

The Worldwide Governance Indicators: Methodology and 2024 Update

Daniel Kaufmann* and Aart Kraay**

The World Bank

September 2024

Abstract: This paper provides an overview of the data sources and aggregation methodology for the Worldwide Governance Indicators (WGI). The WGI report six aggregate governance indicators measuring Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption in a sample of 214 economies over the period 1996-2023. The aggregate indicators combine information from 35 different existing data sources, capturing subjective perceptions of the quality of various dimensions of governance reported by experts and survey respondents worldwide. The paper briefly discusses how to use reported margins of error when interpreting cross-country and over-time differences in the aggregate indicators. The paper also updates and extends earlier analysis on three key issues relating to the WGI methodology: (a) the effect of correlated perception errors, (b) the robustness of the aggregate indicators to alternative weighting schemes, and (c) the existence on trends in global averages of governance.

*President Emeritus, Natural Resource Governance Institute, and Senior Fellow at Results for Development and The Brookings Institution; **Chief Economist, Prosperity Practice Group, World Bank akraay@worldbank.org. The data for the Worldwide Governance Indicators are available at www.govindicators.org. A note on self-citation: *This paper draws extensively on our earlier joint work over the past 25 years to design, implement, and assess the WGI methodology. In addition to the 2024 update of the WGI discussed in this paper, the limited new or updated analysis in this paper is clearly indicated as such. The remainder of the paper should be viewed as a summary of our previous work and not original research. A full listing of our earlier working papers and journal articles on the WGI is included in the references of this paper. A verified reproducibility package for this paper is available at <https://reproducibility.worldbank.org>. The views expressed here are the authors' and do not reflect the official views of the World Bank, its Executive Directors, or the countries they represent.*

1. Introduction

This paper provides an overview of the data sources, aggregation methodology, and main findings of the Worldwide Governance Indicators (WGI). The WGI are a long-running data product first published in 1999 (see Kaufmann, Kraay and Zoido-Lobaton (1999) for the first presentation of the methodology and aggregate indicators), with subsequent annual updates. The WGI report data on six aggregate indicators of governance: Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption, covering 214 economies over the period 1996-2023. The aggregate indicators, the underlying individual indicators on which they are based, and extensive documentation of the methodology, are available at www.govindicators.org.

The WGI do not involve new primary data collection on our part as authors of the WGI. Rather, the aggregate indicators are constructed by combining several hundred individual indicators measuring aspects of governance taken from 35 existing data sources that capture perceptions and views of the quality of governance reported by many experts and survey respondents worldwide. The WGI rely on a diverse set of data sources, including several global and regional surveys of households and firms, as well as many expert assessments produced by a range of organizations in the public, private, and NGO sectors, often scored by networks of experts living and working in the countries or regions that they assess. Five WGI data sources are produced by organizations headquartered in developing countries¹, and a further eight WGI data sources are household or firm surveys directly capturing the views of survey respondents in developing as well as advanced economies.

The WGI are based on perceptions data for four reasons: (1) perceptions matter, because households and firms make decisions based on their views and perceptions of the quality of governance; (2) for some dimensions of governance such as corruption that do not leave a “paper trail”, data measuring subjective perceptions of corruption or self-reported experiences with corruption can provide valuable insights; (3) data capturing respondents’ perceptions and views can provide valuable information on the gap between *de jure* rules and their *de facto* implementation; and (4) unlike objective indicators that capture the existence of specific laws, rules and regulations, data capturing survey and expert respondents’ views are not susceptible to “gaming” where policy makers target reforms to narrowly

¹ The Asian Development Bank (based in the Philippines), the African Development Bank (based in Cote d’Ivoire), Afrobarometer (based in Ghana), the Center for Democracy and Development (based in Ghana), and the African Institute for Development Policy (based in Kenya and Malawi).

change specific measures simply because they happen to be included in an aggregate indicator that they wish to influence. Of course, we do not argue that *only* perceptions data are relevant for measuring governance. Rather, as we discuss in more detail in Section 2.2 below, our point is simply that this type of data brings valuable insights that can be used in conjunction with other types of information to measure governance across countries and over time.

The individual indicators from the 35 data sources are assigned to the six dimensions of governance and are combined into six aggregate indicators using a statistical methodology known as an Unobserved Components Model (UCM). The statistical methodology converts the data sources into common units and constructs a weighted average that combines the information in each of the data sources. The methodology also produces margins of error that capture the unavoidable imprecision involved with measuring governance across countries. This imprecision is not unique to the WGI, but rather is likely to be pervasive in any efforts to measure governance and institutional quality across countries. A key attribute of the WGI is that these margins of error are explicitly reported alongside the estimates of governance and should be considered when comparing estimates of governance across countries and over time using the WGI. In contrast, in many other measures of governance and institutional quality, they are left implicit.

The WGI are designed to enable broad cross-country and over-time comparisons of perceptions of governance, reflecting the synthesis of views across many existing data sources, and with due regard for margins of error. At the same time, there is a wealth of information in the individual data sources themselves that can usefully be explored for understanding the factors behind overall patterns summarized in the aggregate indicators. For this reason, the component data of the WGI are readily available through the WGI website, and users are encouraged to consult this data alongside the aggregate indicators. In addition, the WGI are not designed to be a tool to evaluate specific governance reforms in individual economies – for this purpose, the WGI should be supplemented with more granular country-specific data and analysis that can shed light on the likely impacts of specific policy and institutional reforms.

This paper also updates and expands earlier evidence we have provided on three key methodological issues relating to the WGI: (1) the possibility that different data sources have correlated measurement errors, with implications for the weighting scheme and precision of the aggregate indicators; (2) the possibility that the aggregate indicators might change substantially with alternative reasonable weighting schemes, with implications for the robustness of the cross-country and over-time patterns in the six

aggregate indicators; and (3) the possibility of trends in global averages of governance, with implications for the interpretation of the baseline WGI estimates where global means are normalized to zero in every period. Our updated – and in some cases expanded – analysis is consistent with our earlier evidence and supports our previous conclusions that the methodological choices in the baseline WGI estimates are appropriate. Specifically, we do not find clear evidence of correlated perceptions errors across data sources, and we find that an equally weighted (instead of precision weighted) average of the data sources leads to very similar estimates of governance across countries. We also find no evidence of significant trends in global averages of governance as measured by the WGI data sources. This means that the baseline WGI choice of units that normalizes the global mean of governance to be the same in each period is appropriate, and that changes over time in economies’ relative positions on the six aggregate WGI measures broadly correspond to absolute changes as collectively measured by the WGI data sources.

The WGI are widely used for broad cross-country and over-time comparisons of governance in a variety of contexts. They are frequently used in academic and policy research, as evidenced by the over 25,000 citations to the various WGI methodology papers recorded in Google Scholar.² They are used – together with a variety of other indicators – by the United States Millennium Challenge Corporation to determine country eligibility for its aid programs.³ Recognizing that they have predictive power for debt servicing difficulties, the WGI are used by major commercial risk rating agencies as one of many inputs to their models to assess sovereign risk, as well as by the International Monetary Fund as a key indicator of governance in its Debt Sustainability Framework for Market Access Countries.⁴ Fourth, they are used – together with many other indicators – to inform environmental, social and governance (ESG) investment strategies and corporate social responsibility policies by firms in the private sector.⁵

The rest of this paper is organized as follows. Section 2 defines the six governance dimensions, provides an overview of the 35 WGI data sources, and describes how the individual variables from each

² The top five most cited WGI methodology papers (with hyperlinks to their Google Scholar listings) are [Kaufmann, Kraay and Mastruzzi \(2011\)](#), [Kaufmann, Kraay and Mastruzzi \(2009\)](#), [Kaufmann, Kraay and Mastruzzi \(2004\)](#), [Kaufmann, Kraay and Zoido-Lobaton \(1999b\)](#) and [Kaufmann, Kraay and Zoido-Lobaton \(1999a\)](#).

³ For information on MCC eligibility criteria, see <https://www.mcc.gov/who-we-select/scorecards/>.

⁴ For example, for information on the Fitch sovereign rating methodology, click [here](#) and for Moody’s, click [here](#). See also IMF (2021)

⁵ For example, the WGI are included in the World Bank’s [Sovereign ESG Data Portal](#), they are used in the [Morgan Stanley Capital International \(MSCI\) ESG Government Ratings Methodology](#) and the [FTSE-Russell Sustainable Sovereign Risk Methodology](#), and they are used by the Disney Corporation to inform its [Permitted Sourcing Countries policy](#).

of these data sources are assigned to the six governance dimensions. Annex 1 provides an annotated summary of the WGI data sources with links to their methodology and data, and Annex 2 provides a complete listing of the assignment of individual indicators to the six aggregate indicators. Section 3 reviews the aggregation methodology for the WGI, and Annex 3 provides further technical details. Section 4 provides a brief tour of the most recent aggregate indicators, with a particular emphasis on how to use margins of error when comparing governance across countries and over time. Section 5 updates and expands on earlier analysis of three key methodological issues in the WGI, and Section 6 offers brief concluding remarks.

2. Data

In this section of the paper, we first define the six dimensions of governance corresponding to the six aggregate indicators reported in the WGI. We then discuss the data sources themselves, how they are selected, and how the individual indicators from these many data sources are assigned to the six aggregate indicators.

2.1 Six Governance Dimensions

We organize the many individual indicators of governance described below into six governance dimensions, based on a definition of governance as *“the traditions and institutions by which authority in a country is exercised. This includes (a) the process by which governments are selected, monitored, and replaced; (b) the capacity of the government to effectively formulate and implement sound policies; and (c) the respect of citizens and the state for the institutions that govern economic and social interactions among them”*. We consider two governance dimensions in each of these three areas for a total of six dimensions.

(a) The process by which governments are selected, monitored, and replaced

1. Voice and Accountability (VA) – capturing perceptions and views of the extent to which a country's citizens can participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.

2. Political Stability and Absence of Violence/Terrorism (PV) – capturing perceptions and views of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism.

(b) The capacity of the government to effectively formulate and implement sound policies

3. Government Effectiveness (GE) – capturing perceptions and views of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.

