FY 2020 USAID Journey to Self-Reliance Country Roadmap Methodology Guide

August 2019

Table of Contents

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. If we are to one day end the need for foreign assistance, USAID needs to understand how self-reliant each of its partner countries is overall and where a country's self-reliance strengths and challenges are, so that the Agency can reorient its partnerships accordingly. Ultimately, we must ensure that our programs and partnerships best support a country's Journey to Self-Reliance. A key part of this focus on self-reliance is the identification of a set of objective and transparent metrics that will allow USAID and its partners to track country progress toward self-reliance and inform development strategies and programs. To that end, each year USAID will release its Journey to Self-Reliance Country Roadmap for all low- and middle- income countries. This methodology statement has been updated based on the FY 2020 Country Roadmap which will be launched in October 2019.

This methodology statement facilitates understanding of the self-reliance metrics framework. It provides the conceptual framework—USAID's theory of change—behind the self-reliance metrics, the indicator definitions, data sources, and linkage between each metric and the overall conceptual framework. It also summarizes data techniques and analyses used to shed light on the processes and decisions that led to this inaugural version of the framework.

2. Theory of Change

The central tenet of the self-reliance theory of change is that country commitment and capacity to plan, finance and manage the development journey are key, mutually reinforcing aspects that largely determine a country's self-reliance. As a country increases its capacity to manage its own development while maintaining, if not deepening, its commitment to do so, its level of self-reliance will likely also increase. Progress along the Journey to Self-Reliance depends on a country's ability to govern itself 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 journey is typically long and it is seldom linear, oftentimes in fact characterized by setbacks.

Country commitment, more specifically, 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).
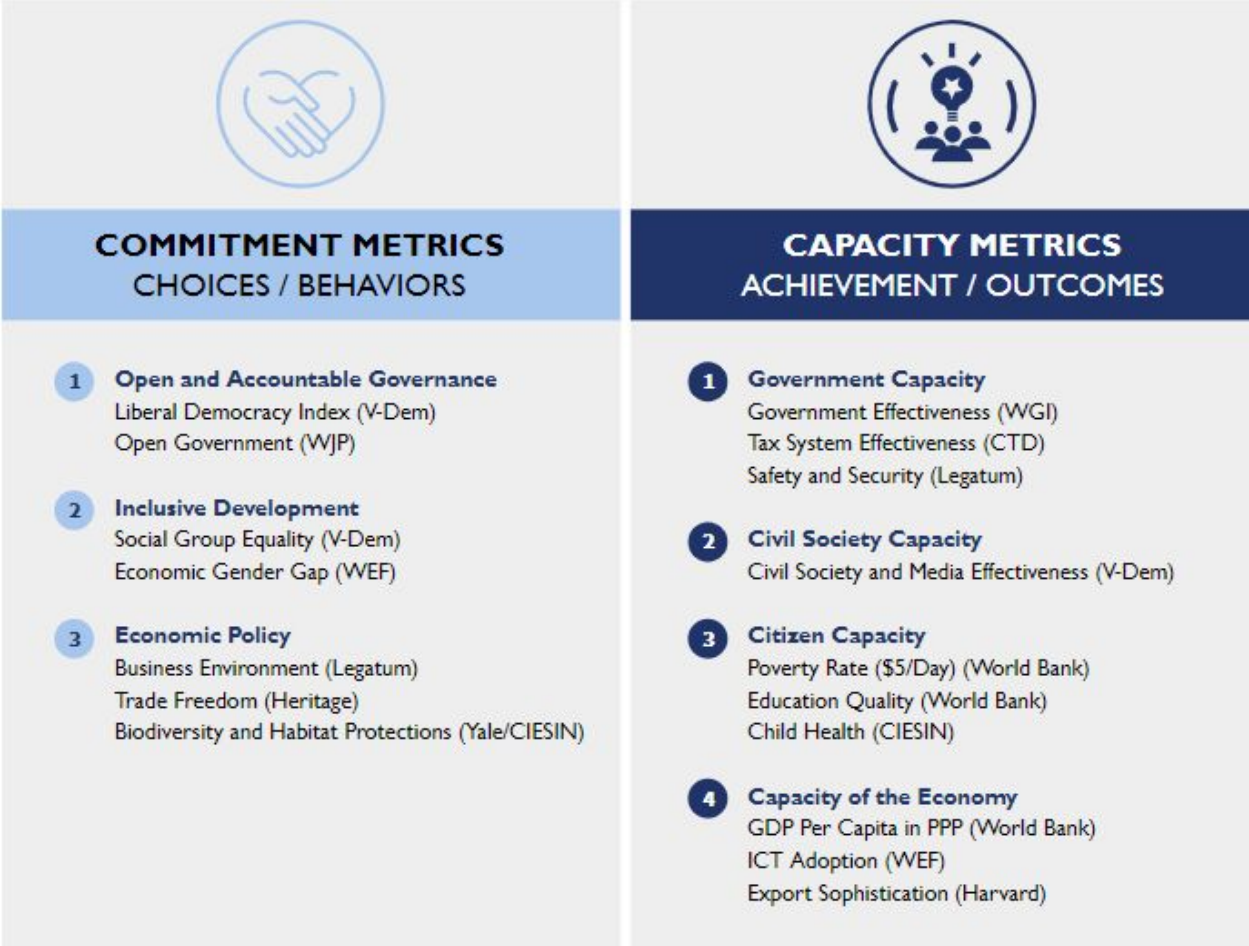
Country capacity, on the other hand, relates to how far a country has come in its journey across the dimensions of political, social and economic development, including the ability to work across these sectors. A country's capacity to plan, resource, and manage its own development hinges on the capacity 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).

The self-reliance theory of change and the various dimensions of country commitment and capacity align closely with USAID's core values and priorities.

3. Primary Self-Reliance Metrics

USAID uses a set of seventeen primary metrics to track country progress toward self-reliance on the Country Roadmap; seven metrics are focused on three key aspects of country commitment, and ten metrics on four key aspects of country capacity.

