Freedom of domestic movement for women
Judicial Constraints on the Executive Index	Executive respects constitution Compliance with judiciary Compliance with high court High court independence Lower court independence
Legislative Constraints on the Executive Index	Legislature questions officials in practice Executive oversight Legislature investigates in practice Legislature opposition parties High court independence Lower court independence

Indicators take the form of nominal (classifications, texts, dates), ordinal (e.g., Likert-style scales), or interval scales. Some refer to de jure aspects of a polity—rules that statute or constitutional law stipulate. Others refer to de facto aspects of a polity—the way things are in practice. Factual indicators are coded by members of the V-Dem team. Evaluative indicators are based on multiple ratings provided by approximately 3,000 country experts worldwide who respond to V-Dem's questionnaire. V-Dem recruits experts based on their academic or other credentials as field experts in the area for which they code. Typically, five or more independent experts respond to each question for each country and year.

The Liberal Democracy Index results depicted on the Country Roadmaps do not show the confidence intervals associated with these V-Dem results. V-Dem's confidence intervals —representing the level of confidence in the reliability of the estimates—may vary variable by variable and country by country, as

[7] Details on the 23 indicators used to calculate the *Liberal Component Index* are found in V-Dem's *Codebook* (V. 11.1, March 2021).

they are determined based on the degree to which country raters disagree and/or where little information is available because few raters have contributed assessments. Please consult the source V-Dem Dataset Version 11.1 or V-Dem's Online Graphing feature to view the confidence intervals associated with this metric's results for your country(s) of interest.

Linkage to Conceptual Framework: A country will not advance in a meaningful and sustained way without progress toward liberal democracy. Liberal democracy promotes political inclusiveness and fairness, through the dispersion of political power, effective rule of law, and the protection of the individual. This, in turn, provides strong incentives for broad-based political and economic engagement among citizens. Democracy facilitates the development of institutions (laws and structures) that aggregate citizens' preferences and protect the minority from the tyranny of the majority, promoting inclusion. Politicians and government officials are ultimately "agents" of the people, with the judiciary as the arbitrator. Through such democratic institutions as fair elections, freedom of speech, and an independent judiciary, citizens are able to effect change by pressuring politicians and governments to act.

2) Open Government

The Open Government Factor of the *World Justice Project Rule of Law Index* measures the degree to which governments share information, empower people with tools to hold the government accountable, and foster citizen participation in public policy deliberations. It measures whether basic laws and information on legal rights are publicized and evaluates the quality of information published by the government. This indicator measures not only a government's openness and transparency, but also its responsiveness and accessibility to citizenry requesting such openness and transparency.

Source: World Justice Project (WJP), *World Justice Project Rule of Law Index*®

Methodology: WJP identifies Open Government as a core feature of the rule of law in each society, and includes it as one of eight factors comprising the *World Justice Project Rule of Law Index*—a diagnostic tool measuring adherence to rule of law in 128 countries and jurisdictions worldwide in the 2020 edition. WJP considers four components or sub-factors in the measurement of Open Government: [8]

1. **Publicized Laws and Government Data** measures whether basic laws and information on legal rights are publicly available, presented in plain language, and made accessible in all languages. It also measures the quality and accessibility of information published by the government in print or online, and whether administrative regulations, drafts of legislation, and high court decisions are made accessible to the public in a timely manner.

2. **Right to Information** measures whether requests for information held by a government agency are granted, whether these requests are granted within a reasonable time period, if the information provided is pertinent and complete, and if requests for information are granted at a

[8] See the WJP Rule of Law Index Variable Map for more details on these four sub-factors, their respective components, and how each is factored into overall Open Government Factor scores.

reasonable cost and without having to pay a bribe. It also measures whether people are aware of their right to information, and whether relevant records are accessible to the public upon request.

3. **Civic Participation** measures the effectiveness of civic participation mechanisms, including the protection of the freedoms of opinion and expression, assembly and association, and the right to petition the government. It also measures whether people can voice concerns to various government officers, and whether government officials provide sufficient information and notice about decisions affecting the community.

4. **Complaint Mechanisms** measures whether people are able to bring specific complaints to the government about the provision of public services or the performance of government officers in carrying out their legal duties in practice, and how government officials respond to such complaints.

Scores primarily draw from two data sources collected in 128 countries and jurisdictions: 1) a general population poll (GPP) conducted by leading local polling companies using a probability sample of 1,000 respondents,[9] and 2) qualified respondents' questionnaires (QRQ) carried out annually, consisting of closed-ended questions completed by in-country experts, practitioners, and academics with expertise in civil and commercial law; constitutional law, civil liberties, and criminal law; labor law; and public health. The GPP questionnaire is generally conducted every few years using one of three polling methodologies: face-to-face, online, and telephone. [10] The Open Government Factor in the *WJP Rule of Law Index* includes 44 questions from the QRQ, 20 questions from the GPP, and one third-party variable, the Open Knowledge Foundation's Global Open Data Index (GODI) assessing the publication of open government data in each country from a civic perspective. GODI measures the openness of clearly defined data categories proven to be useful for the public: government budget, national statistics, procurement, national laws, administrative boundaries, draft legislation, air quality, national maps, weather forecasts, company register, election results, locations, water quality, government spending, and land ownership. [11]

WJP normalizes raw data onto a 0 to 1 scale, and aggregates from variable level scores to sub-factor, factor, and overall scores for each country and jurisdiction. All underlying scores are aggregated into sub-factors and factors using simple averages. Scores are validated and cross-checked against qualitative and quantitative third-party sources to identify possible errors or inconsistencies.[12]

The *WJP Rule of Law Index 2020* presents a portrait of the rule of law in 128 countries and jurisdictions by providing scores and rankings based on each of these eight factors: constraints on government

[9] Due to small populations or obstacles to data collection in certain countries and jurisdictions, in some cases the sampling plan was adjusted and/or the sampling size was decreased.
[10] See pgs. 166-200 of the *WJP Rule of Law Index 2020* report for country-level details on polling year, locations, and methodology, as well QRQ contributors.
[11] See Open Knowledge International's website for more details on the Global Open Data Index results.
[12] More information on the score calculation process can be found in the Methodology for the WJP Rule of Law Index and in the Variable Map, which outlines the construction of the WJP Rule of Law Index scores.

powers, absence of corruption, open government, fundamental rights, order and security, regulatory enforcement, civil justice, and criminal justice. The *WJP Rule of Law Index 2021* will launch in Fall 2021 and will expand its coverage to 139 countries and jurisdictions.

Linkage to Conceptual Framework: A public informed of its government's workings, and outfitted with the tools for citizens to hold their government accountable, is an essential ingredient of development progress. An open government empowers its citizens, uses available resources responsibly and effectively, provides clear rules of the game to private sector actors, and provides the political basis for broad-based participation and ultimately citizen "buy-in." An open government helps lay the foundation for an effective and representative government, and a system of rules to keep a country's citizens safe, resolve disputes, encourage private enterprise and investment, and ultimately, facilitate economic prosperity.

Inclusive Development

1) Social Group Equality

This metric measures the scope of equal protection in regards to civil liberties across social groups as defined by ethnicity, religion, caste, race, language, and region. Civil liberties are understood to include access to justice, private property rights, freedom of movement, and freedom from forced labor. Such political inclusion largely reflects the commitment on the part of the government to provide equal protection to civil liberties for all citizens, and more broadly, assesses a country's commitment to include and protect marginalized social groups.

Source: Varieties of Democracy (V-Dem) project, V-Dem Institute of the University of Gothenburg

Methodology: Raters are asked to score subject countries on a 0-4 scale based on whether some social groups enjoy much fewer (0), substantially fewer (1), moderately fewer (2), slightly fewer (3), or the same level (4) of civil liberties as the general population. For this and all evaluative V-Dem indicators drawing on country experts responding to a questionnaire, V-Dem strives to solicit responses from five country experts for each country each year. V-Dem converts this ordinal variable (i.e., 0-4 Likert scale) to an interval scale (i.e., continuous 0-1 score) by combining expert ratings using V-Dem's measurement model, which accounts for rater confidence, reliability, and bias. The "Social Group Equality in Respect to Civil Liberties" indicator is a component of a broader measure of equality, the *Egalitarian Democracy Index*, which includes measures of equal access to political power and equal distribution of resources (including educational and health equality), as well as equal protection in regards to civil liberties.[13]

The Social Group Equality results depicted on the Country Roadmaps do not show the confidence intervals associated with these V-Dem results. V-Dem's confidence intervals —representing the level of

[13] *Social group equality in respect for civil liberties* raw data can be accessed by viewing code 'v2clsocgrp_osp' in V-Dem dataset 'Country-Year: V-Dem Full+Others.'

confidence in the reliability of the estimates—may vary variable by variable and country by country, as they are determined based on the degree to which country raters disagree and/or where little information is available because few raters have contributed assessments. Please consult the source V-Dem Dataset Version 11.1 or V-Dem's Online Graphing feature to view the confidence intervals associated with this metric's results for your country(s) of interest.

Linkage to Conceptual Framework: A country's ability to plan, finance, and implement solutions to its own development challenges will not be realized, nor will limited gains be sustained, in the absence of broad-based sharing of the gains and costs resulting from economic and social development and political advancement. Without equality in the political sphere, including equal civil liberties protections, broad-based economic gains are unlikely, and vice versa. Political empowerment supports economic development, and economic equality facilitates political inclusiveness. Inversely, political barriers to participate in society, to pursue and maintain personal wealth, and to challenge injustices all hinder marginalized populations' abilities to challenge socioeconomic inequities.

V-Dem's egalitarian principle, of which social group equality is a component, "holds that material and immaterial inequalities inhibit the actual use of formal political (electoral) rights and liberties. Ideally, all groups should enjoy equal de jure and de facto capabilities to participate; to serve in positions of political power; to put issues on the agenda; and to influence policy making." [14] Without political inclusion and voice, in the absence of commitment toward those ends on the part of a country's government, excluded social groups cannot hold their government to account, they cannot be productive members of society, and they cannot freely and reasonably pursue private enterprise. The capacity of the government, citizens, and the economy are all hindered in the absence of widespread political rights and liberties among the population.

2) Economic Gender Gap

This index assesses the economic disparities between women and men by measuring differences between male and female labor force participation rates, salary or wage remunerations, and career advancement.

Source: World Economic Forum (WEF), *Global Gender Gap Report*

Methodology: The index, formally known as WEF's *Economic Participation and Opportunity* sub-index within the *Global Gender Gap* report, draws on three sources: the International Labour Organization ILOSTAT database, WEF's *Executive Opinion Survey*, and the U.N. Development Program's *Human Development Report*. It contains three concepts and groupings of indicators provided below, with each indicator's weighting listed in parentheses:

[14] Varieties of Democracy, *Methodology Report*, March 2021, p. 4.

1. **Participation Gap**
    - Difference between female and male labor force participation rates (19.9%)
2. **Remuneration Gap**
    - Ratio of estimated female-to-male earned income (22.1%)
    - Wage equality between women and men for similar work, based on qualitative data gathered through the WEF's annual Executive Opinion Survey (31.0%)
3. **Advancement Gap**
    - Ratio of women to men among legislators, senior officials and managers (14.9%)
    - Ratio of women to men among professional and technical workers (12.1%)

WEF establishes weightings by normalizing the indicators' standard deviations, ensuring that indicators with the largest variability do not exhibit more weight on the overall index scores.