4. Regulatory Quality (RQ) – capturing perceptions and views of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.

(c) The respect of citizens and the state for the institutions that govern economic and social interactions among them:

5. Rule of Law (RL) – capturing perceptions and views of the extent to which agents have confidence in and abide by the rules of society, in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.

6. Control of Corruption (CC) – capturing perceptions and views of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.

While these six dimensions are conceptually distinct, this does not imply that they are independent of one another. For example, better accountability mechanisms may lead to less corruption, or a more effective government is more likely to provide a better regulatory environment, or respect for the rule of law leads to fairer processes for selecting and replacing governments. Given these interrelationships, it is not very surprising that our six composite measures of governance corresponding to these six dimensions are strongly positively correlated across economies. We refrain however from combining the dimensions clusters into a single overall composite governance indicator, for conceptual and statistical reasons. Conceptually, the resulting indicator would be extremely broad and difficult to interpret. Statistically, we would face the additional challenge that many of our underlying data sources feed into more than one of the six aggregate indicators. This raises the concern that some of the observed correlation between the six aggregate indicators may simply reflect the fact that they draw on closely related indicators produced by the same organization, rather than true patterns in the underlying dimensions of governance. This in turn complicates the construction of margins of error that would be essential for interpreting cross-country differences and over-time changes in such an overall aggregate indicator of governance. See the discussion in Section 5.1 below for more details on this issue.

2.2 Sources of Governance Data

The 35 WGI data sources used in the 2024 update are summarized in Table 1, with a more detailed description of each data source in Annex 1. The WGI data sources fall into two broad categories: surveys of firms and households, and expert assessments. The former includes several major surveys of firm managers: the World Economic Forum’s Executive Opinion Survey that informs their annual Global Competitiveness Report, the Institute for Management and Development’s Executive Opinion Survey that informs their annual World Competitiveness Report, and the World Bank’s Enterprise Survey Program, which has recently been greatly expanded to achieve near-global coverage on a rotating three-year cycle to inform the World Bank’s new Business Ready report series. The WGI also include data from several regional household survey programs (Afrobarometer, Latinobarometro, Americas Barometer, and European Quality of Governance Survey), as well as one global household survey (the Gallup World Poll). In addition, one of our data sources, the World Justice Project Rule of Law Index, is a hybrid combining findings from an expert assessment with a cross-country household survey with near-global coverage. These firm and household survey data sources are particularly salient because they directly capture survey respondents’ perceptions of the quality of governance in the countries in which they live. In total, household and firm surveys make up 11 of the 35 data sources in the WGI.

The remaining 24 WGI data sources are expert assessments, reflecting the perceptions and views of experts affiliated with a range of NGO, private sector, and government sector organizations. All of them share a broadly similar approach in which experts employed and/or recruited by the organization provide numerical scores of various dimensions of governance, following a standardized methodology and set of definitions developed by the organization producing the data source. In many cases, the experts providing the assessments are based in the country or region they assess. These data sources based on expert assessments have advantages and disadvantages relative to surveys. One advantage is that they lend themselves well to cross-country comparisons, as their methodologies are explicitly designed for this purpose. Expert assessments can also provide more granular technical assessments, for example on the quality of specific types of public institutions, that would be more difficult for a typical household or firm survey respondent to provide and informed view on. Expert assessments also are less likely to be affected by respondent reticence, a concern in household and firm surveys where

respondents may be unwilling to give candid responses to sensitive questions about corruption or other dimensions of governance, particularly in countries where governance is weak.⁶

On the other hand, a shortcoming of expert assessments is that they reflect the views of a narrower set of respondents than household or firm surveys. It also is possible that the ratings provided by one expert assessment to some extent reflect the views of other expert assessments, so that each assessment does not bring completely independent information on the underlying governance concept of interest. To guard against this, we do not use expert assessments that are explicitly based on other existing data sources.⁷ In Section 5.1 we provide further analysis of this issue.

The WGI include 12 expert assessments produced by NGOs. The data provided by these organizations cover a range of specific topics, including press freedoms (Reporters without Borders), political rights and civil liberties (Freedom House), human rights (Human Rights Measurement Initiative), budget transparency (Open Budget Project), and electoral integrity (Africa Electoral Index). A number of these data sources cover a broader range of topics relating to governance, including the Bertelsmann Transformation Index and the Varieties of Democracy Project. The organizations providing the data are geographically diverse, based in Europe (Varieties of Democracy, Reporters with Borders, Bertelsmann Foundation), Africa (Africa Electoral Index and Africa Integrity Indicators), New Zealand (Human Rights Measurement Initiative), in addition to the United States (e.g. Freedom House, Open Budget Project, World Justice Project).

The WGI also include eight data sources provided directly or indirectly by public sector organizations. Most notable among these are four very similar expert assessments of the quality of policies and institutions produced by the African Development Bank (Country Policy and Institutional Assessment), Asian Development Bank (Country Performance Assessment), World Bank (Country Policy and Institutional Assessment), and the International Fund for Agriculture and Development (Rural Sector Performance Assessment). These assessments all cover a similar set of topics relating to policy and institutional performance and are scored by staff of these organizations, often located in the countries they assess, using a structured methodology and clear scoring benchmarks. All four organizations use

⁶ See Kraay and Murrell (2016) for a discussion of respondent reticence and ways to measure it.

⁷ For example, we do not use data from the Transparency International Corruption Perceptions Index because it simply is a compilation of existing data sources, in the same way that the WGI are. In addition, we have over time dropped specific questions and specific data sources from the WGI when their methodologies have changed to rely explicitly on other data sources. This includes selected dimensions of the Heritage Foundation's Index of Economic Freedom, as well as the European Bank for Reconstruction and Development Transition Index.

these assessments to allocate concessional resources across countries.⁸ This category also includes two discontinued data sources, from the European Bank for Reconstruction and Development, and the French international development agency. Finally, two data sources in this category are based on data reported by the US Department of State, on human trafficking (Trafficking in Persons Report) and on human rights violations (as coded by academic researchers in the Cingranelli-Richards Human Rights Data and the Political Terror Scale).

Finally, four WGI data sources come from commercial business information providers. Three of them are long-running data products providing subscription-based quantitative ratings of a broad range of business environment and political risks, produced by the Economist Intelligence Unit (Country Viewswire), Political Risk Services (International Country Risk Guide) and S&P Global (Country Risk Service). The fourth is Crisis24, a specialized security risk firm, which provides quantitative measures of security risks facing business travelers that feeds into the Political Instability and Absence of Violence/Terrorism measure in the WGI. All four organizations rely on a global network of experts who provide scores following a standardized methodology subject to centralized internal review within the organization.

The source data used to construct the WGI is publicly available at www.govindicators.org.⁹ The data are available in their original form as retrieved from the original providers. We also report the data rescaled and reoriented (if necessary) to run from zero to one with higher values corresponding to better governance outcomes, using the minimum and maximum possible scores on each variable to do this rescaling. The rescaled data is comparable within a given data source over time and across countries. However, it is not necessarily comparable across different data sources, because different data sources cover different sets of countries with different underlying distributions of governance. For example, a score of 6 out of 10 might mean something different in a data source that covers only advanced

⁸ In addition, the World Bank and the International Monetary Fund use the Country Policy and Institutional Assessment data as a key indicator in their Low-Income Country Debt Sustainability Framework (LIC-DSF), recognizing that there is a strong empirical relationship between institutional quality and the risk of debt servicing difficulties (see IMF (2017)). In the same vein, the International Monetary Fund uses components of the WGI as key measures of institutional quality in its Debt Sustainability Framework for Market-Access Countries because their analysis shows that the WGI has statistical predictive power for debt servicing difficulties (see IMF (2021)).

⁹ For a small number of data sources that are commercially available by subscription only, we cannot report the individual questions from these sources. Instead, we report averages of questions assigned to each of the six aggregate WGI measures.

economies versus one that covers only developing economies. Our aggregation methodology discussed in Section 3 below addresses these differences.

Finally, we note that some of these data sources may revise their historical data with each new data update. In addition, we have in the past added new data sources with historical data extending to previous years in the WGI. In both cases, we update the historical data in the WGI database and recalculate the historical aggregate WGI measures. For these reasons, each annual update of the WGI supersedes previous vintages of the dataset.¹⁰ Typically, the revisions to the historical data between WGI vintages are very small.

2.3 How the WGI Data Sources Are Selected and Assigned to the Six Aggregate Indicators

The WGI data sources are selected based on several criteria. First, the data sources must provide subjective views or perceptions of relevant dimensions of governance, as the WGI are based exclusively on this type of data. We restrict attention to subjective perceptions data in the WGI for four reasons: (1) perceptions matter, because households and firms make decisions based on their views and perceptions of the quality of governance; (2) for some dimensions of governance such as corruption that do not leave a “paper trail”, data measuring subjective perceptions of corruption or self-reported experiences with corruption can provide valuable insights; (3) data capturing respondents’ perceptions and views can provide essential information on the gap between *de jure* rules and their *de facto* implementation; and (4) unlike objective indicators that capture the existence of specific laws, rules and regulations, data capturing survey and expert respondents’ views are not susceptible to “gaming” where policy makers target reforms to narrowly change specific measures simply because they are included in an aggregate indicator that they wish to influence.

Of course, we do not claim that perceptions data are the *only* relevant type of data for measuring governance. Objective data on the specific laws and regulations “on the books” that shape the regulatory environment also are useful, even though they may differ substantially from their implementation in practice. Similarly, indirect measures based on data patterns such as gaps between spending on infrastructure and infrastructure actually built, or the performance of politically connected firms relative to non-connected firms, or patterns in tax return and procurement data can provide

¹⁰ Previous vintages of the WGI aggregate indicators are available on the WGI website at www.govindicators.org. In addition, we occasionally need to revise the historical source data if we discover an error we have made in processing the data and assigning it to governance clusters. This also contributes to revisions of the historical aggregate WGI measures. All revisions to the historical dataset, as well as the addition or deletion of data sources, is separately described at www.govindicators.org for each annual update of the WGI.

invaluable insights on dimensions of governance.¹¹ Here we note that these types of data may also be thought of as imperfect proxies for the broader concepts of governance that they measure, and therefore also are subject to margins of error. In addition, as a practical matter, such measures of corruption or other dimensions of governance most often are generated only for a specific country at a single point in time, and therefore cannot be included in a regularly updated cross-country dataset like the WGI.