FIGURE 1. FY 2020 Primary Self-Reliance Metrics

COMMITMENT METRICS
CHOICES / BEHAVIORS

1 Open and Accountable Governance
Liberal Democracy Index (V-Dem)
Open Government (WJP)

2 Inclusive Development
Social Group Equality (V-Dem)
Economic Gender Gap (WEF)

3 Economic Policy
Business Environment (Legatum)
Trade Freedom (Heritage)
Biodiversity and Habitat Protections (Yale/CIESIN)

CAPACITY METRICS
ACHIEVEMENT / OUTCOMES

1 Government Capacity
Government Effectiveness (WGI)
Tax System Effectiveness (CTD)
Safety and Security (Legatum)

2 Civil Society Capacity
Civil Society and Media Effectiveness (V-Dem)

3 Citizen Capacity
Poverty Rate ($5/Day) (World Bank)
Education Quality (World Bank)
Child Health (CIESIN)

4 Capacity of the Economy
GDP Per Capita in PPP (World Bank)
ICT Adoption (WEF)
Export Sophistication (Harvard)

The original seventeen primary self-reliance metrics were derived over the course of a nine-month iterative process and launched via the FY 2019 Self-Reliance Country Roadmaps (released October 2018). The metric selection process drew 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 indicators: 1) closely and directly aligned with the self-reliance concept being measured; 2) publicly available and easily accessible; 3) comparable across

countries and over time; 4) having sufficient country coverage; 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 2019) considered to be independent by the U.S. Department of State (plus 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. For the FY 2020 Roadmap, four metrics have been modified to improve the Roadmap's overall accuracy and utility as a tool for strategic planning and bilateral dialogue. In some cases, these changes leverage newly available and more robust data, while in other cases, changes address methodological limitations underscored in feedback from USAID Missions, Bureaus, and the external stakeholder community. Despite these changes, the Roadmap framework is unchanged from FY 2019 and contains seven sub-dimensions, three in the commitment dimension and four in the capacity dimension, and a total of 17 metrics.

What's Different in FY 2020?

This year's Roadmap includes five changes: three metrics have been replaced, one has been revised by the third-party indicator institution, and an external debt distress graphic has been added. Each change is outlined below:

Export Diversification (Now 'Export Sophistication'): This metric was based previously on the U.N. Conference on Trade and Development (UNCTAD) Export Concentration Index. While useful in examining a country's export profile and the extent to which those exports are diversified, the data did not factor the "value-added" of export products and, thus, did not fully reflect the underlying sophistication of a country's economy. To more accurately and reliably gauge economic complexity and sophistication, the Roadmap now uses Harvard University's Economic Complexity Index (ECI)—a measure of both the diversity of export products and their ubiquity, or rarity, in the global market. The significant advantages of the ECI include:

- Measures complexity of exports;

- Country coverage accounts for roughly 99 percent of global trade;

- Unlike UNCTAD, Harvard excludes unreliable trade data; and

- Results provide a more normal distribution of performance aligned to the general consensus of the development community.

Information and Communications Technology (ICT) Use (Now 'ICT Adoption'): The World Economic Forum (WEF) revised, renamed, and improved this metric in its latest Global Competitiveness

Index Report to better-reflect emerging ICT technologies across the global economy. Key advantages of this metric include:

- Adding a component measuring fiber optic internet accessibility as a more relevant proxy for modern ICT infrastructure;

- Removing fixed telephone subscriptions, which are irrelevant to most of the developing world; and

- Endorsed by ICT experts in the USAID Global Development Lab.

Tax System Effectiveness: This metric is intended to measure a core aspect of a country's ability to generate and effectively manage domestic resources to fund solutions to its own development challenges, in alignment with USAID's Financing Self-Reliance Conceptual Framework. To improve country coverage and the metric's alignment to the concept of Financing Self-Reliance, the previous Efficiency of Tax Administration metric used on the FY 2019 Roadmaps has been replaced with USAID's Collecting Taxes Database indicator for "Tax Effort"—a measure of how much tax revenue a country collects relative to its tax capacity, or potential. Key advantages of this metric include:

- Provides more frequently updated data;

- Endorsed by USAID's Financing Self-Reliance working group; and

- Based on objective, quantitative data pertaining to tax system dynamics, as opposed to the previous metric's expert perception-based qualitative assessment.

Education Quality: This metric measures the capacity of the education system to prepare young individuals capable of contributing productively to their economy and society. In October 2018, the World Bank launched its new Human Capital Index (HCI), designed to gauge countries' investments in the human capital of the next generation. This year's Roadmaps will utilize an indicator newly-available via the HCI called "learning-adjusted years of schooling" (LAYS). The previous metric was based only on basic reading proficiency toward the end of primary school. The broader LAYS indicator, on the other hand, gauges both the quality of education—using harmonized scores across major international student achievement testing—and the quantity of schooling a child born today is expected to receive, allowing for a comparative evaluation of the relative performance of schooling systems worldwide. World Bank research indicates that an additional year of quality-adjusted schooling raises worker productivity by approximately 8% on average. Key advantages of this metric include:

- More comprehensive methodology that combines estimates of education quality, via student achievement scores, with estimates of the quantity of schooling received, via enrollment rate estimates;

- Based on more recent testing, and offers greater country coverage; and

- Better proxy for the relative performance of educational systems across countries, making it a better overall conceptual fit.

Risk of External Debt Distress

The ability of a country to sustainably manage its external debt (including public foreign borrowing) is a key aspect of self-reliance. Governments and lenders should clearly weigh the long-term economic implications of high debt burdens, especially when the debt is held by foreign entities. For this reason, the FY 2020 Roadmap for many lower income countries will feature a graphic on the lower left corner of the first page showing a country's risk of external debt distress based on a simple continuum of "low", "moderate", "high" and "in debt distress". This data is sourced from the International Monetary Fund (IMF) / World Bank Debt Sustainability Framework for Low-Income Countries.[1] Lower income countries have often struggled with large external debt levels, and the framework is designed to help guide countries and donors in mobilizing the financing of lower income countries' development needs, while reducing the chances of an excessive build-up of debt in the future. The risk rating is included for countries for which a debt sustainability analysis was completed in 2018 or later.[2]

USAID is including the risk of external debt distress rating for informational purposes only and it is not a scored component of commitment or capacity. The rating is not available for many middle-income countries and may not be available[3] for all low-income countries.[4] However, including the risk 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. **It is important to note that USAID is including the risk of external debt distress rating for informational purposes only, and it is not a scored component of commitment or capacity.**

---

[1] For more information, please refer to the IMF Fact Sheet on the Debt Sustainability Framework.
[2] https://www.imf.org/external/pubs/ft/dsa/dsalist.pdf, as of July 16, 2019.
[3] Please consult the Journey to Self-Reliance Secondary Metrics Compendium to explore additional measures of fiscal policy.
[4] Please note the IMF uses a different definition of "Low-Income" countries (for which debt sustainability analyses are conducted) than the World Bank income group classifications (based on Gross National Income per capita) used to determine which countries receive Country Roadmaps.