Linkage to Conceptual Framework: "Gender parity is fundamental to whether and how economies and societies thrive. Ensuring the full development and appropriate deployment of half of the world's total talent pool has a vast bearing on the growth, competitiveness, and future-readiness of economies and businesses worldwide."[15] Advances toward gender parity in the economic sphere have a widespread impact on development, particularly in the poorest countries, not only because such advances increase the productivity and welfare of women, but in so doing, they often increase household investments in child health and education. Hence, a key positive externality in increasing the human capital of women is the realization of higher levels of human capital in the generation to follow.

Economic Policy

1) Business & Investment Environment

This metric assesses a country's entrepreneurial climate by measuring two interrelated factors (1) *Enterprise Conditions*—the degree to which market, entrepreneurial, tax, labor, and other regulations enable businesses to start, compete, and expand—and (2) *Investment Environment*—the extent to which investments are protected adequately through the existence of property rights, investor protections, and contract enforcement, as well as the availability of domestic and international capital for investment.

Source: Legatum Institute, *The Legatum Prosperity Index*

[15] WEF, *Global Gender Gap Report 2021*.

Methodology: This metric constitutes an arithmetic average of two Pillars in Legatum Institute's Global Prosperity Index framework: (1) Enterprise Conditions, and (2) Investment Environment. [16] The Enterprise Conditions Pillar is organized into five Elements comprising 21 Indicators, while the Investment Environment pillar is organized into five Elements comprising 28 Indicators. Figure 3 summarizes the Pillars, Elements, and Indicators, [17] as well as each Element's effective weighting in the overall Country Roadmap metric score:[18]

FIGURE 3. Business & Investment Environment Elements & Indicators

Enterprise Conditions

Element (Weight)	Indicators (Source)
Domestic Market Contestability (15%) examines how open the market is to new participants, as opposed to protection of the incumbents.	• Market-based competition (BTI) • Anti-monopoly policy (BTI) • Extent of market dominance (WEF)
Price Distortions (5%) measures whether competitive markets are disrupted by subsidies and taxes..	• Distortive effect of taxes and subsidies (BTI) • Energy subsidies (BTI)
Environment for Business Creation (12.5%) measures the legislative and policy-driven factors that encourage entrepreneurialism.	• Private companies are protected and permitted (BTI) • Ease of starting a business (WB-DB) • State of cluster development (WEF) • Labor skill a business constraint (WB-ES) • Availability of skilled workers (WEF)
Burden of Regulation (12.5%) measures how much effort and time are required to comply with regulations, including but not limited to tax and construction regulations.	• Burden of government regulation (WEF) • Time spent complying with regulations (WB-ES) • Number of tax payments (WB-DB) • Time spent filing taxes (WB-DB) • Burden of obtaining a building permit (WB-DB) • Building quality control index (WB-DB)
Labor Market Flexibility (5%) measures how dynamic and flexible the workplace is for both employer and employee.	• Cooperation in labor-employer relations (WEF) • Flexibility of hiring practices (WEF) • Redundancy costs (WEF) • Flexibility of employment contracts (WB-DB) • Flexibility of wage determinations (WEF)

[16] The Legatum Prosperity Index comprises 12 pillars: (1) Safety & Security, (2) Personal Freedom, (3) Governance, (4) Social Capital, (5) Investment Environment, (6) Enterprise Conditions, (7) Market Access & Infrastructure, (8) Economic Quality, (9) Living Conditions, (10) Health, (11), Education, and (12) Natural Environment.
[17] See pgs. 24-31 in Legatum Institute's *2020 Indicator and Source Guide* for more details on the sub-indicators that factor into the Business & Investment Environment metric scores variables and their respective weightings.
[18] Figure 3 provides each indicator's effective weighting in the Country Roadmap metric scores, not their weighting in Legatum Institute's own Prosperity Index. As the Country Roadmaps use an arithmetic mean of two Legatum pillars, the weighting of each underlying Element and Indicator is effectively half their weighting in the overall Legatum framework.

Investment Environment

Element (Weight)	Indicators (Source)
Property Rights (15%) measures how well property rights over land, assets, and intellectual property are protected.	• Protection of Property Rights (WEF) • Lawful process for expropriation (WJP) • Intellectual property protection (WEF) • Quality of land administration (WB-DB) • Procedures to register property (WB-DB) • Regulation of property possession (BTI)
Investor Protection (10%) assesses the degree of investor protection, from expropriation risk to minority shareholder rights.	• Strength of insolvency framework (WB-DB) • Insolvency recovery rate (WB-DB) • Auditing and reporting standards (WEF) • Extent of shareholder governance (WB-DB) • Conflict of interest regulation (WB-DB)
Contract Enforcement (10%) assesses the efficacy and efficiency of a country's system to enforce the rights of a contract holder.	• Quality of judicial administration (WB-DB) • Time to resolve commercial cases (WB-DB) • Legal costs (WB-DB) • Alternative dispute resolution mechanisms (WJP)
Financing Ecosystem (10%) measures the availability of money for investment, from sources including banking and bank debt to corporate debt and more sophisticated financial markets.	• Access to finance (WB-ES) • Financing of SMEs (WEF) • Venture capital availability (WEF) • Quality of banking system and capital markets (BTI) • Commercial bank branches (IMF) • Soundness of banks (WEF) • Depth of credit information (WB-DB)
Restrictions on International Investment (5%) assesses the policies that enhance the volume and quality or type of international investment into a country.	• Business impact of rules on FDI (WEF) • Capital controls (Fraser) • Freedom to own foreign currency bank accounts (Fraser) • Restrictions on financial transactions (Chinn-Ito Index) • Prevalence of foreign ownership of companies (WEF) • Freedom of foreigners to visit (Fraser)

Legend:
BTI - Bertelsmann Transformation Index
Fraser - Fraser Institute, Economic Freedom in the World
IMF - International Monetary Fund
WB-DB - World Bank, Doing Business
WB-ES - World Bank, Enterprise Surveys
WEF - World Economic Forum, Global Competitiveness Index
WJP - World Justice Project, WJP Rule of Law Index

Legatum Institute assigns weights for each Element and Indicator based on its level of importance in affecting prosperity.[19] The weighting scheme is determined by three factors, prioritized as follows: 1) the relevance and significance of the variable with respect to the accumulation of material wealth and the enhancement of wellbeing, as informed by the academic literature; 2) expert opinions offered by the index's special advisers; and 3) the degree of compatibility with Legatum's "Prosperity Engine" conceptual framework.

Linkage to Conceptual Framework: An enabling business environment is foundational to the growth of the private sector. It promotes and encourages innovation, risk-taking, and productivity growth at the firm level, and provides opportunity and incentives at the individual level, both of which contribute to development at the country level. Through fair and transparent rules, regulations, and protections, it encourages market competition and entrepreneurship, thus leading to greater productivity and economic growth. Market contestability, a predictable regulatory environment, and labor market flexibility are all critical for incumbent and new enterprises and entrepreneurs to respond to new market- and firm-level opportunities and to leverage rapidly evolving technologies. A favorable business environment draws economic activity into the formal economy, enabling greater possibilities for enterprise growth (e.g., through greater access to credit), generating more employment opportunities, and expanding the tax base, hence greater capacity for domestic resource mobilization for governments.

A healthy investment environment is also critical for developing and sustaining economic growth. Through investments in transportation and financial infrastructure, markets become linked and transaction costs are reduced. According to Legatum, "a strong investment environment will not only ensure that good commercial propositions are investable, but also that adequate capital of the right type is available for such investable propositions."[20] An effective system of investment protections and property rights ensures investor confidence to mobilize capital toward the most promising enterprises, individuals, and ideas. A well-functioning financial system and supporting infrastructure is also critical to ensure the availability of money. Especially in contexts where domestic capital may be limited, access to global markets for international investments boosts access to capital, as well as international business best practices.

2) Trade Freedom

This metric measures a country's openness to international trade based on average tariff rates and non-tariff barriers that affect imports and exports of goods and services.

Source: Heritage Foundation, *Index of Economic Freedom*

Methodology: The Trade Freedom indicator is a composite measure based on tariffs and non-tariff barriers (NTBs) to trade. The indicator scale ranges from 0 to 100, where 0 represents the highest level

[19] See pgs. 57-63 in Legatum Institute's *2019 Methodology Report* for more details on the sub-indicators that factor into the Business & Investment Environment metric scores.
[20] Legatum Institute, *The Legatum Prosperity Index: Defining Prosperity*, pp. 12.

of protectionism, and 100 represents the lowest level of protectionism. The trade-weighted average tariff measure uses weights for each tariff based on the share of imports for each good. The tariffs score forms the base score for the Trade Freedom indicator and is calculated based on the weighted average tariff rates in a country, ranging from a minimum score of 0 and an upper bound set at 50 percent. An NTB penalty is then subtracted from the base score. Penalties vary from 0 (NTBs not used to limit international trade); to 5 (NTBs are uncommon, protecting few goods and services, and/or have very limited impact on international trade); 10 (NTBs are used to protect certain goods and services and impede some international trade); 15 (NTBs are widespread across many goods and services and/or act to impede a majority of potential international trade); and 20 (NTBs are used extensively across many goods and services and/or act to impede a significant amount of international trade).

NTBs are assessed using both qualitative and quantitative information. The categories of NTBs considered include quantitative restrictions (such as import quotas); price restrictions (anti-dumping and countervailing duties); regulatory restrictions (licensing, domestic content and mixing requirements); customs restrictions (advance deposit requirements and customs valuation procedures); and direct government intervention (subsidies, government industrial policies and government procurement policies).

Trade data are derived in order of priority from the following sources: World Bank, *World Development Indicators*; World Trade Organization, *Trade Policy Review*; Office of the U.S. Trade Representative, *National Trade Estimate Report on Foreign Trade Barriers* ; World Bank, *Doing Business*; U.S. Department of Commerce, *Country Commercial Guide*; Economist Intelligence Unit, *Country Commerce*; World Economic Forum, *The Global Enabling Trade Report*; and official government publications of each country.

Linkage to Conceptual Framework: Trade openness generates greater economic growth by enabling greater economic specialization and diversification according to a country's comparative advantages vis-à-vis its trading partners. Such specialization and diversification can increase economic efficiency and productivity, creating jobs for citizens through export expansion, while benefiting consumers through lower cost imports. Increased, uninhibited trade can bolster and diversify the domestic resource base, better position the economy to weather endogenous and exogenous shocks, and strengthen the government's capacity to mobilize domestic resources by increasing tax revenues that result from an expanding economy. It sets in motion dynamic gains to the economy as a result of greater diversification of economic output, and greater competition and sophistication of the production process.

Furthermore, trade openness provides for critical external discipline on firm behavior and that of public officials, reducing opportunities and incentives for rent-seeking behavior and corruption. Wide variations in tariff schedules and intricate systems for quotas are breeding grounds for rent-seeking behaviors in setting and enforcing trade policies and customs regulations.