Second, the data source must provide original primary data produced using a credible structured methodology, rather than simply be a compilation of existing data. For example, we do not use the Transparency International Corruption Perceptions Index as a data source for the WGI Control of Corruption Indicator because the Corruption Perceptions Index is itself a compilation of existing data sources and does not involve new data collection. Third, the data sources must cover multiple countries, so that cross-country comparisons are possible. For example, a survey of public officials carried out in just one country can be extremely valuable for diagnosing governance constraints across institutions within a country. However, if this survey is not also carried out with the same questions and methodology in other countries, it cannot be used in the WGI which is designed to inform cross-country comparisons. Fourth and finally, the data sources must be regularly updated – ideally annually – although we do use several data sources that are updated only once every two or every three years, in which case we use the most recently available data until a new update becomes available.¹² This requirement is needed for the data to be able to inform over-time comparisons of the aggregate indicators.

The number of data sources included in the WGI has increased over time. The WGI data for 1996 are based on just 12 data sources, while the data for 2023 are based on 30 data sources (see Table 1). This reflects a sharp increase over the past 25 years in the number of organizations producing original primary data relevant for measuring various dimensions of governance. Over the entire period from 1996 to 2023, a total of 35 data sources have been used in the WGI. The difference between this figure and the 30 data sources used in 2023 reflects the fact that five data sources have been discontinued from the WGI over the years, either because the data source itself no longer is produced

¹¹ See for example Golden and Picci (2005), Best et. al. (2015), Freund et. al. (2017), Chalenard et. al (2023) and Best et. al. (forthcoming). For an overview of different types of governance data and their pros and cons, see Kaufmann and Kraay (2008).

¹² In a few exceptional cases, we have extended this to four years while waiting for a new round of a data source to become available. See www.govindicators.org of a complete description of the mapping of data sources to calendar years in the WGI.

(e.g. the Institutional Profiles Database and the Cingranelli-Richards Human Rights Database), or because the methodology of the data source has changed so that it no longer meets the criteria for inclusion in the WGI (e.g. selected components of the Heritage Foundation Index of Economic Freedom, or the European Bank for Reconstruction and Development Transition Indictors, see footnote 7). We do however continue to use these dropped data sources in the WGI for the years for which they were available and suitable for the WGI (see Table 1).

We assign variables from the 35 data sources described above to each of these six governance dimensions. For example, an assessment of the quality of the bureaucracy would be assigned to Government Effectiveness, a question about confidence in the police or the courts would be assigned to Rule of Law, and a question about the perceived likelihood of having to pay a bribe would be assigned to Control of Corruption. In some cases, a single data source will have multiple questions that can be assigned to the same dimension. In this case, we use the average across all relevant questions from that data source.¹³ Finally, we only assign each question from each data source to only one of the six governance dimensions, selecting the dimension that best matches the content of the question. Annex 2 in this paper provides a complete list of all the questions from each of the data sources assigned to the six aggregate indicators in the most recent year that the source appears in the WGI. As the specific questions available in each data source may vary over time, we also report the full list of questions assigned to each of the six governance dimensions over time at www.govindicators.org.

Naturally, the process of assigning questions to governance dimensions involves some judgment, including on whether the question – or even the data source itself – should be used at all, and if so, to which of the six governance dimensions it should be assigned. The definitions of the six dimensions of governance themselves also involves some judgment, and alternative conceptualizations of governance might lead to a larger or smaller number of dimensions with potentially different structure than what we use in the WGI. We recognize that there is no single outcome for many of these decisions that will be satisfactory to all users of the WGI. For this reason, the WGI website allows users to access the source

¹³ We do this for the following technical reason. As discussed in Section 3 below, the statistical methodology we use to combine the individual indicators from many individual data sources into aggregate indicators is based on the assumption that each data source within a governance cluster bring independent information on the concept of interest. This assumption would be difficult to justify if the list of individual variables entering into one of the governance clusters contains multiple questions from the same data source, that may very well be scored by the same analyst (in the case of expert assessments). To avoid this, we simply average together multiple questions from the same data source and treat them as a single variable when constructing the aggregate indicators. See also Section 5.1 below where we discuss the possibility that measurement error might be correlated across data sources.

data and provides a full reproducibility package, so that interested users can explore alternative organizations of the data that suit their specific purposes.

The WGI data sources cover different sets of economies, and some data sources provide information across many of the six aggregate WGI indicators while others contribute only to one. To get a better sense of the relative importance of the four types of indicators, Table 2 summarizes the number of country-year-source data points in the WGI corresponding to the four types of indicators. The six aggregate indicators over the past 25 years are based on a total of just over 230,000 country-year-source data points. Roughly one-third of these data points, or almost 77,000, come from the four commercial business information providers, which tend to cover the largest sets of countries and more dimensions of governance. Just over one-quarter of the country-year-source data points, or about 62,000, come from data sources produced by NGOs. Finally, surveys and public sector providers account for about 20 percent each of the total number of country-year-source data points or about 45,000 data points each.

3. Constructing Aggregate Governance Indicators

In this section we summarize the methodology used to combine the individual indicators of governance, as organized into six dimensions described in the previous section, into six composite measures of governance. The discussion here closely follows the presentation of the WGI methodology in Kaufmann, Kraay and Zoido-Lobaton (1999), Kaufmann, Kraay and Mastruzzi (2004, 2011), as our basic methodology has not changed since these earlier presentations.

We rely on a statistical method known as an “Unobserved Components Model” (UCM) to construct the aggregate indicators.¹⁴ The basic premise underlying this approach is straightforward. Each individual indicator of governance provides an imperfect signal of the broader concept of governance to which it is assigned. Since this broader concept of governance cannot be measured directly, we have a signal extraction problem: how do we best extract the most informative signal of the underlying concept of governance from the available observed data on individual governance indicators? The UCM provides a solution to this signal extraction problem. It generates estimates of governance that combine the information in the individual indicators into the most precise possible estimate of governance, conditional on a set of assumptions detailed below. Naturally, this estimate will be imperfect, and the

¹⁴ The Unobserved Components Model was introduced in the econometrics literature in Goldberger (1972). It is a special case of a wider class of latent variable models. It also is closely related to the empirical Bayes estimator discussed in Efron and Morris (1972).

UCM also generates margins of error around the estimate of governance that reflect this imperfection. These estimates of governance and the associated margins of error are the core output of the WGI. In the remainder of this section, we spell out the methodology in further detail.

3.1 An Unobserved Components Model for Governance

For each of the six dimensions of governance discussed in Section 2, we assume that the relationship between the observed data and the unobserved level of governance is as follows:

$$(1) \quad y(c, k) = \alpha(k) + \beta(k)(g(c) + \varepsilon(c, k))$$

where $y(c, k)$ represents the observed data for country c on data source k ; $g(c)$ is the unobserved level of governance in country c which we assume has zero mean and unit standard deviation across countries; $\varepsilon(c, k)$ is the measurement error in data source k for country c which we assume has zero mean and variance $\sigma^2(k)$; and $\alpha(k)$ and $\beta(k)$ are source-specific parameters that map the unobserved level of governance in the country into the observed data. To avoid notational clutter, we omit time subscripts, and our notation does not distinguish between the six dimensions of governance. In practice, we estimate the model in Equation (1) separately for each of the six dimensions of governance, in each of the time periods covered by the WGI.

The parameters $\alpha(k)$ and $\beta(k)$ capture differences in the units used by different data sources to measure governance. For example, one data source might measure governance on a six-point scale, while another data source might measure governance on a ten-point scale. More subtly, one data source might adopt the convention of using its entire range of units to measure governance, while another data source might have its scores clustered in a narrower band than its underlying units would in principle allow. The parameters $\alpha(k)$ and $\beta(k)$ capture these explicit and implicit differences in units across data sources.

The error term $\varepsilon(c, k)$ captures two potential sources of measurement error in the observed data. First, each data source may have its own statistical imperfections, ranging from perceptions errors on the part of respondents (in the case of expert assessments) to simply sampling variation (in the case of survey responses). Second, even if a data source had none of this first type of measurement error, it might nevertheless be an imperfect proxy for the broader concept to which we have assigned it in the WGI. For example, questions about perceptions of corruption among elected officials, or corruption among unelected public servants, might both be imperfect proxies for the overall level of corruption in a country, even if each of these proxies were measured well individually. Both types of measurement

error are captured in $\varepsilon(c, k)$, and a greater standard deviation of this error term, $\sigma(k)$, indicates greater measurement error.

The normalization of $g(c)$ to have zero mean and unit standard deviation is simply a choice of units for governance. In Section 5.3 below we discuss the consequences of imposing this assumption in every year and find that it is largely innocuous since there is little evidence of trends over time in the global mean and standard deviation of governance as measured in our data sources. We further assume that $g(c)$ and $\varepsilon(c, k)$ are normally distributed and mutually independent, i.e. $E[g(c)\varepsilon(c, k)] = 0$ for all data sources k and $E[\varepsilon(c, k)\varepsilon(c, k')] = 0$ for all data sources $k \neq k'$. The value of this distributional assumption is that it results in a particularly simple and intuitive analytical solution to the signal extraction problem discussed above. Specifically, this assumption, together with the assumed linear relationship between the observed data and unobserved governance in Equation (1), ensures that $y(c, k)$ and $g(c)$ are jointly normally distributed. This means that we can use the properties of multivariate normal distribution to express the expectation of governance conditional on the $K(c)$ observed data points for country c as:

$$(2) \quad E[g(c)|y(c)] = \sum_{k=1}^{K(c)} w(k) \left(\frac{y(c, k) - \alpha(k)}{\beta(k)} \right)$$

where $y(c) \equiv (y(c, 1), \dots, y(c, K(c)))'$ denotes the $K(c) \times 1$ vector of data sources available for country c (for a formal derivation of this expression, see Annex 3). This conditional mean serves as our estimate of governance for each country. It is simply a weighted average of the rescaled data sources for each country. The rescaling $(y(c, k) - \alpha(k))/\beta(k)$ converts the observed data into common units. The weights assigned to each data source are given by $w(k) = \sigma^{-2}(k)/(1 + \sum_{k'=1}^{K(c)} \sigma^{-2}(k'))$ and are proportional to the inverse of the variance of measurement error (or “precision”) of each data source. This assigns greater weight to data sources that provide a more informative signal of governance, in the sense of having measurement error with lower variance.