4. Secondary Self-Reliance Metrics and Analytics

No dataset is perfect, and no single set of country-level metrics can comprehensively capture each country's unique Journey to Self-Reliance. 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 any USAID examination of self-reliance should use these primary metrics as entry points, such an exercise should also closely analyze other quantitative and qualitative information at a secondary, deeper-level to ensure the full picture of a country's self-reliance comes into focus.

Given that need, USAID has developed the [Journey to Self-Reliance 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 self-reliance story into full focus.[5] The compendium is an analytical resource that was developed in close consultation with technical sector experts across the Agency and the external partner community. The secondary metrics are organized within the Journey to Self-Reliance Country Roadmap conceptual framework, and are offered as additional tools to help users unpack any country's Roadmap, and to better understand that country's relative self-reliance 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 progress on the Journey to Self-Reliance.

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 self-reliance metrics and analytics are meant to augment, not replace, the wide range of country analyses the Agency already uses.

---

[5] Please consult the 'Resources' tab on the [Journey to Self-Reliance Country Roadmap Portal](#) to access the Secondary Metrics Compendium, supplemental user guide, and related frequently asked questions.

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 progress toward self-reliance. The framework includes three aspects of country commitment measured using seven indicators. 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 Environment**, **Trade Freedom** and **Biodiversity and Habitat Protections**.

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."[6]

Source: [Varieties of Democracy (V-Dem) project](), V-Dem Institute of the University of Gothenburg[7]

Methodology: The *Liberal Democracy Index* is one of V-Dem's five high-level democracy indices measuring different "varieties," or core principles, of democracy.[8] 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:

---

[6] Varieties of Democracy, Methodology Report, April 2019, p. 5.

[7] Coppedge, Michael, John Gerring, Carl Henrik Knutsen, Staffan I. Lindberg, Jan Teorell, David Altman, Michael Bernhard, M. Steven Fish, Adam Glynn, Allen Hicken, Anna Luhrmann, Kyle L. Marquardt, Kelly McMann, Pamela Paxton, Daniel Pemstein, Brigitte Seim, Rachel Sigman, Svend-Erik Skaaning, Jeffrey Staton, Steven Wilson, Agnes Cornell, Lisa Gastaldi, Haakon Gjerlow, Nina Ilchenko, Joshua Krusell, Valeriya Mechkova, Juraj Medzihorsky, Josefine Pernes, Johannes von Romer, Natalia Stepanova, Aksel Sundstrom, Eitan Tzelgov, Yi-ting Wang, Tore Wig, and Daniel Ziblatt. 2019. "V-Dem Country-Year Dataset v9", Varieties of Democracy (V-Dem) Project. https://doi.org/10.23696/vdemcy19.
&
Pemstein, Daniel, Kyle L. Marquardt, Eitan Tzelgov, Yi-ting Wang, Juraj Medzihorsky, Joshua Krusell, Farhad Miri, and Johannes von Römer. 2019. "The V-Dem Measurement Model: Latent Variable Analysis for Cross-National and Cross-Temporal Expert-Coded Data", V-Dem Working Paper No. 21. 4th edition. University of Gothenburg: Varieties of Democracy Institute.

[8] *Liberal Democracy Index* raw data can be accessed by viewing code 'v2x_libdem' in V-Dem v9 dataset 'Country-Year: V-Dem.'

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.[9] 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 take 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.[10]

---

[9] Details on the *Electoral Democracy Index*'s components can be found in V-Dem's Codebook (Version 9, April 2019).
[10] V-Dem *Methodology Report* (Ver. 9, April 2019) 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[11]
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

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, a minimum of five independent experts respond to each question for each country and year.

Linkage to Self-Reliance: A country will not advance in a meaningful and sustained way toward self-reliance without progress toward liberal democracy. Liberal democracy promotes political

---

[11] Details on the 23 indicators used to calculate the *Liberal Component Index* are found in V-Dem's *Codebook* (Ver. 9, April 2019).

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, and both types of engagement are prerequisites toward self-reliance progress. 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 government 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 the 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), *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 its *Rule of Law Index*—a diagnostic tool measuring adherence to rule of law in 126 countries and jurisdictions worldwide. WJP considers four components or sub-factors in the measurement of Open Government[12]:

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 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

---

[12] 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 scores.

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 126 countries: 1) a general population poll (GPP) conducted by leading local polling companies using a probability sample of 1,000 respondents, and 2) qualified respondents' questionnaires (QRQ) carried out annually, consisting of closed-ended questions completed by in-country practitioners and academics with expertise in civil and commercial law, criminal justice, labor law and public health. The GPP Questionnaire is conducted bi-annually using one of three polling methodologies: face-to-face, online, and telephone.[13] The Open Government factor in the *WJP's 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. 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.[14]

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. 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.[15]

The *WJP Rule of Law Index 2019* presents a portrait of the rule of law in 126 countries by providing scores and rankings based on each of these eight factors: constraints on government powers, absence of corruption, open government, fundamental rights, order and security, regulatory enforcement, civil justice, and criminal justice.

Linkage to Self-Reliance: A public informed regarding its government's workings, and one outfitted with the tools for citizens to hold their government accountable, is an essential ingredient of development progress toward self-reliance. 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

---

[13] See pgs. 164-189 of *WJP's Rule of Law Index 2019* report for country-level details on polling year, locations, and methodology, as well QRQ contributors.
[14] See Open Knowledge International's website for more details on the Open Data Index results.
[15] More information on the normalization process can be found in the Methodology Snapshot for the Rule of Law Index and in the Variable Map, which outlines the construction of the WJP Rule of Law Index scores.

