



# Behind the Numbers

# Methodology Snapshot: Steps to Produce the WJP Rule of Law Index

The production of the *WJP Rule of Law Index* can be summarized in 11 steps:

- 1 The WJP developed the conceptual framework summarized in the Index's nine factors and 47 sub-factors, in consultation with academics, practitioners, and community leaders from around the world.
- 2 The Index team developed a set of five questionnaires based on the Index's conceptual framework to be administered to experts and the general public. Questionnaires were translated into several languages and adapted to reflect commonly used terms and expressions.
- 3 The Index team identified, on average, more than 300 potential local experts per country to respond to the QRQs and engaged the services of leading local polling companies to implement the household surveys.
- 4 Polling companies conducted pilot tests of the GPP in consultation with the Index team, and launched the final survey for full fieldwork.
- 5 The Index team sent the questionnaires to local experts and engaged in continual interaction with them.
- 6 The Index team collected and mapped the data onto the eight factors and 44 sub-factors with global comparability that make up the scores and rankings of the *WJP Rule of Law Index*. The Index scores and rankings exclude the ninth factor and its three sub-factors because they cannot be measured in a comparable manner globally.
- 7 The Index team constructed the final scores using a five-step process:
  - a. Codified the questionnaire items as numeric values
  - b. Produced raw country scores by aggregating the responses from several individuals (experts and/or general public)
  - c. Normalized the raw scores
  - d. Aggregated the normalized scores into sub-factors and factors using simple averages
  - e. Produced the normalized scores, which are rounded to two decimal points, and the final rankings
- 8 The data was subject to a series of tests to identify possible biases and errors. For example, the Index team cross-checked all sub-factors against more than 70 third-party sources, including quantitative data and qualitative assessments drawn from local and international organizations.
- 9 A sensitivity analysis was conducted by the Econometrics and Applied Statistics Unit of the European Commission's Joint Research Centre, in collaboration with the Index team, to assess the statistical reliability of the results.
- 10 To illustrate whether the rule of law in a country significantly changed over the course of the past year, a measure of change over time was produced based on the annual difference in the country-level factor scores, the standard errors of these scores (estimated from a set of 100 bootstrap samples), and the results of the corresponding t-tests.
- 11 The data was organized into country reports, tables, and figures to facilitate their presentation and interpretation. For tables organized by income group, the WJP follows the World Bank income classifications.

# Methodology

*The WJP Rule of Law Index is the first attempt to systematically and comprehensively quantify the rule of law around the world and remains unique in its operationalization of rule of law dimensions into concrete questions.*

The *WJP Rule of Law Index 2020* report presents information on eight composite factors that are further disaggregated into 44 specific sub-factors (see page 11). Factor 9, Informal Justice, is included in the conceptual framework, but has been excluded from the aggregated scores and rankings in order to provide meaningful cross-country comparisons.

The country scores and rankings presented in this report are built from more than 500 variables drawn from the assessments of more than 130,000 households and 4,000 legal practitioners and experts in 128 countries and jurisdictions, making it the most accurate portrayal of the factors that contribute to shaping the rule of law in a country.

## Data Sources

To present an image that accurately portrays the rule of law as experienced by ordinary people, each score of the Index is calculated using a large number of questions drawn from two original data sources collected by the World Justice Project in each country or jurisdiction: a General Population Poll (GPP) and a series of Qualified Respondents' Questionnaires (QRQs). These two data sources collect up-to-date firsthand information that is not available at the global level, and constitute the world's most comprehensive dataset of its kind. They capture the experiences and perceptions of ordinary citizens and in-country professionals concerning the performance of the state and its agents and the actual operation of the legal framework in their country or jurisdiction.

The GPP surveys provide firsthand information on the experiences and the perceptions of ordinary people regarding a range of pertinent rule of law information, including their dealings with the government, the ease of interacting with state bureaucracy, the extent of bribery and corruption, the availability of dispute resolution systems, and the prevalence of common crimes to which they are exposed.