A crucial feature of the WGI is that they recognize that there is unavoidable uncertainty around this estimate of governance. This uncertainty can be expressed formally as the standard deviation of unobserved governance conditional on the observed data, which is given by:

$$(3) \quad SD[g(c)|y(c)] = \left(1 + \sum_{k=1}^{K(c)} \sigma^{-2}(k) \right)^{-\frac{1}{2}}$$

This standard deviation is smaller the more precise are the available data sources for a country (i.e. the lower is $\sigma(k)$) and the more data sources are available for a country (i.e. the larger is $K(c)$). For a formal derivation of this expression, see Annex 3.

These standard deviations are essential to the interpretation of the WGI. Rather than focus on a specific number such as the conditional mean in Equation (2), it often is more appropriate to think of our methodology as identifying a statistically likely range of values for the unobserved “true” level of governance in a country. For example, the assumption of normality tells us that there is a 90 percent probability that the true unobserved level of governance conditional on the available data for a country is in a range given by plus or minus 1.64 standard deviations around the estimate of governance in Equation (2). We informally refer to this confidence interval as the “margin of error” around our estimates of governance, and report these prominently alongside the point estimates of governance in the WGI website. See the discussion in Sections 4.1 and 4.2 below for more details on how to interpret these margins of error when comparing estimates of governance across countries and over time. However, this does not mean that the point estimate of governance itself is not of interest -- conditional on the statistical assumptions underlying the UCM, the estimate of governance is the most likely value.

In order to implement the expressions in Equations (2) and (3), we require estimates of the parameters $\alpha(k)$, $\beta(k)$ and $\sigma(k)$. We obtain these differently for two different types of data sources. First, we identify a subset of our data sources that are globally representative, in the sense of covering countries in all regions and at all income levels. For these data sources, we can assume that the distribution of unobserved governance is similar across the different sets of countries that they cover. Given our assumption of joint normality of governance and the error terms, we can estimate the parameters of the UCM by maximum likelihood using the data from these sources. Second, for our data sources that are *not* globally representative, a different approach is required. This is because we cannot assume that the distribution of unobserved governance in a data source that, for example, covers only countries in Africa or in Latin America is the same as the distribution of unobserved governance for the entire world. For these data sources, we instead estimate the parameters of the UCM by treating Equation (1) as a regression equation, replacing unobserved governance $g(c)$ with an estimate of governance $\hat{g}(c)$ based on the representative data sources. This allows us to retrieve the parameters of the UCM for globally non-representative data sources. Finally, we take the parameter estimates for all data sources and construct the expressions in Equations (2) and (3) above. See Appendix 3 for details.

4. Results

In this section, we briefly describe the data from the 2024 update of the WGI, emphasizing how to interpret the units of the governance indicator, as well as how to interpret cross-country and over-time differences in estimates of governance given the associated margins of error. For reasons of space, we focus only on a few graphs and indicators here. Users can visit www.govindicators.org for full access to the aggregate and individual indicators for all countries. In addition, more technically oriented users of the WGI can find the full set of parameter estimates for the UCM, a tool to reproduce the WGI calculations in Excel, and a full reproducibility package at www.govindicators.org.

4.1 Cross Country Comparisons

The WGI aggregate measures are reported in two ways: (a) in their natural underlying standard normal units, ranging from approximately -2.5 to 2.5, and (b) in percentile rank terms ranging from 0 to 100.¹⁵ Figure 1 reports the data in these two ways, for two of the six aggregate indicators, Government Effectiveness and Control of Corruption. In each panel of the graph, countries are ordered in ascending order of their estimates of governance, and the figures plot the percentile rank (on the horizontal axis) against the natural units (on the vertical axis). The point estimate of governance is shown as a solid dot, and the thin vertical lines show the associated 90 percent confidence interval for governance, i.e. the estimate of governance (Equation (2)) plus or minus 1.64 times the standard deviation of governance (Equation (3)). In the WGI data available online, we also report the 90 percent confidence interval in percentile rank terms, i.e. we report the percentile rank (among all country estimates of governance) of the upper and lower bounds of the 90 percent confidence interval for each country. For illustrative purposes, we have labeled a selection of countries equally spaced throughout the distribution of governance scores for both indicators.

The length of the confidence intervals varies across countries, for two reasons: (a) the intervals are smaller for countries where the estimate of governance is based on more data sources, and (b) the intervals are smaller if the data sources for the country are more precise, in the sense of having a smaller estimated variance of measurement error, $\sigma^2(k)$. For many countries, these confidence intervals are substantial. This means that in many cases, pairwise comparisons of governance estimates between

¹⁵ The units of the estimates of governance are those of a standard normal distribution. This means that roughly 99 percent of estimates will fall within the range -2.5 to 2.5. It is however possible to see more extreme values in rare cases. Looking across all six aggregate indicators for all 25 years covered in the WGI, just 77 out of 30,974, or 0.2 percent of observations, fall outside this range.

countries will result in differences that are small relative to the confidence intervals. A useful rule of thumb is that the observed difference in estimates of governance between two countries is not statistically significant if the confidence intervals overlap. For example, comparing Guatemala with Zambia on Government Effectiveness (ge), it is clear from the graph that the 90 percent confidence intervals overlap. This means that although Zambia has a higher estimate of governance than Guatemala, the difference between the two countries should not be considered as statistically significant. In contrast, Mauritius has a much higher estimate of Government Effectiveness (ge) than either Guatemala or Zambia. For these comparisons, 90 percent confidence intervals do not overlap and the difference in estimates of governance can be considered statistically significant.

Looking more systematically across all six aggregate indicators and all years since 1996, 61 percent of all pairwise comparisons of countries within an indicator and year will result in estimates of governance that are significantly different in the sense that the 90 percent confidence intervals do not overlap. There are some differences across indicators and over time. For example, looking across the six aggregate indicators, the share of significant pairwise comparisons ranges from 52 percent (for Political Stability and Absence of Violence/Terrorism) to 70 percent (for Voice and Accountability), in part reflecting the considerably smaller number of data sources that feed into the former versus the latter (23 vs 10, see Annex 3). Looking over time and averaging across all six indicators, the share of significant pairwise comparisons increased from 52 percent in 1996 to 62 percent in 2005, again in part reflecting a steady increase in the number of WGI data sources over this period from 12 to 31 over this period (see Table 1). From 2005 onwards, the share of significant pairwise comparisons has fluctuated between 61 and 65 percent. This indicates that while margins of error are both substantial and important to consider when comparing countries, it also is possible to use the WGI data to identify many significant pairwise differences in estimates of governance across countries.

4.2 Over Time Comparisons

Figure 2 illustrates changes over time in estimates of governance, for Voice and Accountability and Rule of Law over the period 1996-2023. We plot the estimate of governance for 2023 on the vertical axis, and for 1996 on the horizontal axis. Points above (below) the 45-degree line correspond to improvements (declines) in estimates of governance over this period. As with comparisons across countries, considering confidence intervals is important when making comparisons over time. As we discuss in detail in Kaufmann, Kraay and Mastruzzi (2005), the same rule of thumb of considering whether confidence intervals overlap when making comparisons across countries also applies when

making comparisons within countries over time. For those countries where the 1996 and 2023 confidence intervals do not overlap, we color the marker for the country red and show the confidence intervals in 1996 (2023) as horizontal (vertical) thin lines.

For most countries, confidence intervals for the two periods overlap, indicating that the observed changes in estimates of governance between 1996 and 2023 are not statistically significant. However, for some countries, the confidence intervals do not overlap, signaling statistically significant changes. These include cases like improvements in Voice and Accountability in Nigeria and Timor-Leste or declines in Rule of Law in Eritrea and Venezuela.

The frequency of significant over-time changes naturally depends greatly on the time horizon under consideration. For example, looking across all annual changes for all countries in all six indicators over the entire time span covered by the WGI, only 0.2 percent of the one-year changes are statistically significant in the sense of 90 percent confidence intervals in the two periods not overlapping. For five- and ten-year changes, the share of statistically significant changes increases to 3 percent and 7 percent respectively. Looking at the longest possible 27-year change from 1996 to 2023 for all countries across all six aggregate indicators, just 13 percent of changes are statistically significant. The prevalence of significant changes also depends on the standard of significance. For example, if we focus on 68 percent confidence intervals (i.e. the point estimate of governance plus or minus one standard deviation) which may be sufficiently high standard of evidence for many purposes, the share of statistically significant 27-year changes increases to one-third.

4.3 Discussion

A key feature of the cross-country and over-time comparisons discussed above is the importance of considering not just point estimates of governance, but also the ranges of likely values defined by the confidence intervals. These non-trivial confidence intervals reflect the reality that measuring governance is difficult, and that different data sources will come to different conclusions about countries' relative positions on the aspects of governance that they measure. We note that this problem is not a consequence of our use of perceptions data to construct the WGI. Even if we were to rely on a set of objective indicators to construct the aggregate WGI measures, these data sources would also differ in their assessments of governance across countries, again leading to margins of error. Indeed, most indicators of governance or the investment climate, or economic indicators more broadly, are subject to measurement error. A key feature of the WGI is that we transparently disclose this measurement error

in the form of statistically justified confidence intervals. We encourage users to take these into account when comparing governance across countries and over time.