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 indicator 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 government to provide equal protection to civil liberties for all of its 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 a minimum of 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 per country 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 by V-Dem, namely, 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.[16]

Linkage to Self-Reliance: 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 not only economic and social development, but also 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. These mutually

---

[16] *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 Extended.'

reinforcing dynamics of a population's inclusive participation in society are at the center of the Journey to Self-Reliance.

V-Dem's egalitarian principle, of which social group equality is a component, holds that material and immaterial inequalities inhibit the broad-based or decentralized exercise of political power, political rights and liberties.[17] 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:

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.

---

[17] Varieties of Democracy, *Methodology Report*, April 2019, p. 5.

Linkage to Self-Reliance: "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."[18] 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 Environment

This indicator assesses a country's entrepreneurial climate by measuring business access to infrastructure (such as the internet and transport, and to credit), business flexibility (the costs of starting a business and of hiring and firing), clear and fair regulations (e.g., intellectual property rights), and perceptions of meritocracy and opportunity.

Source: Legatum Institute, *The Legatum Prosperity Index*

Methodology: Twelve underlying indicators comprise the **Business Environment** pillar:

- Four indicators derived from the World Bank, *Doing Business Report* (Ease of Getting Credit, Ease of Getting Electricity, Ease of Resolving Insolvency, and Ease of Starting a Business);

- Four indicators derived from World Economic Forum, *Global Competitiveness Report* (Affordability of Financial Services, Hiring and Firing Practices, Intellectual Property Protection, and Redundancy Costs);

- Two indicators derived from *Gallup World Poll* (Perception of Starting New Businesses and Perception of Working Hard Getting One Ahead); and

- Two indicators derived from the World Bank, *World Development Indicators* (Logistics Performance Index and Fixed Broadband Subscriptions).

Each variable is assigned one of four weights (0.5, 1, 1.5 and 2), indicating the level of importance it has in affecting prosperity.[19] 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 wellbeing, as informed by the academic literature; 2) expert

---

[18] WEF, *Global Gender Gap Report 2018*.
[19] See Legatum Institute's *2018 Methodology Report* for more details on the variables and their respective weightings.

opinions offered by the index's special advisers; and 3) the degree of compatibility with Legatum's "Prosperity Engine" conceptual framework.

Linkage to Self-Reliance: 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 self-reliance at the country level. Through fair and transparent rules, it encourages competition and entrepreneurship, thus leading to greater productivity and economic growth. Through investments in transportation and financial infrastructure, markets become linked and transaction costs are reduced. A favorable business environment draws economic activity into the formal economy, enabling greater possibilities for enterprise growth (e.g., through greater access to credit) and expansion of the tax base, hence greater capacity for domestic resource mobilization for governments.

Legatum's *Business Environment* pillar is "based on research into how entrepreneurship drives innovation and generates economic growth, and into the positive effects that result from individuals realizing their entrepreneurial potential. When a country improves the likelihood that entrepreneurial initiative will pay off and individuals experience the satisfaction of entrepreneurial success, a society's prosperity increases overall."[20]

2) Trade Freedom

This indicator 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 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).

---

[20] Legatum Institute, *The Legatum Prosperity Index 2018 Methodology Report*, 2019, pp. 8-9.

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 Self-Reliance: 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) Biodiversity and Habitat Protections

This indicator measures government commitment to natural resource management by tracking the proportion of marine areas, terrestrial biomes, and indigenous species habitat designated for protection status, as well as the extent to which a country's protected areas are ecologically representative and sufficient to prevent species habitat loss.

Source: Yale Center for Environmental Law & Policy (YCELP) and Columbia University, Center for International Earth Science Information Network (CIESIN), *Environmental Performance Index* (EPI) Report

Methodology: The **Biodiversity and Habitat Protections** indicator is an index comprised of six metrics, with each metric's weighting within the index provided in parentheses:

1. **Terrestrial Protected Areas (Weighted for National Scarcity)** (20%): Percentage of the country's terrestrial biomes in protected areas (TPAs), weighted by the prevalence of different biome types within that country.

2. **Terrestrial Protected Areas (Weighted for Global Scarcity)** (20%): Percentage of the country's terrestrial biomes in protected areas, weighted by the prevalence of different biome types globally.

3. **Marine Protected Areas** (20%): Percentage of a country's exclusive economic zone designated as marine protected areas (MPAs).

4. **Species Protection Index** (20%): Proportion of the country's species' ranges under protection.

5. **Protected Area Representativeness Index** (10%): Extent to which terrestrial protected areas are ecologically representative.

6. **Species Habitat Index** (10%): Measures changes in the suitable habitats of species, relative to a baseline set in the year 2001.

These indicators and the benchmarks used to calculate them are highlighted in the Convention on Biological Diversity's "Aichi Targets," a set of internationally agreed upon goals for conservation and ecosystem management.[21] The EPI uses a min-max transformation to convert country values for each component metric to a 0–100 score (higher is better).

The *2018 EPI* includes data for 180 countries. In the *2018 EPI* release, the *Species Protection Index* and *Species Habitat Index* recorded conditions in 2014, and the *Protected Area Representativeness Index* recorded conditions in 2016; the other three components recorded conditions in 2017. Both the *EPI* and the *Biodiversity and Habitat Protections* indicators are updated every two years.[22]

Linkage to Self-Reliance: Country self-reliance depends on 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, and renewable energy), as with physical, human, and social capital, is a critical input into an economy's "production function."

The EPI's *Biodiversity and Habitat Protections* indicator underscores the wide-reaching benefits derived from biodiversity and habitat protections, including economic and social benefits - and even national

---

[21] Secretariat of the Convention on Biological Diversity, 2014.
[22] Further documentation can be found in the online Technical Appendix at https://epi.envirocenter.yale.edu/epi-downloads.

security gains. Biodiversity conservation contributes to meeting food, nutrition, and human health needs. The communities most dependent on biodiversity and ecosystem services 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. Subsistence and small-scale livelihood activities, such as agriculture and fishing, are especially reliant on the natural capital of healthy ecosystems.