3) Environmental Policy

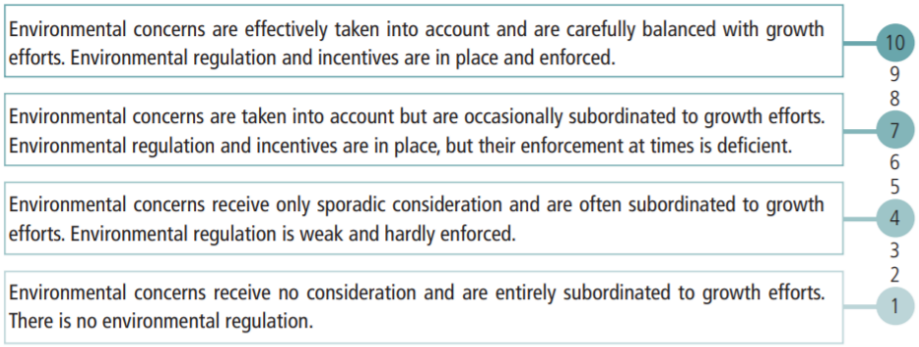
This metric measures the soundness of environmental stewardship and natural resource management, factoring a wide array of macroeconomic policies with environmental consequences, such as energy and tax policies, national climate plans, and incentives at the firm and household levels. The metric also factors whether legislation and regulations are effectively executed, as well as the influence of societal stakeholders beyond the government, including the private sector and civil society.

Source: Bertelsmann Stiftung Transformation Index (BTI)

Methodology: Guided by a standardized codebook, country experts score their focus country on a 1-10 scale based on the extent to which environmental concerns are effectively taken into account in economic growth policies and related public policies.[21] Raters are asked to determine whether tax and energy policies take environmental goals and measures into account, as well as whether the government sets climate protection goals and incentives for environmentally sound consumption and investments to households and companies. The rating centers on the extent to which each country has struck an optimal, long-term balance between its economic growth and environmental policies, based on its unique socioeconomic context, environmental landscape and risks, and natural resource endowments. Figure 4 summarizes the 1-10 Likert scale used in the Environmental Policy assessment.

The assessment is context-driven in that raters factor all relevant policies and issues in the subject country's context that determine whether the country's economic growth is balanced, environmentally sustainable, and future-oriented. BTI considers a wide range of environmental concerns, including but not limited to air and water pollution, water and waste management, deforestation, soil and coastal erosion, mining, electricity and clean energy, agricultural land and fertilizer use, biodiversity conservation, wildlife management, environmental tourism, and desertification. The extent to which a deeply ingrained awareness of the environment or nature in society exists is also factored in.

FIGURE 4. Environmental Policy Rating Scale



[21] BTI 2020 Codebook.

For this and all BTI indicators, each country's score is determined sequentially by two country raters and is reviewed and confirmed through a regional and interregional calibration process. The first rater drafts a qualitative Environmental Policy country assessment report—drawing on relevant research, quantitative data, and other evidence—that is used as the basis for the first rater's scores.[22] The second rater references available evidence and blindly reviews the first rater's assessment report, submitting a second rating and incorporating adjustments into the qualitative country assessment. Regional coordinators then conduct an intra-regional review and calibration process to ensure consistency within and across scores. In a final step, the BTI global project team and regional coordinators convene to calibrate ratings across regions to reflect international differences and ensure global comparability.

The overall Bertelsmann Transformation Index evaluates whether and how developing countries are steering change toward democracy and a market economy. The overall BTI is organized into three pillars: (1) state of political transformation, (2) state of economic transformation, and (3) state of governance, specifically how effectively policymakers facilitate and steer development and transformation processes. The Environmental Policy indicator is one of two factors of "Sustainability," which in turn is one of seven criteria used to assess the state of economic transformation in each developing economy. BTI is published every two years.

Linkage to Conceptual Framework: Country progress depends on the sustainable use of natural resources and a relatively equitable sharing of the benefits derived from ecosystem goods and services. Environmental protection is sound economic policy, and one that promotes inclusive economic growth. Natural resource capital (such as fertile soil, clean air and water, forests, wildlife and fish, and renewable energy), as with physical, human, and social capital, is a critical input into an economy's "production function." Renewable natural capital constitutes a substantial proportion of wealth in low-income countries and is fundamental to protecting the health and well-being of billions of people. In many contexts, environmental assets are essential to the competitiveness of the agricultural sector, the foundation of a thriving travel and tourism industry, or the linchpin to the country's long-term energy security outlook.

Healthy environmental systems contribute to meeting food, nutrition, and human health needs. The communities most dependent on ecosystem vitality are more likely to be the rural poor, those who rely directly on ecosystem resources for their food security and livelihoods, and those who are less likely to have social protection mechanisms that help ensure resilience to environmental disturbances. These communities are often most adversely impacted by irresponsible environmental governance and associated impacts. Subsistence and small-scale livelihood activities, such as agriculture and fishing, are especially reliant on responsible stewardship of environmental assets. Thriving, biodiverse ecosystems

[22] Qualitative Environmental Policy analyses are available for each of the 137 countries worldwide covered in the BTI Transformation Atlas 2020. To access the Environmental Policy analysis, select the "Countries" button at the top, then select "Economy" at top-middle, then select "Sustainability" at bottom-right, then select "Environmental Policy" at middle, then select "Read all..." at bottom-right.

may also help reduce the cost of financial damage to human systems from weather events, climate-related events, and natural disasters.

The investments and technology needed to promote environmental stewardship also provide favorable economic spillovers toward a more dynamic economy. Promoting national climate plans and participating in international agreements on climate change mitigation serve the dual purpose of (1) reducing negative ecological, social, and economic effects at the national level and (2) meeting global responsibilities. Finally, sound natural resource management facilitates better relations among countries, and contributes to greater global stability and security.

6. Country Capacity Metrics

The capacity dimension gauges how far each country has come across the dimensions of political, social and economic development, including the ability to work across these sectors. The framework includes four aspects of country capacity measured using ten metrics. **Government Effectiveness**, **Tax System Effectiveness**, and **Safety and Security** comprise government capacity. Civil society capacity is measured using the **Civil Society and Media Effectiveness** metric. Citizen capacity is gauged using the **Poverty Rate**, **Education Quality**, and **Child Health**. The capacity of the economy is measured using **GDP Per Capita**, **Information and Communication Technology (ICT) Adoption**, and **Export Sophistication**.

Government Capacity

1) Government Effectiveness

This indicator measures expert assessments and popular perceptions of the quality of public services, the competence of the civil service and its independence from political pressure, the quality of policy formulation and implementation (including the efficiency of revenue mobilization and budget management), and the credibility of the government's commitment to stated policies.

Source: World Bank, Worldwide Governance Indicators

Methodology: The Government Effectiveness index draws on nearly 50 indicators from 16 sources. Issue areas range from the quality of bureaucracy, public administration, and fiscal management; to coverage of and satisfaction with education, health, water, telecommunications, power, and transportation systems; to government policy and decision-making coherence, stability, and responsiveness.[23] The World Bank uses a statistical methodology known as an unobserved components model to re-scale and combine original data to calculate the aggregate index.

[23] See the "Description of Methodology" section on the World Bank's Worldwide Governance Indicators website for a full list of individual indicators that comprise Government Effectiveness.

Sub-indicator data availability varies per country; some data sources (such as *Afrobarometer*, *Latinobarometer*, and the *Country Policy and Institutional Assessments* from both the Asian Development Bank and the African Development Bank) provide regional coverage only. Main sources include Economist Intelligence Unit, *Riskwire* and *Democracy Index*; World Economic Forum, *Global Competitiveness Report*; World Bank, *Country Policy and Institutional Assessments*; the French Government, *Institutional Profiles Database;* Gallup, *World Poll;* Bertelsmann Foundation, *Bertelsmann Transformation Index*; International Fund for Agricultural Development, *Rural Sector Performance Assessments;* the World Bank, *Business Enterprise Environment Survey;* the Global Insight, *Business Conditions and Risk Indicators*; and Political Risk Service, *International Country Risk Guide*.

Linkage to Conceptual Framework: The effectiveness, efficiency, and integrity of government in the formulation and implementation of sound policy, and in the provision of services provided by a meritocratic civil service are foundational to a country's long-term development. An effective and credible government facilitates capacity building in other country domains, namely in the capacity of civil society, citizen capacity (and building human capital), and private sector capacity (in part through responsible administration of a business-friendly regulatory framework). Moreover, without adequate government capacity, government commitment to development will be ineffective, inadequately, or inconsistently applied, and likely short-lived. Government capacity and government commitment are mutually reinforcing.

2) Tax System Effectiveness

This metric is the ratio between a country's actual tax collection levels and the estimated level of tax revenue that a country could achieve, given its macroeconomic, demographic, and institutional features.

Source: USAID, Collecting Taxes Database, Tax Effort Indicator

Methodology: The Tax System Effectiveness metric—referred to as the "Tax Effort" indicator in the USAID Collecting Taxes Database (CTD)—measures how much tax revenue a country collected (as a percentage of GDP) relative to its expected tax capacity. A tax effort of 1.0 indicates that a country has achieved its full tax capacity. A tax effort below 1.0 indicates that a country is collecting less than its predicted capacity. While the CTD is maintained by a USAID implementing partner, it is based on a methodology implemented in an International Monetary Fund (IMF) working paper and other leading technical literature, and the model draws on publicly available statistical information.[24]

A country's tax capacity provides a benchmark for the maximum amount of tax revenue (as a percentage of GDP) that could be collected, given different country characteristics. This benchmark takes into account a country's specific macroeconomic (agriculture value added, GDP per capita), demographic (age dependency ratio), and institutional features (trade openness, control of corruption). Tax capacity, and therefore tax effort, were not calculated for major outliers[25] nor for countries that fall in the IMF's

[24] Janet Stotsky and Asegedech WoldeMariam (1997).
[25] In the latest release of the CTD, the only outlier excluded from the tax capacity calculation was Lesotho.

"Export Earnings: Fuel" category[26] due to inconsistent inclusion of resource revenues in the tax as a percentage of GDP values for resource rich countries.

A low tax effort can be the result of technical efficiency gaps within a government to strike optimal tax laws and targets, or capacity limitations in administering the collection of taxes adequately and efficiently. It is also noteworthy that, in some contexts, a low tax effort could be the result of factors unrelated to government capacity, including the commitment of the government to maintain consistently applied and well-structured tax systems, or the result of the broader society's cultural norms around tax compliance.

Tax capacity is estimated using the Stochastic Frontier Approach (SFA).[27] The underlying data are available from the following sources: Tax as a percentage of GDP is drawn from the IMF, World Revenue Longitudinal Data (WoRLD) database or International Centre for Tax and Development (ICTD), Government Revenue Database.[28] Tax as a percentage of GDP captures all tax revenue, but excludes other revenues, such as user charges, investment income, and social security contributions.[29] GDP per capita, in current U.S. dollars is drawn from the World Bank, World Development Indicators (WDI) Dataset. Agriculture Value Added (% of GDP), Age Dependency Ratio (ratio of people younger than 15 and older than 64 to the working age population aged 15 to 64), and Trade Openness (exports plus imports as a percentage of GDP) are also drawn from WDI. The Control of Corruption index is drawn from the World Bank, Worldwide Governance Indicators (WGI) Dataset.

Linkage to Conceptual Framework: Increasing a government's capacity to effectively generate and mobilize resources is a core part of its efforts to resource the institutional foundations, socioeconomic conditions, and physical infrastructure needed for development. A country can have a wealthy and productive economy, engaged and productive citizens, and a government committed to sensible market-friendly policies, and yet without government capacity to adequately mobilize and use domestic resources to protect existing capacities and invest in future economic and social needs, meaningful and sustainable progress will not be realized.