We also note that comparisons of governance across countries and over time will often involve comparing estimates of governance that are based on different sets of underlying data sources. This reflects the reality that not all data sources that feed into the WGI cover all countries, which in turn allows the WGI to rely on many rich data sources with less than global coverage. Comparing estimates of governance for two countries based on differing underlying data sources poses no conceptual problems: for both countries, the conditional mean in Equation (2) is the best possible estimate of governance given the available data for that country, and these estimates can be compared (of course with due regard to margins of error). The same point is true when comparing governance at two points in time for the same country. However, for some purposes users may also wish to consider how comparisons of governance might look based on a common set of data sources, or the extent to which differences in the set of data sources contribute to differences in scores. To enable this further analysis, the WGI website makes all the source data and the weights assigned to different indicators readily available to WGI users at www.govindicators.org.

Finally, we briefly remind the reader that when comparing estimates of governance over time, it is important to bear in mind that the global averages of the indicators have been normalized to zero in every period. This means that changes over time in the WGI estimates of governance capture countries' movements relative to a global average that is assumed to be constant. Whether these relative changes correspond to absolute changes of course depends on whether the global average of governance is constant or not. We take this issue up in Section 5.3 where we show that there is little evidence of trends over time in global averages of governance as measured by the WGI data sources, implying that the relative changes observed in the baseline WGI estimates also correspond to absolute changes.

5. Methodological Issues

In this section we explore in greater depth three potential issues with the WGI source data and aggregate indicators. We first consider the possibility that measurement error may be correlated across data sources, contrary to our baseline assumption in the WGI that each data source brings independent information on the dimension of governance to which it is assigned. This issue is relevant because it has implications for both the margins of error in the WGI as well as the relative weights assigned to different data sources. We then consider the robustness of the WGI to alternative weighting schemes, focusing

on a simple non-parametric alternative that assigns equal weight to different data sources. Finally, we consider the possibility of global trends in governance, which has implications for the interpretation of our baseline estimates of governance that are normalized to have the same global mean in every period. None of these issues are new, and we have addressed them in various ways in earlier methodology papers.¹⁶ This section offers updates, and in some cases extensions, of earlier empirical analysis of these issues. This updated and extended analysis supports our earlier conclusions that none of these three potential issues pose a significant concern for the WGI methodology.

5.1 Correlated Measurement Error

In this subsection, we consider one potential shortcoming of the approach to aggregating indicators in the WGI: the possibility of correlated error terms across component indicators. The basic issue can best be seen with a simple – and extreme – example. Imagine that one data source does its own analysis to arrive at its best estimates of governance across countries, and a second data source simply copies the first data source. In this case, the errors with which the two data sources measure governance will be perfectly correlated, and we would in reality have only one data source, not two. This in turn would eliminate any rationale for combining the two indicators into a composite indicator.

This example clearly is extreme – it seems implausible that two data sources would make perfectly correlated measurement errors in this way. Even if measurement errors are positively (but not perfectly) correlated across indicators, there still is value in combining these measures into a composite indicator that will be more informative about the common component of governance than any of the individual indicators separately – although it will be less informative than if the errors had been uncorrelated. This potential concern about correlated measurement errors is not new. We flagged this potential problem in Kaufmann, Kraay and Zoido-Lobaton (1999), and presented simulations to show how the standard errors associated with estimates of governance would be larger in the presence of such correlation.

¹⁶ For earlier analysis of correlated measurement error, see Kaufmann, Kraay and Zoido-Lobaton (1999), and Kaufmann, Kraay and Mastruzzi (2006). This paper provides updated evidence on patterns of correlations among data sources first presented in our 2006 paper. For earlier analysis of alternative weighting schemes, see Kaufmann, Kraay and Mastruzzi (2006, 2007b). This paper provides new evidence using a different approach to constructing alternative equally weighted aggregate indicators using matched z-scores. For analysis of global trends, see Kaufmann, Kraay and Mastruzzi (2004, with updates in 2005, 2006, 2007a, 2008 and 2009). This paper updates this evidence and provides a new interpretation of trends in the global mean and standard deviation of governance based on the baseline UCM parameter estimates.

In addition, it is possible that differences in the extent to which the measurement error in different data sources are correlated with each other can lead to an inappropriate weighting of indicators in the UCM. Recall that the UCM assigns greater weight to data sources that are more correlated with each other. This makes perfect sense if measurement error is uncorrelated – in this case, two data sources that are highly correlated must be so because they both give more precise estimates of governance, and these data sources should receive more weight. However, this simple logic of the UCM weights breaks down when errors are correlated across data sources. If the observed correlation between two data sources mostly reflects correlated measurement error, then these data sources should receive less – not more – weight.

If it were possible to separately measure the correlation of the error terms in Equation (1) across data sources, this correlation would present no particular difficulties for the UCM – it would simply imply a different pattern of weights across data sources that appropriately discounts data sources with correlated perception errors.¹⁷ Unfortunately, however, empirically assessing the extent of correlated perceptions errors is difficult. The basic problem is simple: since both governance and measurement error are unobserved, we cannot disentangle the observed correlation between two data sources into the component due to the common factor of governance and the component due to correlated measurement error. Instead, to better understand the potential importance of the problem of correlated measurement error, we perform two sets of calculations. In the following subsection, we consider the sensitivity of the WGI estimates to the precision-based weights in the UCM, by comparing our baseline estimates with an alternative method of aggregation that weights data sources equally. In the remainder of this subsection, we update our earlier analysis in Kaufmann, Kraay and Mastruzzi (2006) which provided indirect evidence suggesting that correlated perceptions errors may not be that important.

This earlier analysis began from the premise that correlated perception errors may be more likely among expert assessments from commercial business information providers but are less likely between expert assessments and cross-country firm surveys. This suggests that we can use the correlation between expert assessments and firm surveys to benchmark how much correlation we might expect to see absent correlated perceptions errors. We can then compare this benchmark with the

¹⁷ To see this, see the formal derivation of the UCM in Annex 3. Everything in Equations (11) and (12) except for the very last equality holds true for any covariance matrix of the error terms Σ . Only the final step in each expression relies on the assumption that Σ is diagonal, i.e. that measurement error is uncorrelated across data sources.

observed correlations among expert assessments: if these are substantially higher, this would suggest that correlated perceptions errors may be playing a role.¹⁸ If in addition the source of this correlation among commercial business information providers is that they adjust their estimates from year to year to smooth out previous discrepancies from other commercial providers, this would imply that the correlations among commercial business information providers will increase over time as these discrepancies are reduced (see Kaufmann, Kraay and Mastruzzi (2006) for further details).

To assess whether this holds true in the data, Figure 3 reports summary statistics on two sets of correlations over time. We focus on expert assessments from the four main commercial business information providers in our database: Economist Intelligence Unit, Crisis24, Political Risk Services, and S&P Global, and compare them with two firm surveys (World Economic Forum and World Competitiveness Report Executive Opinion Surveys). We focus on these data sources because they are arguably the most homogenous in the sense that they all provide perception of the quality of governance primarily from a business-oriented viewpoint. For each of the six aggregate WGI measures and for every year since 2005, we compute (a) the pairwise correlation between each of the commercial providers and each of the surveys, and (b) the pairwise correlation between each of the commercial providers.¹⁹ We then average all the correlations within (a) and (b) for each indicator and year and plot them over time. The six panels of Figure 3 report these correlations. The first striking feature of this graph is that for five of the six aggregate WGI measures, the expert assessments from commercial providers are no more correlated among themselves than they are with firm surveys, i.e., the solid line (capturing expert-expert correlations) is very close to the dashed line (capturing expert-survey correlations). The second striking feature of the graph is that there is little evidence that the expert-expert correlations are increasing over time, i.e., the solid line (capturing expert-expert correlations) is quite flat or even slightly declining for across all six indicators. This evidence is inconsistent with the view that expert assessments from commercial providers tend to make correlated perceptions errors and/or try to average out past discrepancies among themselves.²⁰

¹⁸ It is important to note that this is a demanding test – a higher correlation among expert assessments could also be due to the fact that they provide more precise measurement. However, to give the benefit of the doubt to the hypothesis of correlated measurement error, we interpret any difference between expert-expert versus expert-survey correlations as reflecting correlated measurement error.

¹⁹ To ensure the comparability of these two sets of correlations, we calculate pairwise correlations among commercial providers separately in the set of countries covered by each of the surveys.

²⁰ This also relates to our point at the end of Section 2.1 about not constructing a single overall governance indicator out of the six WGI aggregate measures. Within each of the six aggregate indicators, we rely on questions from different data sources, and as we have argued in this section, it seems plausible that measurement errors are

Of course, the evidence presented in this section is suggestive, not conclusive. As discussed above, the distinct roles of correlated perceptions errors versus more precise estimates of governance in driving higher pairwise correlations between data sources cannot be definitively identified from the observed correlation between them. However, the fact that expert assessments from commercial business information providers are no more correlated among themselves than with firm surveys, and the fact that these correlations are not increasing over time, suggest that the phenomenon of correlated perceptions errors may not be all that important for the aggregation methodology of the WGI.

5.2 Alternative Weights

In this subsection, we explore the robustness of the WGI to alternative weighting schemes. In our baseline estimates, each data source is weighted according to its precision, i.e., the weight assigned to each data source is inversely proportional to the variance of measurement error in the source. This approach makes sense given the logic of the UCM – data sources that are more precise should be assigned more weight to reduce the variance of the estimate of governance. However, our estimates of the precision of each data source depend crucially on the assumption that each data source provides independent information on governance. As discussed in the previous subsection, this assumption may be questioned: if some data sources make correlated perceptions errors, the WGI methodology will assign too much weight to these data sources.

As discussed above, the extent of correlated perceptions errors is difficult to conclusively assess empirically. In this subsection, we instead investigate how our baseline estimates of governance in the WGI change if we instead use the natural alternative of assigning equal weights to each data source. This corresponds to a “neutral” assumption that all data sources are equally precise in their estimates of governance. This alternative weighting scheme also has the virtue of simplicity relative to the somewhat more complex UCM approach.