Healthy, diverse ecosystems maintain critical services, such as pollination and water and air filtration. Many medicines on which humans depend have been discovered by exploring diverse biomes. Biodiverse ecosystems may also help reduce the cost of financial damage to human systems from weather events, climate change, and natural disasters.

The investments and technology needed to promote environmental protection also provide favorable economic spillovers toward a more dynamic economy. Finally, conservation and sustainable use of biological diversity facilitates better relations among countries, and contributes to greater stability and security.

6. Country Capacity Metrics

The capacity dimension gauges how far each country has come in its journey 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 an indicator of **Civil Society and Media Effectiveness**. Citizen capacity is gauged using the **Poverty Rate**, **Education Quality** and **Child Health**. The capacity of the economy is measured using **GDP Per Capita**, **Export Sophistication** and **Information and Communication Technology (ICT) Adoption**.

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.

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*

---

[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.

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 Self-Reliance: 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 progress toward self-reliance. 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 self-reliance will be ineffective, inadequately, or inconsistently applied, and likely short-lived. Government capacity and government commitment are mutually reinforcing.

2) Tax System Effectiveness

This indicator is the estimated ratio between a country's anticipated tax collection levels and the expected 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 indicator—referred to as the "Tax Effort" indicator in the USAID Collecting Taxes Database—estimates how much tax revenue a country is able to collect (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 Collecting Taxes Database is maintained by a USAID implementing partner, it employs a methodology implemented in an International Monetary Fund (IMF) working paper and other leading technical literature, and it is based on publicly available statistical information.[24]

A country's tax capacity provides a benchmark for the maximum amount of tax revenue 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). The methodology for estimating tax capacity is based on the Stochastic Frontier estimation approach.[25]

---

[24] Ricardo Fenochietto and Carola Pessino (2013)

[25] The methodology for estimating tax capacity follows Ricardo Fenochietto and Carola Pessino (2013) on the use of Stochastic Frontier approach, 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 Stochastic Frontier approach 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.

An unfavorable 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, an unfavorable 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.

While tax effort itself is estimated using the Stochastic Frontier approach, 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).[26] Tax as a percentage of GDP captures all tax revenue, but excludes other revenues, such as user charges, investment income, and social security contributions.[27] For resource rich countries, resource revenues are inconsistently included in the tax as a percentage of GDP values, which may lead to both low and high outliers. GDP per capita, in current U.S. dollars is drawn from the World Development Indicators (WDI) or from the International Monetary Fund World Economic Outlook (WEO). 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 drawn from WDI. The Control of Corruption index is drawn from the Worldwide Governance Indicators (WGI) Dataset.

Linkage to Self-Reliance: Increasing a government's capacity to effectively generate and mobilize resources is a core part of the journey to self-reliance. 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 toward self-reliance will not be realized.

3) Safety and Security

Legatum's *Safety & Security* pillar measures countries' performance in three areas: national security, personal precariousness, and personal safety. This pillar combines measures of national security (e.g. extent of political violence and repression) with measures of personal safety and security (e.g. household security with respect to crime and household economic security with respect to adequacy of food and shelter).

Source: [Legatum Institute, *Legatum Prosperity Index*](#)

---

[26] ICTD data are used in lieu of WoRLD for the following countries: Algeria, Aruba, Bangladesh, Belarus, Cuba, Kosovo, Macau, North Macedonia, Montenegro, Nigeria, Panama, Romania, San Marino, São Tomé and Principe, TimorLeste, Trinidad and Tobago, Vanuatu, and West Bank and Gaza.
[27] Tax revenue is calculated based on the IMF's 2001 Government Finance Statistics Manual framework.

Methodology: A mixture of 11 objective measures of security and subjective measures of personal safety comprise Legatum's *Safety & Security* pillar:

- Four survey questions from *Gallup World Poll* (Availability of Adequate Food, Availability of Adequate Shelter, Property Stolen, and Safe Walking Alone at Night);

- Intentional Homicides per 100,000 population (World Bank, *World Development Indicators*);

- Political Terror Scale (Amnesty International and the U.S. Department of State);

- Refugees by origin per million population (U.N. High Commissioner for Refugees);

- Traffic Accident Deaths per 100,000 population (U.N. World Health Organization);

- Terrorist Attack Casualties per million population, average of latest five years (Study of Terrorism and Responses to Terrorism, Global Terrorism Database);

- Civil and Ethnic War Casualties (Center for Systemic Peace); and

- Battlefield Deaths per million population (Uppsala Conflict Data Program).

Each variable is assigned one of four weights (0.5, 1, 1.5, and 2), indicating the level of importance it has in affecting prosperity.[28] 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 five of the eleven indicators underlying Safety & Security where data distribution is skewed by outliers: terrorist attack casualties, battlefield deaths, intentional homicides, traffic accident deaths, and refugees by origin.

Linkage to Self-Reliance: 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

---

[28] See Legatum Institute's *2018 Methodology Report* for more details on the variables and their respective weightings.

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 (and the journey toward self-reliance) will be put on hold.

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 government 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.[29] *Vertical Accountability* refers to the ability of citizens to hold government 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 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.[30]

Figure 3: Diagonal Accountability by Media and CSOs
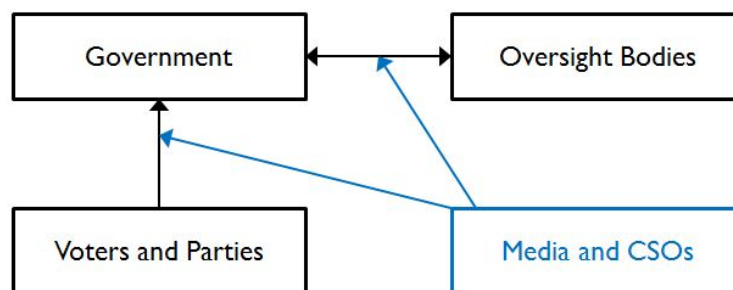
Indicators take the form of nominal (classifications, texts, dates), ordinal (e.g., Likert-style scales), or interval scales. Some refer to de jure aspects of a polity—rules that statute or constitutional law stipulate. Others refer to de facto aspects of a polity—the way things are in practice. Factual 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.[31] V-Dem recruits experts based on their academic or other credentials as field experts in the area for which they code. Typically, a minimum of five independent experts respond to each question for each country and year.