The GPP questionnaire includes 127 perception-based questions and 213 experience-based questions, along with socio-demographic information on all respondents. The questionnaire is translated into local languages, adapted to common expressions, and administered by leading local polling companies using a probability sample of 1,000 respondents.<sup>3</sup> In previous editions of the Index, the poll has been conducted in the three largest cities of each country or jurisdiction. However, the World Justice Project's goal was to update its methodology

to include nationally representative polls. Toward this end, nationally representative polls have been conducted in 63 countries and jurisdictions covered in the *WJP Rule of Law Index 2020*. Nationally representative polls will be conducted in the remaining countries and jurisdictions in future editions of the Index. Depending on the particular situation of each country or jurisdiction, one of three different polling methodologies is used: face-to-face, telephone, or online. The GPP has been carried out in each country or jurisdiction every other year. The polling data used in this year's report was collected during the fall of 2019 (for 10 countries and jurisdictions), fall of 2018 (for 70 countries and jurisdictions), fall of 2017 (for 45 countries and jurisdictions), the fall of 2016 (for four countries and jurisdictions), the fall of 2014 (for three countries and jurisdictions), the fall of 2012 (for one country), and the fall of 2011 (for two countries or jurisdictions). Detailed information regarding the country or jurisdiction coverage (cities covered or nationally representative), the polling companies contracted to administer the questionnaire, and the polling methodology employed in each of the 128 countries and jurisdictions is presented on page 166.

The QRQs complement the household data with assessments from in-country practitioners and academics with expertise in civil and commercial law; constitutional law, civil liberties, and criminal law; labor law; and public health. These questionnaires gather timely input on a range of topics from practitioners who frequently interact with state institutions. Such topics include information on the efficacy of courts, the strength of regulatory enforcement, and the reliability of accountability mechanisms.

The questionnaires contain closed-ended perception questions and several hypothetical scenarios with highly detailed factual assumptions aimed at ensuring comparability across countries. The QRQ surveys are conducted annually, and the questionnaires are completed by respondents selected from directories of law firms, universities and colleges, research organizations, and non-governmental organizations (NGOs), as well as through referrals from the WJP global network of practitioners, and all are vetted by WJP staff based on their expertise. The expert surveys are administered in five languages: English, French, Portuguese, Russian, and Spanish. The QRQ data for this report include more than 4,000 surveys, which represents an average of 32 respondents per country. This data was collected from May 2019 through October 2019.

<sup>3</sup> Due to small populations or obstacles to data collection in certain countries, the sampling plan was adjusted in some cases. One adjustment was to decrease the sample size. For more information on specific countries and sample sizes, see pages 166-168.

## Data Cleaning and Score Computation

Once collected, the data is carefully processed to arrive at country-level scores. As a first step, the respondent level data are edited to exclude partially completed surveys, suspicious data, and outliers (which are detected using the Z-score method). Individual answers are then mapped onto the 44 sub-factors of the Index (or onto the intermediate categories that make up each sub-factor), codified so that all values fall between 0 (weakest adherence to the rule of law) and 1 (strongest adherence to the rule of law), and aggregated at the country level using the simple (or unweighted) average of all respondents.

This year, to allow for an easier comparison across years, the resulting 2020 scores have been normalized using the Min-Max method with a base year of 2015. These normalized scores were then successively aggregated from the variable level all the way up to the factor level to produce the final country scores, rounded to two decimal points, and rankings. In most cases, the GPP and QRQ questions are equally weighted in the calculation of the scores of the intermediate categories (sub-factors and sub-sub-factors).

A full picture of how questions are mapped onto indicators and how they are weighted is available on the *WJP Rule of Law Index* website at [worldjusticeproject.org](http://worldjusticeproject.org).