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[26] As defined by the IMF, "Export Earnings: Fuel" category includes countries whose oil exports comprise over 50 percent of their total exports. The countries classified as "Export Earnings: Fuel" include: Algeria, Angola, Azerbaijan, Bahrain, Brunei Darussalam, Chad, the Republic of Congo, Ecuador, Equatorial Guinea, Gabon, Iran, Iraq, Kazakhstan, Kuwait, Libya, Nigeria, Oman, Qatar, Russia, Saudi Arabia, South Sudan, Timor-Leste, Trinidad and Tobago, Turkmenistan, United Arab Emirates, Venezuela, and Yemen.

[27] The methodology for estimating tax capacity follows Ricardo Fenochietto and Carola Pessino (2013) on the use of Stochastic Frontier Approach (SFA), with explanatory variables following Le, Tuan Minh; Moreno-Dodson, Blanca; Bayraktar, Nihal (2012); and technical efficiency following Battese and Coelli (1992). Due to the use of a SFA model, there may be a small difference between the estimated tax efforts generated by the model and calculated tax efforts using actual tax-to-GDP ratios. This is because estimates of tax capacity are weighted averages for each country with idiosyncratic errors in addition to the inefficiency in revenue collections. The difference may be substantial in some cases; as such, users are also encouraged to examine real tax-to-GDP ratio trends in conjunction with tax effort scores to attain a more comprehensive picture of tax system effectiveness in each country.

[28] ICTD data are used for the following countries because they are missing WoRLD data: Cuba, Mexico, Vietnam, and West Bank and Gaza.

[29] Tax revenue is calculated based on the IMF's 2001 Government Finance Statistics Manual framework.

3) Safety and Security

Legatum's *Safety & Security* pillar measures the degree to which individuals and communities are free from war and civil conflict, terrorism, politically related terror and violence, violent crime, and property crime. The pillar gauges whether these forms of violence and crime have destabilized the security of individuals, both immediately and through longer lasting effects.

Source: Legatum Institute, *Legatum Prosperity Index*

Methodology: This pillar is organized into five Elements comprising 21 sub-indicators. Figure 5 provides each of the five Elements' definitions, sub-indicators, and weighting in the overall Safety & Security metric scores:

Figure 5: Safety & Security Elements and Sub-Indicators

Element (Weight)	Indicators (Source)
War and Civil Conflict (20%) measures the impact of organized conflicts affecting a country, both internal and external, and on people, in terms of death, injuries, and population displacement.	• Two-sided conflict deaths (UCDP) • Civil and ethnic war (CSP) • Conflict-driven internal displacement (IDMC) • Refugees (origin country) (UNHCR)
Terrorism (15%) measures the deliberate and targeted harm inflicted by non-state actors on a nation's population, accounting for the number of incidents, injuries and deaths. The business costs of terrorist attacks are also factored.	• Terrorism deaths (GTD) • Terrorism injuries (GTD) • Terrorism incidents (GTD) • Property cost of terrorism (GTD)
Politically Related Terror and Violence (30%) measures the extent to which people live in fear of, or suffer from, terror and violence inflicted by the state or other political bodies.	• Political terror (PTS) • Extrajudicial killings (CIRIGHTS) • Use of torture (CIRIGHTS) • Disappearance cases (CIRIGHTS) • Political imprisonment (CIRIGHTS) • One-sided conflict deaths (UCDP)
Violent Crime (25%) assesses the level to which violent domestic crime affects the country's citizenry.	• Intentional homicides (WB-WDI) • Dispute settlement through violence (WJP) • Safety walking alone at night (Gallup) • Physical security of women (WomenStats)
Property Crime (10%) gauges the extent to which property crime, such as burglary, adversely affects the wealth and wellbeing of businesses and individuals.	• Property stolen (Gallup) • Business costs of crime and violence (WEF) • Business costs of organized crime (WEF)

Legend:
CIRIGHTS - CIRIGHTS Data Project, Binghamton University Human Right Institute
CSP - Center for Systemic Peace
IDMC - Internal Displacement Monitoring Center
GTD - University of Maryland National Consortium for the Study of Terrorism and Responses to Terrorism, Global Terrorism Database
PTS - Amnesty International and U.S. State Department, Political Terror Scale
UCDP - Uppsala Conflict Data Program

UNHCR - Office of the U.N. High Commissioner for Refugees
WB-WDI - World Bank, World Development Indicators
WEF - World Economic Forum, Global Competitiveness Index
WJP - World Justice Project, WJP Rule of Law Index
WomenStats - The WomenStats Project

Each indicator is assigned one of four weights (0.5, 1, 1.5, and 2), indicating its level of importance in affecting prosperity.[30] A variable with a weight of "2" is twice as important in affecting prosperity as a variable with a weight of "1" (the default). The weighting scheme is determined by three factors, prioritized as follows: 1) the relevance and significance of the variable with respect to the accumulation of material wealth and the enhancement of well-being, as informed by the academic literature; 2) expert opinions offered by the Index's special advisers; and 3) the degree of compatibility with Legatum's "Prosperity Engine" conceptual framework. Legatum log-normalizes 9 of the 21 indicators underlying Safety & Security where data distribution is skewed by outliers: two-sided and one-sided conflict deaths; conflict-driven internal displacement; terrorist attack incidents, injuries, and deaths; property cost of terrorism; intentional homicides; and refugees by origin.

Linkage to Conceptual Framework: A capable government must possess a monopoly on violence, enforced through security and judicial systems that protect citizens. Academic research shows that crime and organized political violence, such as coups or civil war, hinder economic growth. Vicious conflict cycles exacerbate poverty, slow economic growth, destabilize weak institutions, and lead to violent relapse. Conflict erodes the social capital of trust and cooperation upon which strong political and economic systems depend. Exposure to violence also hurts those who participate in armed groups, as they often have to overcome an educational deficit, social stigma, and psychological distress that can leave them economically and socially marginalized.

A safe and secure environment is a prerequisite to a well-functioning economy and democracy and the meaningful participation of the citizenry therein. In the absence of such an environment (and a government able to maintain such an environment), economic and social well-being are jeopardized. Without national security and a stable social environment, productive investments in the economy and in its citizens (and human capital) will fail or not even occur. When citizens worry about their personal safety or when their access to food or shelter is precarious, they are not able to dedicate their attention and resources to bettering their household's socioeconomic status. Many people emigrate or flee as a matter of necessity. In the midst of instability, local stakeholders cannot coalesce around long-term economic and social development plans, as all dimensions of country capacity will tend to erode. At best, development will be put on hold.

[30] See pgs. 11-13 of Legatum Institute's *2020 Sources and Indicator Guide* for more details on each sub-indicator and their respective weightings in the Element and Safety & Security scores.

Civil Society Capacity

1) Civil Society and Media Effectiveness

This composite index measures the range of actions and mechanisms that civil society organizations (CSOs) and independent media use to hold governments accountable. It includes the extent to which citizens are engaged in public and policy deliberations and the extent to which they participate in CSOs. It includes the extent to which print and broadcast media cover politics impartially, hold a range of perspectives and are able and willing to provide a dissenting voice to the government. It also measures the extent to which the government attempts to censor media, harass journalists, oppress CSOs, and ration or otherwise control internet access. It also gauges freedom of discussion and expression, namely the extent to which men and women are free to openly discuss political issues in private homes and public spaces.

Source: Varieties of Democracy (V-Dem) project, V-Dem Institute of the University of Gothenburg

Methodology: The *Civil Society and Media Effectiveness* index, formally referred to by V-Dem as *Diagonal Accountability Index*, comprises 14 indicators organized around four primary "nodes":

1. Seven indicators focused on media freedom and capacity (Media Bias, Print/Broadcast Media Critical, Print/Broadcast Media Perspectives, Government Censorship Effort-Media, Harassment of Journalists, Media Self-Censorship, and Internet Censorship);

2. Three indicators tracking CSOs' abilities to operate freely and/or the extent to which citizens are engaged in public deliberations (CSO Entry and Exit, CSO Repression, and CSO Participatory Environment);

3. Three indicators pertaining to freedom of discussion and expression (Freedom of Discussion for Men, Freedom of Discussion for Women, and Freedom of Academic and Cultural Expression); and

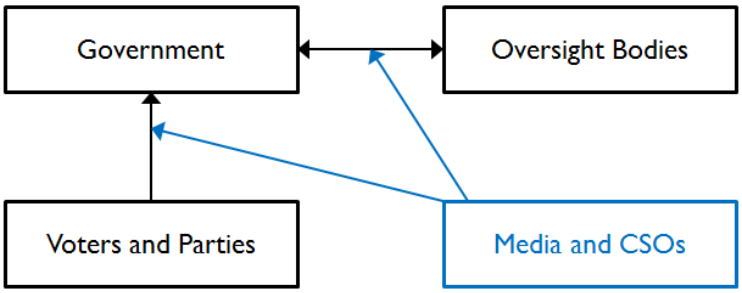
4. One indicator centering on engaged society, specifically the breadth and depth of public deliberations when important policy changes are under consideration.

The *Diagonal Accountability Index* is one of three V-Dem indices gauging the accountability of or constraints on the government's use of political power.[31] *Vertical Accountability* refers to the ability of citizens to hold governments accountable through elections and political parties. *Horizontal Accountability* focuses on the capacity of government institutions to hold each other accountable, most notably the legislatures and the judiciary in overseeing the executive branch of government. *Diagonal Accountability*, or the oversight and capacity of civil society organizations and media, contributes to

[31] *Diagonal Accountability Index* raw data can be accessed by viewing code 'v2x_diagacc_osp' in V-Dem's v11.1 dataset 'Country-Year:V-Dem Full + Others'.

constraining government's political power both directly and indirectly, the latter by providing a forum and a medium for *Vertical* and *Horizontal Accountability* to be more effective.[32]

Figure 6: Diagonal Accountability by Media and CSOs



Indicators take the form of nominal (classifications, texts, dates), ordinal (e.g., Likert-style scales), or interval scales. Some refer to de jure aspects of a polity—rules that statute or constitutional law stipulate. Others refer to de facto aspects of a polity—the way things are in practice. Factual indicators are coded by members of the V-Dem team. Evaluative indicators are based on multiple ratings provided by approximately 3,000 country experts worldwide who respond to V-Dem's questionnaire.[33] V-Dem recruits experts based on their academic or other credentials as field experts in the area for which they code. Typically, five or more independent experts respond to each question for each country and year.

The Diagonal Accountability Index results depicted on the Country Roadmaps do not show the confidence intervals associated with these V-Dem results. V-Dem's confidence intervals —representing the level of confidence in the reliability of the estimates—may vary variable by variable and country by country, as they are determined based on the degree to which country raters disagree and/or where little information is available because few raters have contributed assessments. Please consult the source V-Dem Dataset Version 11.1 or V-Dem's Online Graphing feature to view the confidence intervals associated with this metric's results for your country(s) of interest.

Linkage to Conceptual Framework: A strong civil society, engaged citizens, and a capable free media are key to good governance. As noted by Luhrmann et al., diagonal accountability mechanisms, by empowering citizens and actively involving them in the monitoring of government performance, enhance government transparency, and exert sanction power via "naming and shaming," thus potentially serving as powerful tools to ensure that government agencies serve the interest of the people.[34] In fact, empirical analysis conducted by Luhrmann et al. shows that vertical, horizontal, and diagonal accountability are all strongly correlated with better development outcomes, and in particular higher life expectancy, literacy,

[32] For elaboration on the Diagonal Accountability Index, including sub-indicator details and aggregation techniques used, see Anna Luhrmann, Kyle Marquardt and Valeriya Mechkova, *Constraining Governments: New Indices of Vertical, Horizontal and Diagonal Accountability, V-Dem Institute, Working Paper Series 2017:46* (April 2017).
[33] V-Dem's Methodology Report (Version 11.1, March 2021) provides elaboration of its general conceptual scheme, data collection methods and measurement considerations.
[34] *Constraining Governments*, April 2017, p. 24.

and school enrollment rates, and lower mortality of children under the age of five. Enhanced capacity and effectiveness of civil society and free media go hand-in-hand with greater country capacity in other areas, including human capital, government capacity, and economic capacity.