Linkage to Self-Reliance: 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

---

[29] *Diagonal Accountability Index* raw data can be accessed by viewing code 'v2x_diagacc_osp' in V-Dem's v9 dataset 'Country-Year: V-Dem Extended'.
[30] 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).
[31] V-Dem's Methodology Report (Version 9, April 2019) provides elaboration of its general conceptual scheme, data collection methods and measurement considerations.

tools to ensure that government agencies serve the interest of the people.[32] 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, 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 indicator 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 self-reliance metrics framework uses a relatively expansive, ambitious poverty line ($5.00 per day, in purchasing power parity terms) because country self-reliance 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.

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 1,500 household surveys in 164 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 2016 or the latest year available from 2006 onward. Approximately one-sixth of low- and

---

[32] *Constraining Governments*, April 2017, p. 24

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 Self-Reliance: 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 indicator 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, 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 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.

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 recorded across testing programs 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), and EGRA (Early Grade Reading Assessments). Most recent testing results collected between the years 2000 and 2017 and publicly available as of 2018 are used for each country. Approximately 93% 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.[33]

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.

Linkage to Self-Reliance: Advancing the quality of the educational system increases self-reliance at the household and country levels. Better education is linked to economic and social gains at the household level, including more employment 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 self-reliance.

3) Child Health

This index measures three basic, major health challenges in the developing world: child mortality rates and two conditions that disproportionately affects 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 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. Natural Resource Protection and Child Health Indicators. 2017 Release (2010-2017).](#) Palisades, NY: National Aeronautics and Space Administration (NASA) Socioeconomic Data and Applications Center (SEDAC).

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;

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

---

[33] For more information on the calculation of the Harmonized Test Score and Expected Years of Schooling datasets, please refer to World Bank Policy Research Working Paper 8742, [Measuring Human Capital: Angrist, Djankov, Goldberg and Patrinos (2019)](#); World Bank Policy Research Working Paper 8591, [Learning-Adjusted Years of Schooling (LAYS): Filmer, Rogers, Angrist and Sabarwal (2018)](#); and World Bank Policy Research Working Paper 8593, [Methodology for a World Bank Human Capital Index: Kraay (2019)](#).

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.

Linkage to Self-Reliance: 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 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 and self-reliance.

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 while there 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** indicator also signals advances in inclusive development.

Capacity of the Economy

1) GDP Per Capita (PPP)

This indicator 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, *International Comparison Program database*

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 current international dollars based on the 2011 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 Self-Reliance: 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 Journey to Self-Reliance. 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 2018, 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 2018 ICT Adoption indicator covers 2016 or 2017, but a handful of country scores include one or more underlying raw data values from 2010-2015.

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[34]:

- 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 also sets the best performance frontier at 50 subscriptions per 100 population for component 3 for a similar reason.

- 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 20 countries without fiber internet subscription data (out of a total of 140 countries), using the following regressors: internet users, electrification rate, and regional dummies (IMF).

Linkage to Self-Reliance: 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 indicator measures the diversity of exports a country produces and the ubiquity of those exports, or the number of countries able to produce them. It gauges the amount of productive knowledge each society holds as expressed in the products it makes.

---

[34] See the World Economic Forum's GCI Appendix C for additional information.

Source: [Center for International Development at Harvard University, Atlas of Economic Complexity](#)

Methodology: The *Export Sophistication* indicator is formally referred to as the *Economic Complexity Index.*[35] The Export Sophistication indicator scores a country's economic complexity using the diversity and ubiquity of a country's exported goods. Diversity is related to the number of products that a country exports (i.e. the number of links a country has in the global trade network). Ubiquity is related to the number of countries that a product is connected to (i.e. the number of links a product has in the global export market) and those countries' relative sophistication. High-value added goods, such as microchips and medical equipment, demonstrate high ubiquity, as only a small number of countries produce such goods, thus those goods record a small number of links in the global network.

Harvard draws on U.N. Comtrade country-level trade data, at the SITC 4-digit level of product classification, to generate a Revealed Comparative Advantage (RCA) matrix connecting each country to the products in which the country has a Revealed Comparative Advantage (RCA). 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 Economic Complexity Index 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 average ubiquity of exported products is calculated as the diversity of the countries that make those products.

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.[36] This allows for more reliable estimates of trade flows between countries; however, some countries reporting to U.N. Comtrade may not have Economic Complexity Index scores as a result.

Linkage to Self-Reliance: Countries that are home to a great diversity 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 is a key marker that can help gauge the sophistication of the export sector and 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, 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. Export

---

[35] 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.
[36] This data cleaning technique is known as the *Bustos-Yildirim Method.*

Sophistication provides a strong insight into how the economic capacity of countries has evolved over time.

A strong export sector 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 analysis 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.[37]

USAID is including 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

---

[37] 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. pg 13-14

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, and 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 growth.[38] 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.[39]

---

[38] 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
[39] 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

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.[40] The Roadmap risk rating is included for countries for which a debt sustainability analysis was completed in 2018 or later[41] to ensure timeliness and improve rating validity.

Linkage to Self-Reliance: The ability of a country to sustainably manage its public sector debt is a key aspect of self-reliance. 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.

8. Data Techniques and Analysis

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. 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 period of performance used to determine the range of observed outcomes is 2010 to the latest data available on July 1 2019[42] (including values that have been "carried forward" from 2006-2009 into this date range; see "Temporal Coverage" and "Handling Missing Data" sections below for more details).[43]

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 for self-reliance 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

---

[40] 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. pg. 12-13

[41] https://www.imf.org/external/pubs/ft/dsa/dsalist.pdf, as of July 16, 2019.

[42] There is one exception to this - the World Bank published corrected GDP Per Capita (PPP) data for Mauritania on July 10, 2019. These revised data were included in all calculations.

[43] An exception is made for the "Economic Gender Gap" metric, for which 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 adjustment is made to ensure the true 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.

others (Poverty Rate). For the FY 2020 Roadmaps, this transformation of directionality is needed only for the Poverty Rate metric.