## Data Validation

As a final step, data is validated and cross-checked against qualitative and quantitative third-party sources to provide an additional layer of analysis and to identify possible mistakes or inconsistencies within the data. Most of the third-party data sources used to cross-check the Index scores are described in Botero and Ponce (2011).<sup>4</sup>

## Methodological Changes to this Year's Report

Every year, the WJP reviews the methods of data collection to ensure that the information produced is valid, useful, and continues to capture the status of the rule of law in the world. To maintain consistency with previous editions and to facilitate tracking changes over time, this year's questionnaires and data maps are closely aligned with those administered in the past.

In order to improve the accuracy of the QRQ results and reduce respondent burden, proactive dependent interviewing techniques were used to remind respondents who participated in last year's survey of their responses in the previous year.

This year, the WJP modified the calculation of the two third party source variables that make up sub-factor 5.2.1, "Armed conflict." The two variables are "number of battle related deaths" and "number of casualties resulting from one-sided violence," which both come from the Uppsala Conflict Data Program at Uppsala University in Sweden. This change was made to more accurately approximate the number of battle related deaths and casualties

resulting from one-sided violence in each country in a given year due to a specific conflict. In order to determine the changes in factor scores in the country profiles, the new calculation method was applied to both the 2019 and the 2020 scores.

This year, no new questions or indicators were added to the Index. Overall, 100 percent of questions remained the same between the 2019 and 2020 editions of the Index. A description of the variables is available at: [worldjusticeproject.org](http://worldjusticeproject.org).

## Tracking Changes Over Time

This year's report includes two measures to illustrate whether the rule of law in a country, as measured through the factors of the *WJP Rule of Law Index*, changed since the previous year. One measure is the change in factor score, which is included in the country profiles for each factor in each country. The second measure is a measure of statistically significant changes, both positive and negative. This measure is presented in the form of a green or red asterisk and text, and represents a summary of rigorous statistical testing based on the use of bootstrapping procedures (see below). For each factor, this measure has no asterisk and is written in black text if there was no statistically significant change in the score since last year. If there was a change leading to a statistically significant improvement in the score, the change in factor score is written in green text and has a green asterisk. If there was a change leading to a statistically significant decline in the score, the change in factor score is written in red text and has a red asterisk. This measure complements the numerical scores and rankings presented in this report, which benchmark each country's current performance on the factors and sub-factors of the Index against that of other countries. The measure of change over time is constructed in three steps:

1. First, last year's scores are subtracted from this year's to obtain, for each country and each factor, the annual difference in scores.
2. To test whether the annual changes are statistically significant, a bootstrapping procedure is used to estimate standard errors. To calculate these errors, 100 samples of respondent-level observations (of equal size to the original sample) are randomly selected with replacement for each country from the pooled set of respondents for last year and this year. These samples are used to produce a set of 100 country-level scores for each factor and each country, which are utilized to calculate the final standard errors. These errors—which measure the uncertainty associated with picking a particular sample of respondents—are then employed to conduct pair-wise t-tests for each country and each factor.

<sup>4</sup> Botero, J. and Ponce, A. (2011) "Measuring the Rule of Law": WJP Working Paper No.1, available at [worldjusticeproject.org/publications](http://worldjusticeproject.org/publications).

3. Finally, to illustrate the annual change, a measure of change over time is produced based on the value of the annual difference and its statistical significance (at the 10 percent level).

### Strengths and Limitations

The Index methodology has both strengths and limitations. Among its strengths is the inclusion of both expert and household surveys to ensure that the findings reflect the conditions experienced by the population. Another strength is that it approaches the measurement of rule of law from various angles by triangulating information across data sources and types of questions. This approach not only enables accounting for different perspectives on the rule of law, but it also helps to reduce possible bias that might be introduced by any other particular data collection method. Finally, it relies on statistical testing to determine the significance of the changes in the factor scores over the last year.