Citizen Capacity

1) Poverty Rate ($5.00/Day)

This metric measures the percentage of a country's population living on less than $5.00 a day, standardized across countries using purchasing power parity (PPP) exchange rates.

Source: World Bank, PovcalNet

Methodology: The World Bank measures absolute poverty rates at different thresholds, ranging from less than $1.25 a day to less than $5.50 per day. USAID's Country Roadmap uses a relatively expansive, ambitious poverty line ($5.00 per day, in purchasing power parity terms) because sustainable country progress will not be realized if household poverty, even relatively mild poverty, remains widespread, or in other words, if development gains are not broad-based. This higher threshold is relevant across the full range of developing countries, from low-income to upper middle-income countries. This poverty rate indicator is a broad gauge of the spread of shared prosperity across populations and household resilience to withstand livelihood shocks and engage meaningfully and productively in society.

World Bank poverty estimates may be based on household income or consumption, depending on the country and year. Income-based poverty estimates reflect the percentage of a country's population *earning* less than the poverty line in daily income, whereas the consumption-based poverty estimates reflect the percentage of a country's population *spending or consuming* less than the poverty line amount each day. The availability of income- and consumption-based poverty estimates varies by country and, at times, by year within a given country. For example, a country's most recent poverty estimate may be income-based whereas all of their previous poverty estimates were consumption-based, or the World Bank may calculate both an income-based and a consumption-based poverty estimate for the same country in the same year. The Roadmaps reflect whichever type of poverty estimate is the most frequently available for a given country from 2010-2019. If a country has the same number of income- and consumption-based estimates since 2010, the Roadmaps use the most recent type of estimate available. If the most recent year available has both an income- and consumption-based estimate, the consumption-based estimate is used. Please refer to the World Bank's PovCalNet portal to view which poverty estimates are available for each country.

To compare poverty rates across countries, PPP exchange rates are used because they more accurately reflect the difference in the prices of goods and services, both traded and non-traded, across countries than do market exchange rates, the latter reflecting only purchasing power over internationally traded goods. The most recent World Bank estimates combine PPP exchange rates for household consumption from the 2011 International Comparison Program with data from more than 1,900 household surveys in

168 countries. More than 2 million randomly sampled households were interviewed for the 2015 estimates, representing 65 percent of the world population.

Poverty scores presented in the USAID Country Roadmaps are inverted, so that higher poverty rates lead to lower, less favorable Roadmap scores closer to 0.0 and lower poverty rates lead to higher, more favorable scores closer to 1.0. Poverty scores draw on World Bank PovcalNet poverty estimates for 2019 or the latest year available from 2010 onward. Approximately one-sixth of low- and middle-income countries do not have poverty data for the entire period. Poverty estimates are based on either income-based or expenditure-based welfare measurements.

Linkage to Conceptual Framework: At the public institutional level, widespread poverty drains limited resources and the capacity for public goods provision. At the household level, impoverished individuals are locked into subsistence activities and do not have the ability to invest in or plan for bettering their long-term economic outlook through educational attainment or otherwise. While mitigating poverty is an important goal in itself, lower poverty rates also lead to more productive citizens in the economy and more engaged citizens in the political sphere.

2) Education Quality

This metric gauges both the quality of education—using harmonized scores across major international student achievement testing—and the quantity of schooling received—using age-specific enrollment rates—to provide a comparative evaluation of the relative performance of educational systems worldwide.

Source: World Bank, *Human Capital Index (HCI)*, Learning-Adjusted Years of Schooling Indicator

Methodology: The Learning-Adjusted Years of Schooling (LAYS) indicator includes two components:

1. *Expected Years of Schooling* is calculated as the sum of age-specific enrollment rates between ages 4 and 17. These age-specific enrollment rates are approximated using available data on repetition-adjusted pre-primary, primary, lower-secondary, and upper-secondary school enrollment rates. This indicator represents the expected years of schooling a child born today can reasonably expect to receive by age 18. The 2020 LAYS indicator reflects enrollment data up to 2019, based on the February 2020 update to the United Nations Educational, Scientific, and Cultural Organization's Institute for Statistics (UIS), supplemented by inputs from World Bank specialists and country teams. If 2019 enrollment data are not available, the most recent enrollment rate within 10 years is carried forward. Approximately 92% of enrollment data is from 2015 or later.

2. *Harmonized Test Scores* from major international and regional student achievement testing programs are used by the World Bank to gauge the learning outcomes achieved by educational systems among their student populations, a key marker of the quality of those systems.

Proficiency levels are recorded on a harmonized Trends in International Mathematics and Science Study (TIMSS)-equivalent unit scale, where 300 is minimal attainment and 625 is advanced attainment. The following testing programs are included: TIMSS, PIRLS (Progress in International Reading Literacy Study), PISA (Programme for International Student Assessment), SACMEQ (Southern and Eastern Africa Consortium for Monitoring Educational Quality), PASEC (Program of Analysis of Education Systems), LLECE (Latin American Laboratory for Assessment of the Quality of Education), (PILNA) Pacific Island Learning and Numeracy Assessment, and EGRA (Early Grade Reading Assessments). The most recent testing results as of 2019 are used for each country. Approximately 95% of testing data used is derived from testing administered in 2010 or later. For each country, the World Bank takes a simple average of demonstrated proficiency using all available reading, science, and mathematics testing results across all primary and secondary grade levels to derive the overall Harmonized Test Score used in the Human Capital Index.[35]

Combined, LAYS is calculated as expected years of schooling multiplied by the ratio of each country's harmonized test score to a benchmark score representing advanced attainment. The FY 2022 Country Roadmaps draw on the LAYS results reported in the World Bank's 2020 HCI.

The year of measurement varies widely by country for both enrollment rates (2010-2019) and testing (2000-2019), and also varies between each component (80% of countries' LAYS scores are calculated based on enrollment and testing data from different years). Users are encouraged to reference the country-specific HCI briefs and data files for more details on the years of measurement used in their country of interest.

Linkage to Conceptual Framework: Advancing the quality of the educational system promotes household- and country-level progress. Better education is linked to economic and social gains at the household level, including more and better employment, lower fertility rates, and better health, including lower child mortality rates. Household gains at the micro level translate to systemic gains at the macro economy-wide level, including enhanced labor productivity and competitiveness, greater participation and engagement among citizens in the political system, and stronger economic growth. Education enables all other aspects of development.

3) Child Health

This metric measures three basic, major health challenges in the developing world: child mortality rates and two conditions that disproportionately affect children, namely access to at least basic sanitation facilities and access to at least basic water sources. The *Child Health* index is a proxy for the capacity of

[35] For more information on the calculation of the Harmonized Test Score and Expected Years of Schooling datasets, please refer to Angrist, et. al., (2021), Measuring human capital using global learning data; Filmer, et al., (2020), Learning-adjusted years of schooling (LAYS): defining a new macro measure of education; and Kraay (2019) The World Bank Human Capital Index: A guide.

a country's healthcare system to adequately address health challenges and improve health outcomes among its population.

Source: Center for International Earth Science Information Network (CIESIN), Columbia University. 2021. Natural Resource Protection and Child Health Indicators, 2021 Release (preliminary). Palisades, NY: CIESIN. Accessed July 30, 2021.

Methodology: The *Child Health* indicator is calculated as the average of three equally weighted indicators:

1. **Child Mortality Rate**, which is the probability of a child dying between the age of one and his or her fifth birthday;[36]

2. **Access to At Least Basic Water Sources** , which measures the percentage of the population with access to at least 20 liters of water per person per day from an improved source (household connections, public standpipes, boreholes, protected dug wells, protected springs, and rainwater collection) with water collection times less than 30 minutes per round trip; and

3. **Access to At Least Basic Sanitation Facilities**, which measures the percentage of the population with access to facilities that hygienically separate excreta from human, animal, and insect contact. Facilities such as sewers or septic tanks, pour-flush latrines, simple pit, or ventilated improved pit latrines, and composting toilets are considered improved sources, provided that they are not shared.

Original data sources include the Population Division of the U.N. Department of Economic and Social Affairs (for child mortality rates) and the U.N. World Health Organization /U.N. Children's Fund Joint Monitoring Program (JMP) for Water Supply and Sanitation. The underlying source indicators employ a smooth trend curve approach to estimating child mortality and access to at least basic water sources and sanitation facilities, as these estimates are based on relatively infrequent survey, census, and vital registration data. In some cases, the original sources average estimates derived from several disparate data sources for individual countries. This approach is robust and appropriate for gauging long-term trends, but does not facilitate consistent, reliable year-on-year trends analysis across countries. As a result, longitudinal Child Health estimates are excluded from the Country Roadmap's Trend Data Feature.

Linkage to Conceptual Framework: Health is a direct source of human welfare and productivity, and thus a prerequisite for sustained well-being. Citizen capacity and workforce productivity depend on a viable, supportive, and equitable health care system. Healthy workers lose less time from work and are more productive when working. Good health also allows people to participate fully in their families, communities, and political life. A dysfunctional and/or unevenly distributed health care system, which

[36] The Child Mortality Rate indicator does not include infant mortality, which tends to be driven by an absence of prenatal care or reproductive health services as opposed to environmental conditions.

would be reflected in part in high child mortality rates and poor access to water and sanitation, impedes human capital development and participation in society, which in turn impedes overall development.

Similarly, improving child health leads to a more productive workforce, setting in motion a host of positive dynamics immediately and in the future. Improved child health and nutritional status positively affect physical and cognitive development, enhance the ability of children to attend school and learn, and ultimately increase the likelihood of economic success as an adult. Better health outcomes increase household productivity and economic well-being in the immediate term, while more positive health outlooks improve households' ability and incentives to save and invest, helping create the basis for greater productivity for the next generation workforce. Improving access to water and sanitation typically benefits the most vulnerable, marginalized groups (i.e., children, women, the disabled, and the poorest households in the economy). Hence, improvement in this composite Child Health metric also signals advances in inclusive development.

Capacity of the Economy

1) GDP Per Capita (PPP)

This metric measures the gross value added by all resident producers in an economy divided by the country's population. It is a measure of the flow of resources available to households, firms, and the government to finance development.

Source: World Bank, *World Development Indicators* and *International Comparison Program* databases

Methodology: Gross Domestic Product (GDP) per capita is the sum of gross value added by all resident (i.e., domestic) producers in the economy, plus any product taxes, minus any subsidies not included in the value of the products, divided by the population. It is calculated without deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant international dollars based on the 2017 International Comparison Program (ICP) round; i.e., made comparable across countries by converting GDP to international dollars using purchasing power parity (PPP) exchange rates.

Linkage to Conceptual Framework: GDP per capita is a standard measure of an economy's wealth and of the capacity of households and firms to finance a country's development. Moreover, higher GDP per capita corresponds to stronger government capacity (partly as a result of greater availability of domestic resources, such as domestic investment and tax revenues), of greater citizen capacity (with higher household incomes), and of greater capacity on the part of civil society (as more funding likely becomes available to CSOs).