Two further adjustments are made to this standard min-max scaling technique, including taking the natural log of GDP Per Capita to accommodate a large variation across countries worldwide and removing several extreme outliers from the Trade Freedom scaling. Any country with a raw score under 40 in Trade Freedom for any year is given a score of 40 for this indicator and subsequently a 0.0 in this framework's normalized 0.0-1.0 scale. For the Country Roadmap's period of analysis and country sample, North Korea is the only country scoring below that threshold and receiving a 0.0.

The formula for min-max scaling is

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

Country Coverage

For each of the 17 primary self-reliance metrics, the Country Roadmaps provide individual countries' scores and overall average scores for all low- and middle-income countries worldwide, based on World Bank income group classifications (July 2019) and country designations provided in the U.S. Department of State's *Independent States in the World* list (March 2019).[44] Based on underlying data availability and aggregation parameters (see details below), overall commitment and capacity scores are available for 115 of the 137 low- and middle-income countries worldwide. The normalization process takes into account the minimum and maximum scores for all countries globally, regardless of income group classification. The heat maps in Figures 4 and 5 depict the number of capacity and commitment metrics available for each country globally.

---

[44] 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. 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 calculations, with one exception: West Bank and Gaza is also included.

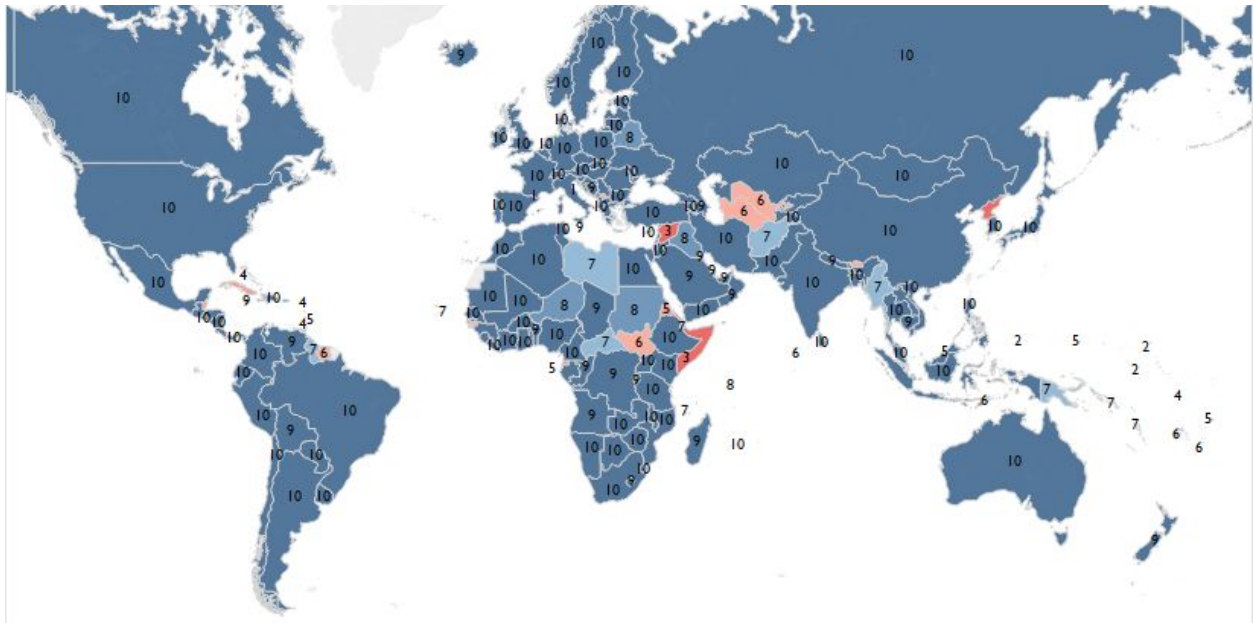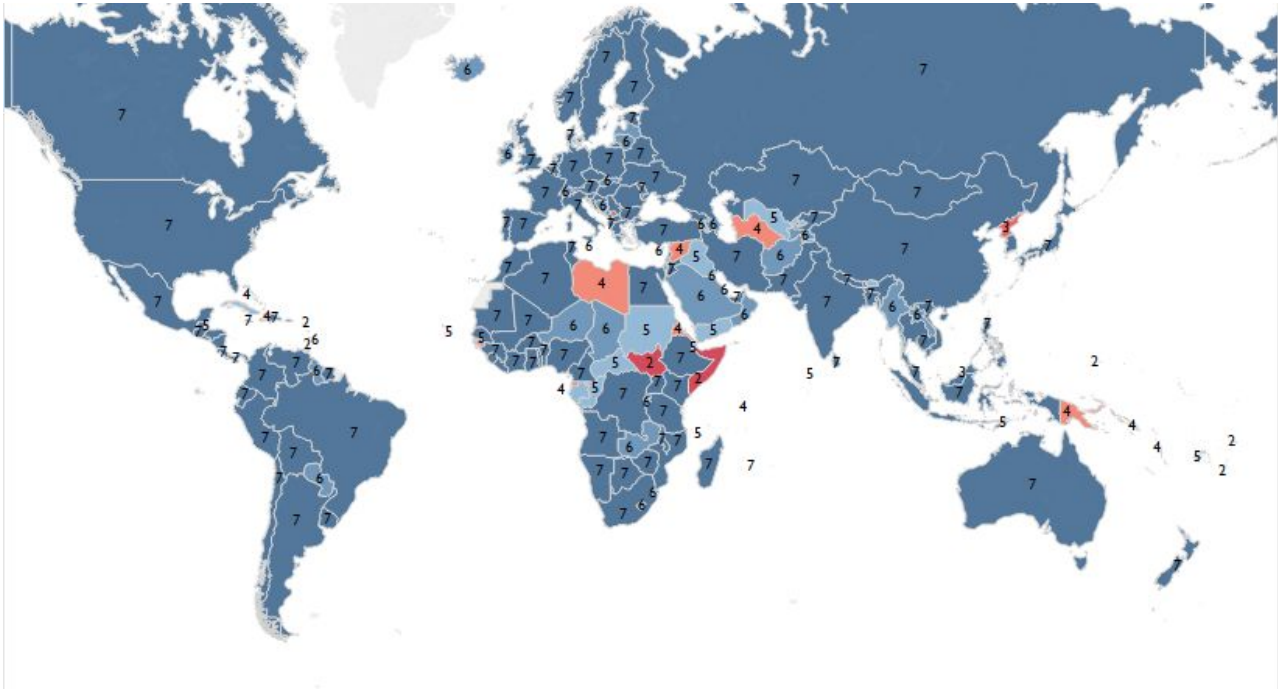**FIGURE 4. Capacity Metrics Available by Country (Out of 10 Capacity Metrics)**

FIGURE 5. Commitment Metrics Available by Country (Out of 7 Commitment Metrics)

Temporal Coverage

Figure 6 provides source information and year(s) of measurement depicted for each USAID Roadmap metric. The year(s) of measurement shown in this table reflect the year(s) that the data are measuring, not necessarily the year in which the data were eventually published.