With the aforementioned methodological strengths come a number of limitations. First, the data sheds light on rule of law dimensions that appear comparatively strong or weak, but are not specific enough to establish causation. Thus, it will be necessary to use the Index in combination with other analytical tools to provide a full picture of causes and possible solutions. Second, in previous editions of the Index, the methodology has only been applied in three major urban areas in each of the indexed countries for the General Population Poll. However, the World Justice Project's goal was to update its methodology to include nationally representative polls. Toward this end, nationally representative polls have been conducted in 63 countries and jurisdictions covered in the *WJP Rule of Law Index 2020*. Nationally representative polls will be conducted in the remaining countries and jurisdictions in future editions of the Index. Third, given the rapid changes to the rule of law occurring in some countries, scores for some countries may be sensitive to the specific points in time when the data was collected. To address this, the WJP is piloting test methods of moving averages to account for short-term fluctuations. Fourth, the QRQ data may be subject to problems in measurement error due to the limited number of experts in some countries, resulting in less precise estimates. To address this, the WJP works constantly to expand its network of in-country academic and practitioner experts who contribute their time and expertise to this endeavor. Finally, due to the limited number of experts in some countries (which implies higher standard errors) and the fact that the GPP is carried out in each country every other year (which implies that for some countries, some variables do not change from one year to another), it is possible that the test described above fails to detect small changes in a country's situation over time.

### Other methodological considerations

A detailed presentation of the methodology, including a table and description of the more than 500 variables used to construct the Index scores, is available at: [worldjusticeproject.org](http://worldjusticeproject.org) and in Botero, J. and Ponce, A. (2011) "Measuring the Rule of Law": WJP Working Paper No.1, available at: [worldjusticeproject.org/publications](http://worldjusticeproject.org/publications).

### Using the WJP Rule of Law Index

The *WJP Rule of Law Index* has been designed to offer a reliable and independent data source for policy makers, businesses, non-governmental organizations (NGOs), and other constituencies to assess a country's adherence to the rule of law as perceived and experienced by the average person, identify a country's strengths and weaknesses in comparison to similarly situated countries, and track changes over time. The Index has been designed to include several features that set it apart from other indices and make it valuable for a large number of countries, thus providing a powerful resource that can inform policy debates both within and across countries. However, the Index's findings must be interpreted in light of certain inherent limitations.

1. The *WJP Rule of Law Index* does not identify priorities for reform and is not intended to establish causation or to ascertain the complex relationship among different rule of law dimensions in various countries.

2. The Index's rankings and scores are the product of a rigorous data collection and aggregation methodology. Nonetheless, as with all measures, they are subject to measurement error.

3. Given the uncertainty associated with picking a particular sample of respondents, standard errors have been calculated using bootstrapping methods to test whether the annual changes in the factor scores are statistically significant.

4. Indices and indicators are subject to potential abuse and misinterpretation. Once released to the public, they can take on a life of their own and be used for purposes unanticipated by their creators. If data is taken out of context, it can lead to unintended or erroneous policy decisions.

5. Rule of law concepts measured by the Index may have different meanings across countries. Users are encouraged to consult the specific definitions of the variables employed in the construction of the Index, which are discussed in greater detail in the methodology section of the *WJP Rule of Law Index* website.

6. The Index is generally intended to be used in combination with other instruments, both quantitative and qualitative. Just as in the areas of health or economics, no single index conveys a full picture of a country's situation. Policy-making in the area of rule of law requires careful consideration of all relevant dimensions—which may vary from country to country—and a combination of sources, instruments, and methods.

7. Pursuant to the sensitivity analysis of the Index data conducted in collaboration with the Econometrics and Applied Statistics Unit of the European Commission's Joint Research Centre, confidence intervals have been calculated for all figures included in the *WJP Rule of Law Index*. These confidence intervals and other relevant considerations regarding measurement error are reported in Saisana and Saltelli (2015) and Botero and Ponce (2011).

The following pages (166-168) list the coverage and polling methodology for the GPP in the 128 indexed countries and jurisdictions.