2) Information and Communication Technology (ICT) Adoption

This index measures the degree of diffusion within a country of specific forms of ICT, including mobile-cellular telephone subscriptions, mobile-broadband subscriptions, fixed-broadband internet subscriptions, fiber internet subscriptions, and internet users.

Source: World Economic Forum (WEF), *Global Competitiveness Report 2019, Global Competitiveness Index 4.0*

Methodology: The *ICT Adoption* composite index comprises five indicators:

1. Mobile-cellular telephone subscriptions per 100 population;
2. Mobile broadband subscriptions per 100 population;
3. Fixed-broadband internet subscriptions per 100 population;
4. Fiber internet subscriptions per 100 population; and
5. Internet users as a percentage of the population.

Raw data are originally derived from statistics published by the International Telecommunications Union (ITU). Most ITU raw data used in the calculation of the 2019 ICT Adoption indicator cover 2017 or 2018, but a handful of country scores include one or more underlying raw data values from 2010-2016.

The WEF uses a min-max transformation (with outliers removed) to convert country values for each component indicator to a 0-100 scale (higher is better) and then takes the simple average of component scores to generate the ICT Adoption score, also on a 0-100 scale. There are a few notable exceptions to this over-arching transformation and aggregation approach:[37]

- In computing the ICT Adoption score, Component 2 (as listed above) is not directly used in the calculation. Instead, the ratio of Component 2 to Component 1 is used (as an approximation of the share of mobile phone subscriptions that have broadband capability). The same methodological adjustment applies to Component 4 and Component 3 (showing the share of fixed-broadband connections that are optical fiber subscriptions).
- WEF artificially sets the global best performance frontier at 120 subscriptions per 100 population for Component 1 (as listed above), the value above which it considers mobile technology to be sufficiently widespread not to constitute a constraint for the average user. It similarly sets the best performance frontier at 50 subscriptions per 100 population for Component 3.

[37] See the World Economic Forum's GCI Methodology and Technical Notes for additional information.

- Some countries included in the WEF Global Competitiveness Report do not have data on fiber internet subscriptions (Component 4). When feasible and appropriate, WEF has employed a linear regression technique to impute estimates for 11 countries without fiber internet subscription data (out of a total of 141 countries), using the following regressors: internet users, electrification rate, and regional dummies (IMF).

Linkage to Conceptual Framework: ICTs are essential components in an economy's infrastructure, and essential elements of maintaining and building economic capacity. An advanced and widely used ICT infrastructure provides an essential enabling environment from which to innovate and compete domestically and internationally. ICTs facilitate commerce in part by making electronic commerce possible. Such technologies increase the government's capacity by increasing government effectiveness, efficiency, and transparency with the advent and growth of e-government services, such as electronic tax filing and online healthcare services. Widely available and affordable ICTs also create learning, training, and advocacy opportunities, thus enhancing human capital and citizen capacity. ICTs are powerful tools that enable civil society to advocate, network, and mobilize in support of issues of common concern more widely and effectively. Widespread ICT also affords marginalized populations access to new information and resources that can foster their economic and social development. Mobile communications have a particularly important impact in rural areas and in less developed areas and have become key inclusive development tools.

3) Export Sophistication

This metric measures the diversity of exports a country produces and the ubiquity of those exports, or the number of countries able to produce them (and those countries' complexity). It gauges the amount of productive knowledge each society holds as expressed in the products it makes. Diversity and ubiquity of exports are, respectively, approximations of the variety of capabilities and productive know-how available overall in each economy, which in turn, are determinants of future economic growth.

Source: Center for International Development at Harvard University, Atlas of Economic Complexity

Methodology: The Export Sophistication metric—formally referred to as the *Economic Complexity Index (ECI)*[38]—estimates a country's economic complexity using the diversity and average ubiquity of a country's exported goods. The average ubiquity of exported products is calculated as the diversity of the countries that make those products.

"Diversity" is related to the number of products that a country competitively exports (i.e., the density of export links a country has in the global trade network). *"Ubiquity"* is related to the number of countries that produce the product that is produced by the subject country (i.e., the rarity of a product in the global export market). Ubiquitous products are more likely to require few capabilities, and less

[38] For further details on the calculations behind the ECI, see the *Atlas of Economic Complexity: Mapping Paths to Prosperity* for a full overview of the theory and methodology behind the Economic Complexity Index.

ubiquitous products are more likely to require a large variety of capabilities. High value-added goods, such as microchips and medical equipment, demonstrate low ubiquity, as only a small number of countries produce such goods. Low ubiquity can originate in either a product's scarcity (e.g., diamonds) or complexity (e.g., microchips); for any given country that exports rare products, the ECI model examines the diversity of other products that country exports to determine whether the exported rare product is likely a matter of scarcity or complexity, rewarding the latter in the calculation of overall ECI scores.

Harvard draws on U.N. Comtrade country-level trade data, at the SITC 4-digit level of product classification, accessible via the Atlas of Economic Complexity, to generate a Revealed Comparative Advantage (RCA) matrix connecting each country to the products in which the country has a comparative advantage. The RCA is a measure of whether a country is an exporter of a product, based on the relative advantage or disadvantage the country has in the export of that certain good. A country is an effective exporter of a product, and thus receives a high RCA value for that product, if it exports more than its "fair share," or a share that is at least equal to the share of total world trade that the product represents, in the global marketplace. This RCA matrix is used to determine which export goods are factored for each country when calculating the diversity and ubiquity of that country's export sector. Each country's ECI value is derived by taking the average Product Complexity Index value of all export products for which the country has been identified by the RCA matrix to have a comparative advantage.

The Atlas relies on U.N. Comtrade international trade data to estimate ECI because such data is the only available that provides rich, detailed cross-country information linking countries to the products that they produce using standardized classifications. Due to limited, delayed, or inaccurate host government reporting of trade data to U.N. Comtrade in some cases, Harvard cross-checks worldwide importer and exporter reporting to identify inconsistent reporting practices, cleaning the raw data accordingly as inconsistencies are identified.[39] This allows for more reliable estimates of trade flows between countries; however, some countries reporting to U.N. Comtrade may not have ECI scores as a result.

While these international trade data provide rich insights into the sophistication of each economy, the approach does pose several limitations. Firstly, it examines exports, not overall economic production. Countries may be able to produce products domestically that they do not export (although those economies are not likely to produce those items efficiently if not exporting those items), and they may re-export products they did not produce (the ECI controls for the latter by requiring that countries export a fair share of the products the ECI connects them to). Secondly, the ECI model only factors goods exports and excludes services exports, whose reporting is not sufficiently available and reliable across countries. This is an important, yet inescapable drawback of the current state of international trade reporting, as services are becoming a rising share of international trade yet are not reported

[39] This data cleaning technique is known as the *Bustos-Yildirim Method*.

reliably. Finally, the data do not include information on non-tradable activities, an important part of the economic ecosystem that allows products and services to be made.

Linkage to Conceptual Framework: Countries that are home to a diverse range of productive know-how, particularly complex specialized know-how, are able to produce a great diversity of sophisticated products that few other countries can make. The diversification and ubiquity of a country's export products are key markers that can help gauge the broader economy's overall production sophistication, as well as its resilience to external and domestic economic shocks.

Countries do not make all the products and services they use and need. They make the ones they can, using the knowledge embedded in their own people, organizations, networks, systems, and technology. Some goods, like medical imaging devices or jet engines, require large amounts of knowledge, and are the results of very large networks of people and organizations. By contrast, wood logs or coffee beans require much less knowledge, and the supply chain networks required to support these operations do not need to be as large. Complex economies have larger webs of interactions than more simple economies.

Thus, the Export Sophistication metric provides a strong insight into how the economic capacity of countries have evolved over time and how much each economy is likely to grow in the future. The complexity of a country's exports is not only a predictor of current income levels, this accumulation of capabilities and productive know-how are also key drivers of future economic growth. Countries whose economic complexity is greater than what we would expect, given their level of income, will tend to grow faster than those that are "too rich" for their current level of economic complexity. Economic complexity is not just a symptom or an expression of prosperity; it is a driver.

A strong export sector also provides some protection and resilience to external and domestic economic shocks. Economies that depend on few export products, particularly primary products, are more vulnerable, for example, to price changes in those products and/or fluctuations in demand. These fluctuations have adverse consequences on economic growth. Moreover, countries with energy export-dependent economies tend to have less political pressures for accountability and democracy to the extent that energy revenues and resources mitigate the need for taxing citizens. As documented in the European Bank for Reconstruction and Development (EBRD), Transition Report (2013), the relationship between economic development and democracy is considerably weaker in countries that rely heavily on the extraction of natural resources. Hence, export product sophistication is both an indication of an economy's capacity and level of development, as well as an important characteristic in an economy that facilitates economic growth, helps shield against economic downturns, and even contributes to a country's commitment to democracy.

7. Risk of External Debt Distress

This IMF-World Bank Debt Sustainability Framework for Low-Income Countries (LIC DSF) provides a methodology for conducting standardized Debt Sustainability Analyses (DSAs) comparable across countries. Debt distress is defined by the inability of a country to service its debt. External debt, for the purposes of the risk rating, is in principle defined as externally held (i.e., debt held by non-residents of the country) public and publicly guaranteed (PPG) debt.[40]

USAID includes the risk of external debt distress rating for informational purposes only; the rating is not a scored component of the Roadmap's Commitment or Capacity dimensions. The rating is not available for many middle-income countries, and recent ratings may not be available for all low-income countries. While not all Roadmap countries have recent debt risk ratings, the rating is intended to emphasize the importance of sound debt management policy, while underscoring the potential economic risks posed by unsustainable public sector borrowing from foreign creditors. Of course, these issues may be as critically important for many countries without the IMF's external debt risk ratings; secondary data and analytics should be examined to better understand the risks of unsustainable debt management for a given country.

Source: International Monetary Fund / World Bank, Debt Sustainability Framework for Low-Income Countries

Methodology: The risk of external debt distress is determined by the IMF and World Bank by comparing country performance using four external debt burden indicators compared against indicative GDP, export, and revenue thresholds over a projected time period, reflecting a country's debt carrying capacity. External debt, as defined above, is captured by four PPG external debt burden indicators:

- Present value of PPG external debt-to-GDP;
- Present value of PPG external debt-to-exports;
- PPG external debt service-to-exports; and
- PPG external debt service-to-revenue.

Because countries with different policy and institutional characteristics, macroeconomic performance, and buffers to absorb shocks, have different abilities to handle debt, the DSF classifies countries into one of three debt-carrying capacity categories—strong, medium, or weak—using a composite indicator calculated as a weighted average of the World Bank's Country Policy and Institutional Assessment (CPIA) overall score, the country's real GDP growth, remittances, international reserves, and world

[40] For more details on the coverage of debt, see IMF/World Bank *Guidance Note on the Bank-Fund Debt Sustainability Framework for Low Income Countries*, pgs. 13-14.

growth.[41] Countries designated with stronger debt carrying capacity have higher indicative thresholds, above which the risk of debt distress is considered elevated. This presumes that countries with strong macroeconomic performance and policy can handle greater debt accumulation.