Specifically, we consider a simple alternative non-parametric aggregation methodology. Like the UCM used to generate our baseline estimates, this alternative approach converts data from different

not correlated across sources. However, this would no longer be plausible when constructing an overall aggregate governance indicator out of the six WGI measures. This is because many of our data sources are used across more than one of the six aggregate indicators, raising the possibility that measurement errors in the six aggregate indicators are correlated with each other. This would, in particular, complicate construction of standard errors for the overall aggregate indicator of governance. Because we believe that these margins of error are essential to interpretation of aggregate governance indicators, we refrain from computing a single overall summary governance indicator based on the six WGI measures.

sources into common units, and does so in a way that reflects the fact that different data sources cover different groups of countries with potentially different distributions of governance. However, unlike the UCM, this alternative approach assigns equal weight to all data sources. We do this in four steps:

1. We take our globally representative data sources and standardize each of them to have zero mean and unit standard deviation. This step converts the globally representative data sources into common units (i.e., the units are z-scores). We then compute a simple average of these standardized data sources as a preliminary estimate of governance based on only globally representative data sources.
2. As discussed in Section 3, we cannot treat globally non-representative sources in the same way, because the underlying distribution of governance in the different sets of countries covered by these sources is unlikely to be the same as the distribution across all countries in the world. Instead, we standardize each non-representative data source so that it has the same mean and standard deviation as the preliminary estimate of governance from Step 1 *in the sample of countries covered by each non-representative data source*. This step converts non-representative data sources into the same units as the globally representative data sources, allowing the distribution of governance to be different in the different sets of countries covered by non-representative data sources.
3. We construct a simple average of all the resulting standardized representative and non-representative standardized data sources. This simple averaging approach assigns equal weight to all standardized data sources.
4. To make the units of this alternative indicator comparable with those of the baseline WGI estimates, we rescale the resulting average to have zero mean and unit standard deviation.

The results for this alternative aggregation method are reported in Figure 4, using the most recently available data for 2023. The six panels of the figure correspond to the six dimensions of governance. In each panel, we plot the baseline WGI estimate of governance on the horizontal axis, and the alternative equally weighted estimate on the vertical axis. The correlation between the two measures is very high, ranging from 0.97 (for Rule of Law) to 0.99 (for Political Stability and Absence of Violence/Terrorism). Averaging across all 25 years in the WGI dataset, the average correlations between the two measures remain very high, ranging from 0.98 to 0.99.

We can also use the margins of error associated with the baseline estimates in the WGI to assess the statistical significance of the differences between the baseline and alternative equally weighted

estimates. Specifically, for each aggregate indicator and year, we examine whether the equally weighted alternative estimate falls inside or outside of the 90 percent confidence interval around the baseline WGI estimate. In 2023, the share of countries for which the equally weighted alternative estimate is significantly different from the baseline WGI estimate is below 5 percent for four of the six aggregate WGI measures. For two of the aggregate indicators, the share is somewhat higher: 24 percent for Political Stability and Absence of Violence/Terrorism, and 17 percent for Rule of Law. A similar pattern can be seen averaging across all 25 years in the WGI dataset. For four of the six aggregate indicators, the share of significant differences between the baseline and equally weighted alternative is 3 percent or less, while for Political Stability and Absence of Violence/Terrorism and for Rule of Law, the proportions are slightly higher at 16 and 11 percent respectively.

In summary, the baseline WGI estimates by design assign greater weight to data sources that are more correlated with each other. Conditional on the identifying assumptions of the UCM, this makes sense – data sources that are more correlated have more favorable signal-to-noise ratios and should therefore receive greater weight. It is, however, possible that some of the observed correlation between data sources reflects correlated perceptions errors. In this case, the default WGI methodology would assign “too much” weight to data sources that make these correlated errors. However, the fact that the baseline WGI estimates are not very different from a simple equally weighted alternative suggests that this concern is not very significant.

Of course, the equally weighted version of the WGI discussed in this subsection is just one of infinitely-many possible weighting schemes, and different weighting schemes will naturally lead to different results. For the convenience of WGI users interested in exploring alternative weighting schemes, the WGI website contains a consolidated dataset containing all six aggregate WGI indicators together with all the data from the individual data sources on which the aggregate indicators are based. This dataset can readily be used to construct alternatively weighted versions of the WGI reflecting users’ specific needs and compare them with the baseline WGI estimates and can be downloaded from www.govindicators.org. This includes the extreme decision to assign zero weight to a source by excluding it altogether.

5.3 Trends in Global Averages

In our baseline estimates of the WGI, we assume that the global distribution of governance has zero mean and unit standard deviation in every period. This assumption rules out the possibility of trends in global averages of governance. This also means that we can only interpret countries’ positions

in the WGI as relative to a global average. This assumption is innocuous if the global mean of governance does not change – in this case relative and absolute changes coincide. However, if there are trends in global averages, then it is in principle possible for governance to be improving (or deteriorating) in all countries, yet this will not show up in the WGI aggregate indicators for individual countries, nor in the global averages of the WGI aggregate indicators.

This concern is not new, and was discussed at length in Kaufmann, Kraay and Mastruzzi (2005). In that earlier paper, we looked at trends in global averages of our globally representative data sources and concluded that there was little evidence of significant improvements or declines across the data sources used in the WGI. We updated this informal evidence in several subsequent years, with similar results. From this we concluded that there was little evidence of trends in global averages of governance, and therefore the relative comparisons in the WGI were likely to coincide with absolute comparisons.

In this subsection, we refine and update this earlier analysis on trends in global averages of governance and arrive at a similar conclusion. We show how we can use the estimates of the parameters of our baseline UCM to obtain estimates of trends in global averages of governance in an alternative specification of the UCM that allows for such trends. To see this, begin by adding time subscripts to our basic UCM:

$$(4) \quad y(c, k, t) = \alpha(k, t) + \beta(k, t)(g(k, t) + \varepsilon(c, k, t))$$

In our baseline specification we impose the normalization that $E[g(c, t)] = 0$ and $E[g(c, t)^2] = 1$ in every period t . This assumption forces the global average of governance to be the same in every period (set to zero for convenience). It also means that any trends in global averages in the data for a given source are interpreted as changes in the intercept for that source, i.e. $E[y(c, k, t)] = \alpha(k, t)$. That is, if a data source shows an upward trend in its global average, we interpret this as a change in units of the data source rather than a change in the global average of governance as captured by that source. The same is true for the standard deviation – any trends in the dispersion of observed indicators of governance across countries is interpreted as a change in the scale of the indicator, rather than any changes in the dispersion of the distribution of unobserved governance.

It is, however, straightforward to relax this assumption. A particularly intuitive way of doing so is to replace the assumption that the global mean and standard deviation of governance are constant and the units of the data sources change over time with the converse assumption: the units of the data sources are constant over time but the global mean and standard deviation of governance can change

over time.²¹ To obtain this alternative model, replace the time-varying parameters $\alpha(k, t)$ and $\beta(k, t)$ that determine the units of each data source in our baseline model with their time-invariant counterparts $\alpha(k)$ and $\beta(k)$; and replace unobserved governance $g(c, t)$ with $\tilde{g}(c, t) \equiv \mu(t) + \gamma(t)g(c, t)$, where $\mu(t)$ and $\gamma(t)$ are the time-varying mean and standard deviation of unobserved governance across countries. This results in the following alternative unobserved components model:

$$(5) \quad \begin{aligned} y(c, k, t) &= \alpha(k) + \beta(k)(\mu(t) + \gamma(t)g(c, t) + \varepsilon(c, k, t)) \\ &= \tilde{\alpha}(k, t) + \tilde{\beta}(k, t)(g_{ct} + \varepsilon_{ckt}) \end{aligned}$$

where $\tilde{\alpha}(k, t) \equiv \alpha(k) + \beta(k)\mu(t)$ and $\tilde{\beta}(k, t) \equiv \beta(k)\gamma(t)$. Note that the second equality gives us the exactly the same UCM to estimate as in our baseline model, i.e., with source-specific time-varying intercept and slope parameters $\tilde{\alpha}(k, t)$ and $\tilde{\beta}(k, t)$, although now the time variation in the parameters has the specific interpretation of capturing time variation in the global mean and standard deviation of governance. With this notation, the conditional mean and standard deviation of governance conditional on the data for the country are:

$$(6) \quad \begin{aligned} E[\tilde{g}(c, t)|y(c, t)] &= E[\mu(t) + \gamma(t)g(c, t)|y(c, t)] \\ &= \mu(t) + \gamma(t)E[g(c, t)|y(c, t)] \end{aligned}$$

$$(7) \quad \begin{aligned} SD[\tilde{g}(c, t)|y(c, t)] &= SD[\mu(t) + \gamma(t)g(c, t)|y(c, t)] \\ &= \gamma(t)SD[g(c, t)|y(c, t)] \end{aligned}$$

The expressions $E[g(c, t)|y(c, t)]$ and $SD[g(c, t)|y(c, t)]$ are simply the estimate and standard deviation of governance from our baseline specification in Equations (2) and (3). These are then

²¹ In Kaufmann, Kraay and Mastruzzi (2005) we considered a two-period variant on the UCM in which the global mean of governance could change from one period to the next. However, in that paper our focus was on understanding how to assess the statistical significance of changes over time in estimates of governance when both governance and measurement error might be serially correlated. For an alternative way of allowing the global distribution of governance to evolve over time, see Standaert (2016) for corruption.

adjusted for time variation in the global mean and global standard deviation of governance, $\mu(t)$ and $\gamma(t)$.

We can also easily retrieve estimates of $\mu(t)$ and $\gamma(t)$ from the baseline UCM parameter estimates, as follows. First, we impose the normalization that $\frac{1}{T} \sum_{t=1}^T \mu(t) = 0$ and $\frac{1}{T} \sum_{t=1}^T \gamma(t) = 1$. This is analogous to the period-by-period normalization of the global mean and standard deviation of governance to one in our baseline specification and is necessary to anchor the units of unobserved governance. However, we now impose this normalization on average over the entire time span covered by the data, while leaving the period-by-period mean and standard deviation free to vary over time.