FIGURE 6. Temporal Coverage of the Roadmap Metrics

USAID Roadmap Metric	Source Indicator Name	Report/Index/Database Name	Year(s) of Measurement
Biodiversity & Habitat Protections	Biodiversity & Habitat Protections	2018 Environmental Performance Index	Varies by Component (2014-2017)
Business Environment	Business Environment	Legatum Prosperity Index 2018	Varies by Component (mostly 2016-2017)
Child Health	Child Health	Natural Resource Protection and Child Health Indicators, 2017 Release	2017
Civil Society & Media Effectiveness	Diagonal Accountability Index	V-Dem Dataset Version 9	2018
Economic Gender Gap	Economic Participation and Opportunity Sub-Index	WEF Global Gender Gap Report 2018	Varies by Component (2017 or latest available)
Education Quality	Learning-Adjusted Years of Schooling (LAYS)	World Bank, Human Capital Project, 2018	Varies by Country (Mostly 2013-2017)
Tax System Effectiveness	Tax Effort	USAID, Collecting Taxes Database (Last updated August 2018)	Varies by Country (2016 or latest available)
Export Sophistication	Economic Complexity Index	Online Database (Accessed June '19)	2017
GDP Per Capita (PPP)	GDP Per Capita (PPP)	Online Database (Accessed July '19)	2018
Government Effectiveness	Government Effectiveness	Online Database (Accessed Sept. '18)	2017
Information & Communications Technology (ICT) Adoption	ICT Adoption	WEF, Global Competitiveness Report 2018, Global Competitiveness Index 4.0	Varies by Component (mostly 2016-2017)
Liberal Democracy	Liberal Democracy Index	V-Dem Dataset Version 9	2018
Open Government	Open Government Factor	WJP Rule of Law Index 2019	2018
Poverty Rate ($5/Day)	Poverty Headcount Ratio ($5/Day, PPP)	Online Database (Accessed July '19)	Varies by Country (2006-2017)
Safety & Security	Safety & Security	Legatum Prosperity Index 2018	Varies by Component (mostly 2016-2017)
Social Group Equality	Social Group Equality in Respect for Civil Liberties	V-Dem Dataset Version 9	2018
Trade Freedom	Trade Freedom	2019 Index of Economic Freedom	2018

Figure 7 provides the year and month that debt sustainability analyses were conducted for each country with debt distress risk ratings based on the IMF-World Bank LIC DSF.

FIGURE 7. Date of Debt Distress Risk Assessment

Year and Month	Country(s)
July 2019	Benin, Central African Republic, Grenada, Kyrgyz Republic, Rwanda, Togo
June 2019	Liberia, Maldives, South Sudan, Vanuatu
May 2019	Mauritania, Mozambique, Samoa, Timor-Leste, Uganda, Uzbekistan
April 2019	Ghana, Lesotho, Myanmar
February 2019	Nepal, St. Vincent and the Grenadines
January 2019	Burkina Faso, Chad, Guinea, Kiribati, Senegal
December 2018	Afghanistan, Cambodia, Cameroon, Cote d'Ivoire, Ethiopia, Niger, Papua New Guinea, Sierra Leone
November 2018	Malawi, Solomon Islands
October 2018	Bhutan, Kenya
September 2018	Dominica, Marshall Islands
August 2018	São Tomé and Príncipe
July 2018	Madagascar, Guyana, Honduras, Tuvalu
June 2018	Comoros, The Gambia, Bangladesh, Guinea-Bissau
May 2018	Mali
April 2018	Cabo Verde
March 2018	Laos
January 2018	Tanzania, Tonga

Handling Missing Data

To reduce changes in country scores caused by data gaps, individual country-metric data gaps are filled by "carrying forward" indicator observations over the 2006-2018 period from their most recent observation in the period through to 2018.[45] Figure 8 provides an illustrative example of the "carrying

---

[45] Values are also carried forward in this manner to fill gaps in the 2006-2018 time series, including for identification of the global best and worst performers for scaling purposes.

forward" approach between the original dataset (at left) and the imputed dataset (at right), with values carried forward marked in blue and in bold. In certain instances, the indicator institution has elected not to produce a value for a given country due to deteriorating social, political and economic conditions. In these limited cases, the most recent value is not carried forward. These exceptions (including high-income countries) include:

- *Economic Gender Gap*

  - Guyana: No data since 2015 report

  - Trinidad and Tobago: No data since 2016 report

  - Uzbekistan: No data since 2009 report

  - Zambia: No data since 2015 report

- *Trade Freedom*

  - Libya: No data in most recent (2019) report

  - Liechtenstein: No data in most recent (2019) report

FIGURE 8. Illustrative Example of the Carry-Forward Approach

Original Raw Data

	2014	2015	2016	2017	2018
Poverty Rate	0.39	0.4	0.4	0.42	
Education Quality		0.8			
Child Health	0.46	0.55	0.56	0.59	0.61

Imputed Roadmap Dataset

	2014	2015	2016	2017	2018
Poverty Rate	0.39	0.4	0.4	0.42	0.42
Education Quality		0.8	0.8	0.8	0.8
Child Health	0.46	0.55	0.56	0.59	0.61

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 present after imputation). The Capacity Index comprises ten underlying metrics, each receiving an equal weighting of one-tenth in aggregation, if all sub-components are present after imputation. If dimension components (i.e. individual metrics) of either index are missing after imputation, 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 present and four of seven Commitment metrics are present.