An initial, quantitatively based external risk rating is assigned by comparing both baseline and stress scenario projections of the external debt burden indicators to the thresholds established by the country's debt carrying capacity. The results of this comparison are classified into four categories of external debt distress risk:

- **Low risk** of external debt distress if none of the PPG external debt burden indicators breach their respective thresholds under the baseline or the most extreme stress test.
- **Moderate risk** of external debt distress if none of the PPG external debt burden indicators breach their thresholds under the baseline, but at least one indicator breaches its threshold under the stress tests.
- **High risk** of external debt distress if any of the PPG external debt burden indicators breaches its threshold under the baseline.
- **In debt distress** when there are ongoing or impending debt restructuring negotiation, or outstanding external arrears on debt, with qualifications.[42]

The final risk rating, which shares the same 4-category classification, can also incorporate IMF and World Bank staff judgment, to capture country-specific factors not fully accounted for in the model.

The data coverage of the public sector should be near-complete but can vary across countries due to data limitations and country-specific debt vulnerabilities associated with the broader public sector.[43] The Roadmap risk rating is included for countries for which a DSA was completed in 2019 or later[44] to ensure timeliness and improve rating validity.

Linkage to Conceptual Framework: The ability of a country to sustainably manage its public sector debt is a key aspect of its development planning. Governments and lenders should clearly weigh the long-term economic implications of high public sector debt burdens, especially when the debt is held by foreign entities. Lower income countries have often struggled with large external debts, and the DSF is designed to help guide countries and donors in mobilizing the financing for lower income countries' development needs, while reducing the chances of an excessive build-up of debt in the future.

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[41] For more details on the composite indicator, see IMF/World Bank, *Guidance Note on the Bank-Fund Debt Sustainability Framework for Low Income Countries*, pg. 27.
[42] For a complete overview of qualifications to the ranking of "in debt distress," see IMF/World Bank, *Guidance Note on the Bank-Fund Debt Sustainability Framework for Low Income Countries*, pg. 43.
[43] For more details on the coverage of the public sector, see IMF/World Bank, *Guidance Note on the Bank-Fund Debt Sustainability Framework for Low Income Countries*, pgs. 12-13.
[44] https://www.imf.org/external/pubs/ft/dsa/dsalist.pdf, as of June 30, 2021.

Debt sustainability is as critical as ever in the COVID-19 context, where the crisis has prompted a dual pressure of decreased government revenues as a result of economic contraction and increased expenditure needs as countries seek to mitigate the health and economic effects of the crisis. For 85% of the 62 countries with DSA ratings available on the Country Roadmaps, these ratings were prepared in March 2020 or later, thus likely capturing the strain of the pandemic on public debt sustainability in those countries.

8. Data Techniques and Analysis

Normalization

USAID's Country Roadmaps use a min-max scaling technique to normalize all data onto a common 0.0 to 1.0 scale to facilitate visualization, comparison across metrics, and calculation of the Commitment and Capacity indices. The same normalization technique is used to calculate scores for both the Roadmap's "latest year" snapshot on the front page and the Trend Data Feature on the second page.

A country scoring 0.0 on a given metric indicates that the country recorded the least favorable outcome globally in the raw dataset, and a country scoring 1.0 indicates that the country recorded the most favorable outcome globally in the raw dataset. All other countries receive scores within the 0.0-1.0 range based on where they fall between the worst and best outcomes globally, preserving the source organization's data distribution. While USAID Roadmaps are only produced for low- and middle-income countries, all countries globally, including high-income countries, are used to establish the range of possible outcomes for each metric. The formula for min-max scaling is as follows:

$Xnorm = \frac{X-Xmin}{Xmax-Xmin}$, where:

- X_{norm} is the new scaled score for a country (0-1 scale);
- X is the raw value for a country;
- X_{min} is the worst outcome globally; and
- X_{max} is the best outcome globally.

When determining the best and worst outcomes observed globally, USAID examines results within a fixed, or "anchored," year range for each metric to provide a consistent reference point against which country progress or backsliding can be measured over time. The reference time period used to determine the range of observed outcomes is typically the years 2010-2017 (in terms of year of measurement, not year of reporting) for most metrics, with limited exceptions (listed below) that are the result of data availability constraints and/or USAID's efforts to reflect the true range of recent performance. This performance "anchoring" is undertaken to ensure that the maximum and minimum reference points remain consistent over time and across Roadmap editions, although certain historical

values (and by extension, the minimum and maximum values) may change if prior year data are revised by the source institutions.[45] The exceptions to the use of 2010-2017 for the reference time period include:

- *Economic Gender Gap* - The global minimum value used in the min-max scaling is Yemen's performance on this variable in the 2010 Global Gender Gap Report, which primarily uses 2009 data. This exception ensures the use of a more representative global minimum observed across that report's history.
- *ICT Adoption* - Results are only available starting in 2016, and thus, a truncated 2016-2017 range is used for min-max scaling.
- *Open Government* - As the Open Government's methodology evolved substantially in the 2015 WJP Rule of Law Index (measuring 2014 performance), scores from earlier years are not factored into min-max scaling. Thus, USAID uses the 2014-2017 range for this metric.
- *Trade Freedom* - Results are only available starting in 2017, and thus, to ensure a representative range of possible performance, USAID uses the 2017-2018 range to determine the best and worst observed performance globally.

For most metrics, the period used for determining the global minimum and maximum differs from the full period of performance depicted on the Roadmaps. As a result, scores above 1.0 or below 0.0 are mathematically achievable. If a country achieves a better score than the fixed reference year range maximum or regresses below the fixed year range minimum, this procedure would result in scaled scores that would fall outside of the 0-1 framework used on the Roadmap. In such cases, scores below 0 are adjusted to '0.0', and scores above 1 are adjusted to '1.0'. See the "Temporal Coverage" section for more information.

When converting each set of raw data, USAID aligns, or "flips," the directionality of scores across the 17 metrics so that a score of 1.0 always represents the most favorable position and a score of 0.0 always represents the least favorable position, given that higher raw numbers are more advantageous for some metrics (GDP Per Capita) while lower raw numbers are more advantageous for others (Poverty Rate). For the FY 2022 Roadmaps, this transformation of directionality is needed only for the Poverty Rate metric.

Three other manual adjustments are made prior to employing the Country Roadmap's standard min-max scaling technique:

- The natural log of GDP Per Capita is taken to accommodate a large variation across countries worldwide.
- Several extreme outliers are removed from the Trade Freedom scaling. Any country with a raw score under 40 in Trade Freedom (on Heritage Foundation's 0-100 scale, where a higher score is better) for any year is assigned a score of 40 for this indicator for that year (and subsequently a

[45] Please see the FY 2022 Country Roadmap Dataset to view the minimum and maximum values used for normalization purposes for each FY 2022 Country Roadmap metric.

0.0 in this framework's normalized 0.0-1.0 scale). For the FY 2022 Country Roadmap's period of analysis (years of measurement 2017-2020) and country sample, North Korea (2017-2020) and Kiribati (2019-2020) are the only countries scoring below that threshold and receiving a 0.0.

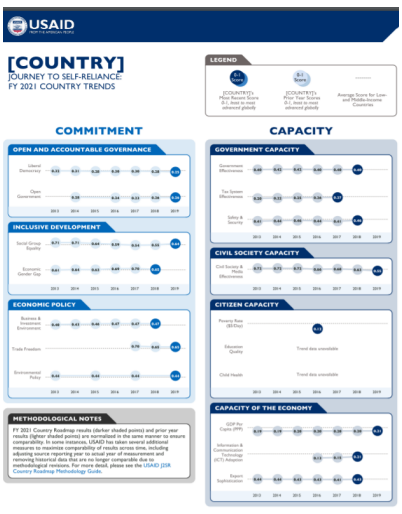
- An unweighted arithmetic average of the Enterprise Conditions and Investment Environment Pillar scores from the Legatum Institute's Prosperity Index, both scored on a 0-100 scale where a higher score is better, is taken to generate a raw 0-100 aggregate score for the Business and Investment Environment metric. The min-max scaling technique is performed on the averaged values, not on the raw Pillar scores, for the reference period of performance (2010-2017).

Aggregation

Overall "Commitment" and "Capacity" composite scores are calculated using the arithmetic mean of all available scaled components for each country. The Commitment Index comprises seven underlying metrics, each receiving an equal weight (i.e., one-seventh weighting, if all sub-components are available). The Capacity Index comprises ten underlying metrics, each receiving an equal weight (i.e., one-tenth weighting, if all sub-components are available). If dimension components (i.e., individual metrics) of either index are missing, Commitment and Capacity scores are still generated using an arithmetic mean of all available components, but only when at least six of ten Capacity metrics are available and four of seven Commitment metrics are available.

Temporal Coverage

Page 1 of the Country Roadmap provides a "latest year" view of each country's performance using the most recent value available between 2010 and the present (available as of July 1, 2021, unless specified otherwise), where "year" represents year of *measurement*, not necessarily the year in which the data were eventually reported or published.[46] In some instances, the results depicted on the Country Roadmap's first page may be derived from years prior to or following the reference time period used to determine the minimum and maximum scores (see the "Handling Data Gaps" section below for more details).



Page 2 of the Country Roadmap provides a "trend" view of each country's historical scores for all 17 Roadmap metrics from the years 2013 to 2020, data coverage permitting. This Trend Data Feature allows users to more easily assess each country's trajectory over time within and across the Roadmap's three Commitment sub-dimensions and four Capacity sub-dimensions. This feature uses the same normalization technique as the "latest year" results

[46] The one exception to the "2010 forward" rule is the Economic Gender Gap metric, where the Roadmap includes the most recent value from 2009 forward, respectively.

presented on the Roadmap's first page. In cases where a country has data for any years in the range 2010-2012, but no data in the range 2013-2019 for a certain metric, the older data from the 2010-2012 range for that metric would be shown on Page 1 but not on Page 2.

To ensure that all data used on both Pages 1 and 2 are comparable, USAID reports all data in the Roadmap based on year of measurement, rather than year of reporting or publication. USAID has made every effort to align each data point as closely as possible to the year of actual measurement, as opposed to year of source reporting, to ensure comparability of results across metrics and years. Figure 7 provides source information and an explanation of the year ranges used for each individual metric.

FIGURE 7. Temporal Coverage of the Roadmap Metrics

Roadmap Metric	**Source** *(Indicator Name)*	**Lag Between Year of Measurement and Year of Source Report**	**Year Range Covered by Roadmap** *(Performance Period)*[47]	**Global Min/Max Year Range** *(Normalization Reference Period)*
Business and Investment Environment	Legatum Institute, Prosperity Index 2020 *(Enterprise Conditions* and *Investment Environment)*	Roughly one year, varies by component	2013-2019	2010-2017
Child Health	CIESIN (Columbia University), Natural Resource Protection Indicator (NRPI) and Child Health Indicator (CHI), 2021 Preliminary Release *(Child Health Indicator)*	None[48]	2013-2020[49]	2010-2017
Civil Society & Media Effectiveness	V-Dem Dataset Version 11.1 *(Diagonal Accountability Index)*	None	2013-2020	2010-2017
Economic Gender Gap	WEF, Global Gender Gap Report 2021 *(Economic Participation and Opportunity Sub-Index)*	Roughly one year, varies by component. Exception: 2020 and 2021 reports reflect two year lag	2013-2019	2009-2017[50]
Education Quality	World Bank, Human Capital Project, 2020 *(Learning-Adjusted Years of Schooling)*	Year of measurement varies by component and country, ranging from 2000-2019	2019	2010-2017

[47] Does not include values carried forward from prior to 2013 for the Roadmap's Page 1, when data are unavailable in the 2013-2020 performance period.