Second, using this normalization we can solve the definitions of $\tilde{\alpha}(k, t)$ and $\tilde{\beta}(k, t)$ to obtain expressions for the time-varying global mean and standard deviation of governance in terms of the time-varying estimated parameters from the baseline UCM, separately for each data source k :

$$(8) \quad \mu(k, t) = \left(\tilde{\alpha}(k, t) - \frac{1}{T} \sum_{t=1}^T \tilde{\alpha}(k, t) \right) / \left(\frac{1}{T} \sum_{t=1}^T \tilde{\beta}(k, t) \right)$$

$$(9) \quad \gamma(k, t) = \tilde{\beta}(k, t) / \left(\frac{1}{T} \sum_{t=1}^T \tilde{\beta}(k, t) \right)$$

These equations give us $k = 1, \dots, K$ expressions for $\mu(k, t)$ and $\gamma(k, t)$ based on the estimated parameters for each data source k . These expressions are very intuitive. For example, in our baseline UCM, $\tilde{\alpha}(k, t)$ is estimated using the cross-country average of the observed data for each globally representative data source k . Equation (8) tells us that the estimate of the global mean of governance based on the data for this source is simply the global mean of the data (relative to its mean across countries and over time, given our choice of units that the combined time-series and cross-sectional mean of governance is zero). This is then adjusted by the time series average of the slope coefficient for this data source, which – as in the baseline UCM – adjusts for differences in the units of each data source. Finally, we can average these expressions across sources to obtain estimates of the time-varying global mean and the global standard deviation of governance.²²

²² It is worth noting that the algorithm described here is not the most efficient (in the statistical sense) method for obtaining estimates of the time-varying global mean and variance of governance. This is because this algorithm does not impose the assumed structure for the time-variation in the intercept and slope for each data source, i.e., $\tilde{\alpha}(k, t) \equiv \alpha(k) + \beta(k)\mu(t)$ and $\tilde{\beta}(k, t) \equiv \beta(k)\gamma(t)$. However, the main virtue of the algorithm described here is

We implement these calculations using the set of globally representative data sources in the WGI, reporting the resulting estimates of the global mean and standard deviation of governance in Figure 5. The six panels of the graph correspond to the six dimensions of governance measured in the WGI. Each panel reports the estimated global mean and standard deviation (on the vertical axis) plotted against time (on the horizontal axis). For ease of visual reference, the graphs also show horizontal lines at zero and at one. Figure 5 shows little evidence of trends over time in the global mean and standard deviation of governance. While the graphs show some small fluctuations from year to year, the overall pattern suggests that our assumption in the baseline UCM estimates of the WGI that the global mean and standard deviation of governance are constant over time is not unreasonable. This in turn means that the changes over time in countries' positions in the WGI relative to the global mean can reasonably also be interpreted as absolute changes.

We conclude this section with one caveat. These estimates of trends in global averages of governance are based on the information in the cross-country averages of the globally representative data sources that feed into the WGI. If some of these underlying data sources themselves measure governance in relative rather than absolute terms, it is possible that that global averages of governance could be changing even though the data sources themselves do not register any changes in their global averages. However, we can conclude that, conditional on the information contained in the underlying data sources, the normalization of the global mean and standard deviation of governance to be the same in every period in the baseline WGI estimates is a reasonable approximation.

6. Conclusions

This paper has provided a summary of the WGI data sources and aggregation methodology as of the time of the 2024 WGI annual update. While the core methodology of the WGI has not changed over the lifetime of the project, the set of underlying data sources continues to expand and evolve as new data become available, and in some cases as data sources cease to exist. The resulting aggregate indicators cover six dimensions of governance for over 200 countries since 1996, synthesizing the wealth of information in the component data that feed into the WGI. The WGI dataset also includes margins of error that clearly indicate the unavoidable imprecision in measures of governance, reflecting differences in views across the multiple data sources on which the WGI are based.

that it creates a very transparent link between the parameter estimates of the baseline UCM and this alternative model, as given in Equations (8) and (9).

The WGI draw exclusively on perceptions data on the quality of governance. Perceptions of governance matter because individuals and firms are likely to act on those perceptions. In addition, for hard-to-measure dimensions of governance such as corruption (which by definition leaves no “paper trail”) there often are few alternatives to relying on perceptions when comparing outcomes across countries. This is not to say that perceptions are the only thing that matters when measuring governance across countries. However, they can provide a valuable “reality check” relative to more objective or factual measures of specifics of the legal, regulatory and institutional environment, particularly in environments when there is likely to be a substantial gap between de jure rules and their de facto implementation.

In this paper we have also updated and expanded our earlier analysis on three key methodological issues relevant to the WGI: the possibility of correlated perceptions errors, the robustness of the WGI to alternative weights, and the possibility of global trends in governance that are not captured by our baseline methodology. Our updated analysis confirms our earlier findings that these issues are not major concerns for the WGI. Admittedly imperfect indirect evidence suggests that correlated measurement error across expert assessments may not be significant. While such correlations might indicate a different weighting scheme, we also find that the baseline WGI estimates do not change very much when compared with an alternative approach that imposes equal weights. Finally, our updated analysis continues not to show any evidence of substantial trends in global averages of governance. This in turn implies that our baseline WGI estimates which are rescaled to have zero mean in every year are informative about both relative and absolute movements in governance over time.

We conclude with a final caveat worth reiterating. While the WGI can be a useful resource for broad cross-country and over-time comparisons of various dimensions of governance, they are not a panacea for measurement – particularly when evaluating specific governance reforms in specific countries. In these cases, the WGI must be supplemented with more granular country-specific data that can shed light on the likely impacts of reforms to improve governance and institutional quality.

Table 1: Data Sources in the Worldwide Governance Indicators

Code	Source	Type*	Country Coverage**	Representative	1996	1998	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
ADB	African Development Bank Country Policy and Institutional Assessments	Expert (GOV)	37							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
AFR	Afrobarometer	Survey	34					x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
ASD	Asian Development Bank Country Performance Assessments	Expert (GOV)	26								x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
BPS	Business Enterprise Environment Survey	Survey	30				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
BTI	Bertelsmann Transformation Index	Expert (NGO)	137					x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
CCR	Freedom House Countries at the Crossroads	Expert (NGO)	69						x	x	x	x	x	x	x	x	x	x	x											
EBR	European Bank for Reconstruction and Development Transition Report	Expert (GOV)	35		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x								
EU	Economist Intelligence Unit Riskwire & Democracy Index	Expert (CBIP)	180	Y	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
EQI	European Quality of Governance Survey	Survey	27													x	x	x	x	x	x	x	x	x	x	x	x	x	x	
FRH	Freedom House	Expert (NGO)	197	Y	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
GCB	Transparency International Global Corruption Barometer Survey	Survey	52							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
GCS	World Economic Forum Global Competitiveness Report Survey	Survey	122	Y	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
GII	Africa Integrity Indicators	Expert (NGO)	54										x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
GWP	Gallup World Poll	Survey	144	Y									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
HER	Heritage Foundation Index of Economic Freedom	Expert (NGO)	177	Y	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
HRM	Human Rights Measurement Initiative	Expert (NGO)	37																				x	x	x	x	x	x	x	
HUM	Cingranelli Richards Human Rights Database and Political Terror Scale	Expert (GOV)	197	Y	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
IFD	IFAD Rural Sector Performance Assessments	Expert (GOV)	66							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
IT	Crisis24 Country Security Assessment Ratings	Expert (CBIP)	205	Y						x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
IPD	Institutional Profiles Database	Expert (GOV)	144	Y								x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
IRP	African Electoral Index	Expert (NGO)	54				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
LBO	Latinobarometro	Survey	17		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
MSI	International Research and Exchanges Board Vibrant Information Barometer	Expert (NGO)	19				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
OBI	International Budget Project Open Budget Index	Expert (NGO)	125								x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
PIA	World Bank Country Policy and Institutional Assessments	Expert (GOV)	74								x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
PRC	Political Economic Risk Consultancy Corruption in Asia Survey	Survey	16		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
PRS	Political Risk Services International Country Risk Guide	Expert (CBIP)	141	Y	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
RSF	Reporters Without Borders Press Freedom Index	Expert (NGO)	178	Y				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
TPR	US State Department Trafficking in Persons Report	Expert (GOV)	182	Y			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
VAB	Vanderbilt University Americas Barometer	Survey	26							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
VDM	Varieties of Democracy Project	Expert (NGO)	176	Y	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
WBS	World Bank Enterprise Surveys	Survey	56																											x
WCY	Institute for Management and Development World Competitiveness Yearbook	Survey	67		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
WJP	World Justice Project Rule of Law Index	Expert (NGO)/Survey	142															x	x	x	x	x	x	x	x	x	x	x	x	
WMO	S&P Global Country Risk Service	Expert (CBIP)	209	Y	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Number of sources over time						12	12	16	19	20	25	28	31	31	31	31	32	33	33	33	33	32	32	31	31	31	31	30	30	30

*Types of Expert Assessments: CBIP -- Commercial Business Information Provider, GOV -- Public Sector Data Provider, NGO -- Nongovernmental Organization Data Provider

**For some data sources this includes countries carried forward from previous years

Note: This table summarizes the coverage of the 35 WGI data sources over time in the aggregate WGI indicators. "Country Coverage" refers to the number of countries in the most recent year available. "Representative" indicates whether the data source is treated as representative in the WGI aggregation methodology. An "x" means that a data source was used in the WGI in the indicated year.