[48] Child Health's underlying source indicators employ a smooth trend curve approach to estimating child mortality and access to at least basic water sources and sanitation facilities, as estimates are based on relatively infrequent survey, census, and vital registration data. This approach is robust and appropriate for gauging long-term trajectories, but does not necessarily estimate year-on-year trends with annual precision.

[49] As child mortality scores are unavailable for 2020, 2019 scores are "pulled forward" for that latest year result. Other sub-indicator scores are available for 2020.

[50] For the "Economic Gender Gap" metric, the global minimum value used in the min/max scaling is Yemen's performance on this variable in the 2010 Global Gender Gap Report, which primarily uses 2009 data. This exception ensures the use of a more representative global minimum observed across that report's history. This adjustment results in a global minimum raw value of '0.19', as opposed to a minimum of '0.22' observed over the 2010-2017 period.

Environmental Policy	Bertelsmann Transformation Index 2020 *(Environmental Policy)*	One year	2013-2019	2011-2017
Export Sophistication	Harvard, Atlas of Economic Complexity online database, accessed July 23, 2021 *(Economic Complexity Index)*	None	2013-2019	2010-2017
GDP Per Capita (PPP)	World Bank, World Development Indicators online database, accessed July 1, 2021 *(GDP per capita, PPP (constant 2017 international $))*	None	2013-2020	2010-2017
Government Effectiveness	World Bank, Worldwide Governance Indicators online database, accessed July 1, 2021 *(Government Effectiveness)*	None	2013-2019	2010-2017
Information & Communications Technology (ICT) Adoption	WEF, Global Competitiveness Report 2019 *(ICT Adoption)*	Roughly one year, varies by component	2016-2018	2016-2017
Liberal Democracy	V-Dem Dataset Version 11.1 *(Liberal Democracy Index)*	None	2013-2020	2010-2017
Open Government	WJP Rule of Law Index 2020 *(Open Government)*	Typically one year, varies by report edition[51]	2014-2019[52]	2014-2017
Poverty Rate ($5/Day)	World Bank, Povcalnet online database, accessed July 1, 2021 *(Poverty Headcount Ratio ($5/Day, PPP))*	None	2013-2019	2010-2017
Safety & Security	Legatum Institute, Prosperity Index 2020 *(Safety & Security)*	Roughly one year, varies by component	2013-2019	2010-2017
Social Group Equality	V-Dem Dataset Version 11.1 *(Social Group Equality in Respect for Civil Liberties)*	None	2013-2020	2010-2017
Tax System Effectiveness	USAID, Collecting Taxes Database, 2020/2021 release *(Tax Effort)*	None	2013-2019	2010-2017
Trade Freedom	Heritage Foundation, 2021 Index of Economic Freedom *(Trade Freedom)*	One year	2017-2020[53]	2017-2018

[51] The lag between the year of reporting and year of measurement for Open Government varies by the World Justice Project (WJP) Rule of Law Index report. For the 2015, 2019, and 2020 report editions, the lag is one year. For the 2016 edition, there is no lag. For the 2017/2018 edition, the measurement year is 2017.

[52] As the methodology for the WJP's Open Government measure evolved substantially in the 2015 WJP Rule of Law Index (measuring 2014 performance), the Open Government scores from earlier years are not included on the Roadmaps, nor are they factored into global min and max scaling.

[53] In the 2018 Index of Economic Freedom (measuring 2017 performance), the Heritage Foundation revised its method for determining the extent of non-tariff barriers within each economy, constituting 20% of the weight of the overall score, to ensure more accurate assessments. Because of this shift, Trade Freedom scores from earlier years are not included on the Roadmaps, nor are they factored into global min and max scaling, to ensure comparability of results.

Figure 8 provides the year and month that IMF DSAs were conducted for each country with debt distress risk ratings based on the IMF-World Bank LIC DSF. The Roadmap risk rating is included for countries for which a DSA was completed in 2019 or later[54] to ensure timeliness and improve rating validity.

DSAs conducted between April and October 2020 do not include updated debt-carrying capacity estimates as the underlying source—the IMF World Economic Outlook (WEO)—temporarily suspended such estimates in its April 2020 WEO release in light of the uncertain outlook associated with the COVID-19 crisis. Therefore, amid larger than normal uncertainty, any DSAs conducted between April and October 2020 may not fully take into account real or potential COVID-related macroeconomic impacts in subject countries.

FIGURE 8. Date of Debt Distress Risk Assessment

Year and Month	Country(s)
June 2021	Afghanistan, Senegal, Uganda
May 2021	Marshall Islands
April 2021	Kenya, Madagascar, South Sudan, Uzbekistan
March 2021	Mali, Samoa, Sao Tome and Principe, Sierra Leone
February 2021	Central African Republic, Guinea-Bissau, Tonga
January 2021	Benin, Burma, The Gambia, Liberia, Rwanda
December 2020	Côte d'Ivoire, Guinea
November 2020	Burkina Faso, Cabo Verde, Cameroon, Nicaragua, Niger, Somalia
October 2020	Malawi, Sudan
September 2020	Mauritania
August 2020	Chad
July 2020	Lesotho
June 2020	Bangladesh, Comoros, Honduras, Papua New Guinea, Solomon Islands
May 2020	Congo (Kinshasa), Djibouti, Ethiopia, Grenada, Nepal, Saint Vincent and the Grenadines, Tajikistan
April 2020	Ghana, Haiti, Maldives, Moldova, Mozambique, Togo
March 2020	Kyrgyzstan, Zimbabwe
January 2020	Congo (Brazzaville)
December 2019	Cambodia
September 2019	Guyana, Micronesia (Federated States of)
August 2019	Laos, Zambia
June 2019	Vanuatu
May 2019	Timor-Leste
January 2019	Kiribati

[54] https://www.imf.org/external/pubs/ft/dsa/dsalist.pdf, as of June 30, 2021.

Handling Data Gaps

To reduce skewing or inconsistencies within countries' overall Commitment and Capacity scores caused by data gaps, the Roadmap's first page depicts "latest" performance based on the most recent observation available from 2010 onward for each metric.[55] If, for instance, a given country was last covered in a source organization's 2012 dataset, the Roadmap's first page would depict the country's performance on that particular metric as of 2012, even though the performance period for most other metrics would be sometime between 2017 and 2020, depending on the metric. The Country Roadmap's Page 2 results from 2013-2020 do not pull most recent values forward from prior to 2013, as is undertaken to ensure a full assessment of overall Commitment and Capacity performance on Page 1.

In one instance, the Trade Freedom metric, the source institution has elected not to produce updated scores for a given country due to deteriorating social, political and economic conditions. In these limited cases, the "latest year" data is not shown on Page 1 of the Roadmap, under the assumption that the latest year of data available cannot be expected to accurately reflect conditions on the ground. These exceptions (including high-income countries for the purposes of normalization) include:

- Libya: Data in 2018 Index, but not 2019, 2020, or 2021
- Liechtenstein (high-income): Data in 2018 Index, but not 2019, 2020, or 2021

Country Coverage

The Country Roadmaps are produced for all 137 low- and middle-income countries worldwide, based on the World Bank's income group classifications (as of July 2021) and country designations provided in the U.S. Department of State's *Independent States in the World* list (January 2021).[56] Only countries that are assigned an income group by the World Bank *and* considered independent by the U.S. Department of State are included in these calculations, with one exception: West Bank and Gaza is also included.

Based on underlying data availability and aggregation parameters, overall Commitment and Capacity scores are available for 119 of the 137 low- and middle-income countries worldwide. Figures 9 and 10 depict the availability of Commitment and Capacity scores for each country globally.

[55] The one exception to the "2010 forward" rule is Economic Gender Gap, where the Roadmap includes the most recent value from 2009 forward.

[56] For further details, see the World Bank's income group classifications and the U.S. Department of State's *Independent States in the World* list. While Venezuela has been temporarily unclassified in the July 2021 version of the World Bank's income group classifications pending release of revised national accounts statistics, a Country Roadmap is still produced for this country.

FIGURE 9. Commitment Metric Score Availability by Country (Out of 7 Metrics)

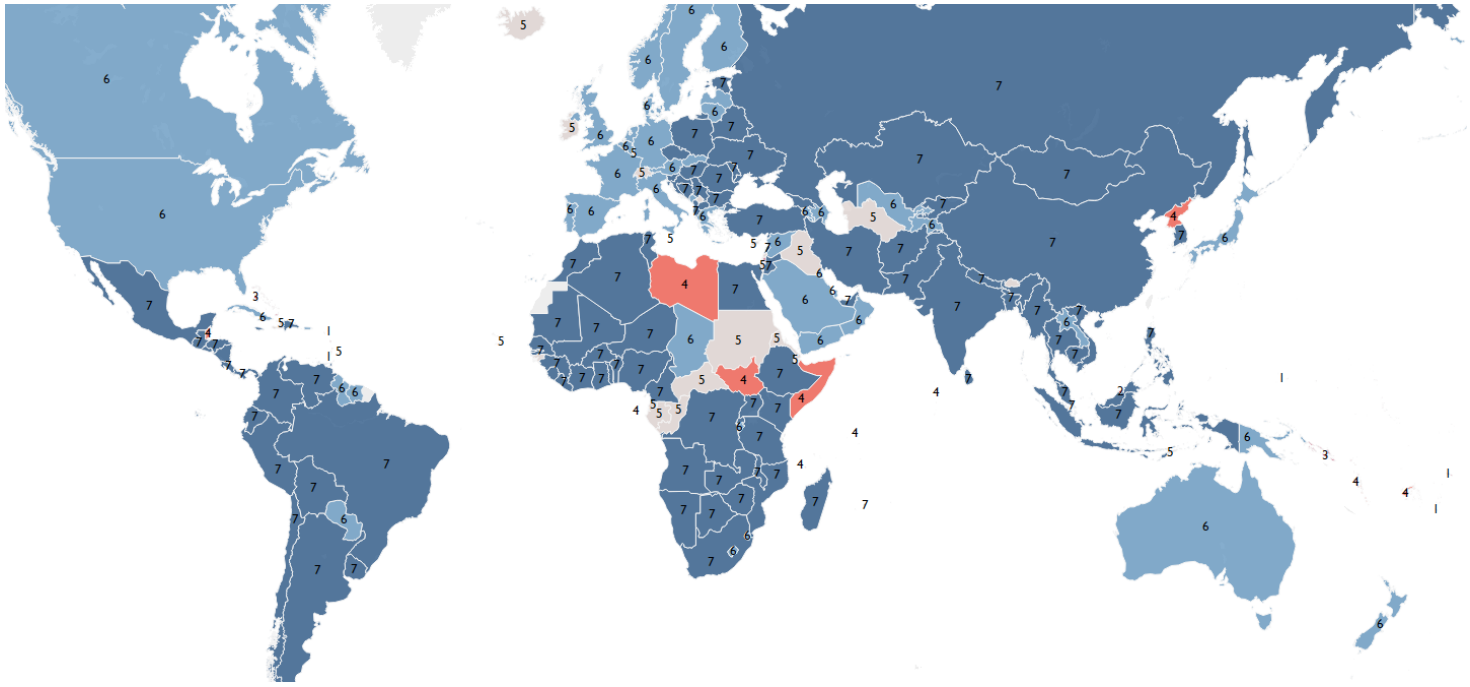


FIGURE 10. Capacity Metric Score Availability by Country (Out of 10 Metrics)