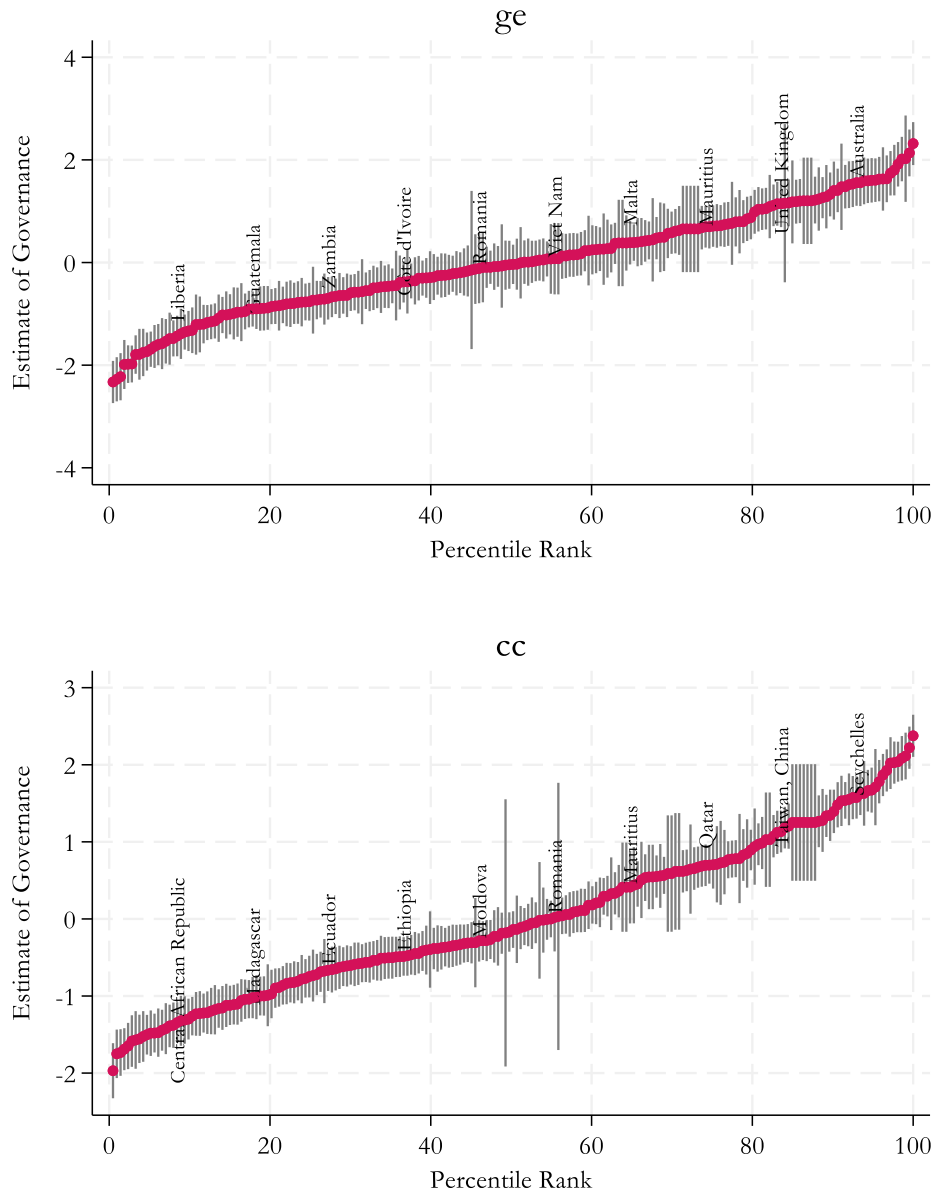
Table 2: Distribution of Types of WGI Data Sources

indicator	survey	gov	cbip	ngo
cc	11214	6592	12521	10837
ge	8865	6588	12521	3434
pv	3569	6592	16374	1700
r1	9347	13284	12521	13821
rq	4899	7125	12521	8600
va	7820	6745	10531	23356
Total	45714	46926	76989	61748

Notes: This table reports the distribution of country-year-source data points across the four types of data source indicated in the columns (survey: household and firm surveys; gov: public sector providers; cbip: commercial business information providers; and ngo: non-governmental organization data providers). The rows correspond to the six aggregate governance indicators. The table reports the total count of country-year observations from all sources within the indicated category of sources.

Figure 1 – Comparing Governance Across Countries

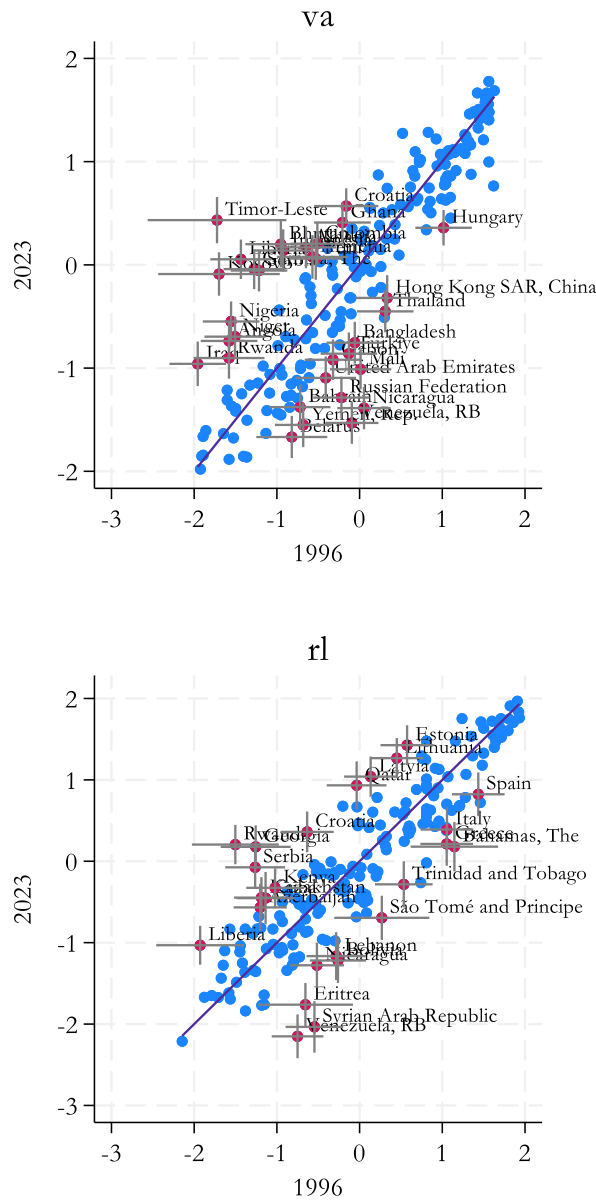
Estimates of Governance, 2023



Notes: This figure shows estimates of governance (red dots) and margins of error (vertical grey lines) for all countries in the WGI. The estimate of governance is shown in percentile rank terms (on the horizontal axis) and in standard normal units (on the vertical axis).

Figure 2 – Comparing Governance Over Time

Changes in Governance 1996-2023

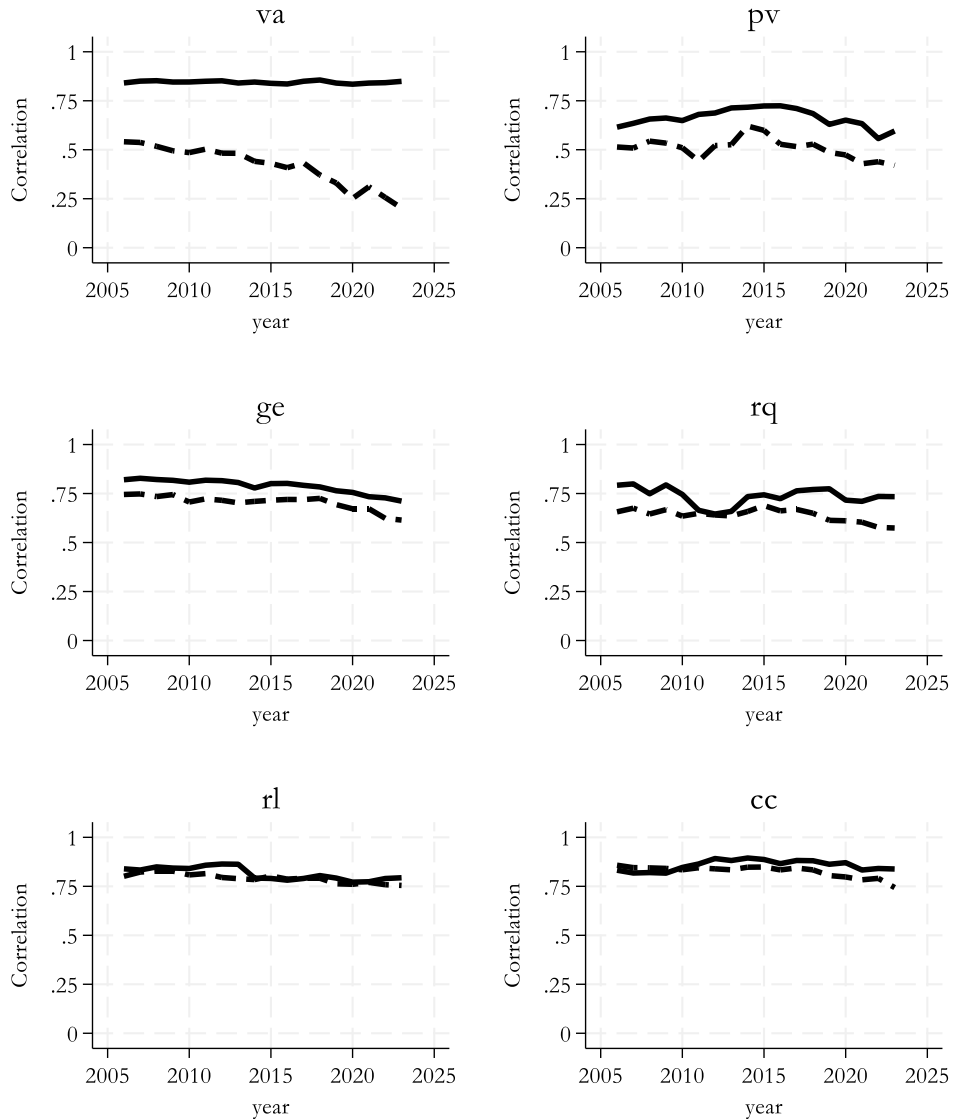


Notes: This figure shows changes in governance between 1996 (on the horizontal axis) and 2023 (on the vertical axis) for two dimensions of governance, Voice and Accountability (va) and Rule of Law (rl). Points above (below) the 45-degree line correspond to increases (decreases) in the estimate of governance. Countries for which the margins of error do not overlap in the two periods are shown in red, with the confidence intervals in the two periods shown as horizontal and vertical lines.

Figure 3 – Trends in Correlations Among Different Types of Governance Indicators

Pairwise Correlations of Data Sources

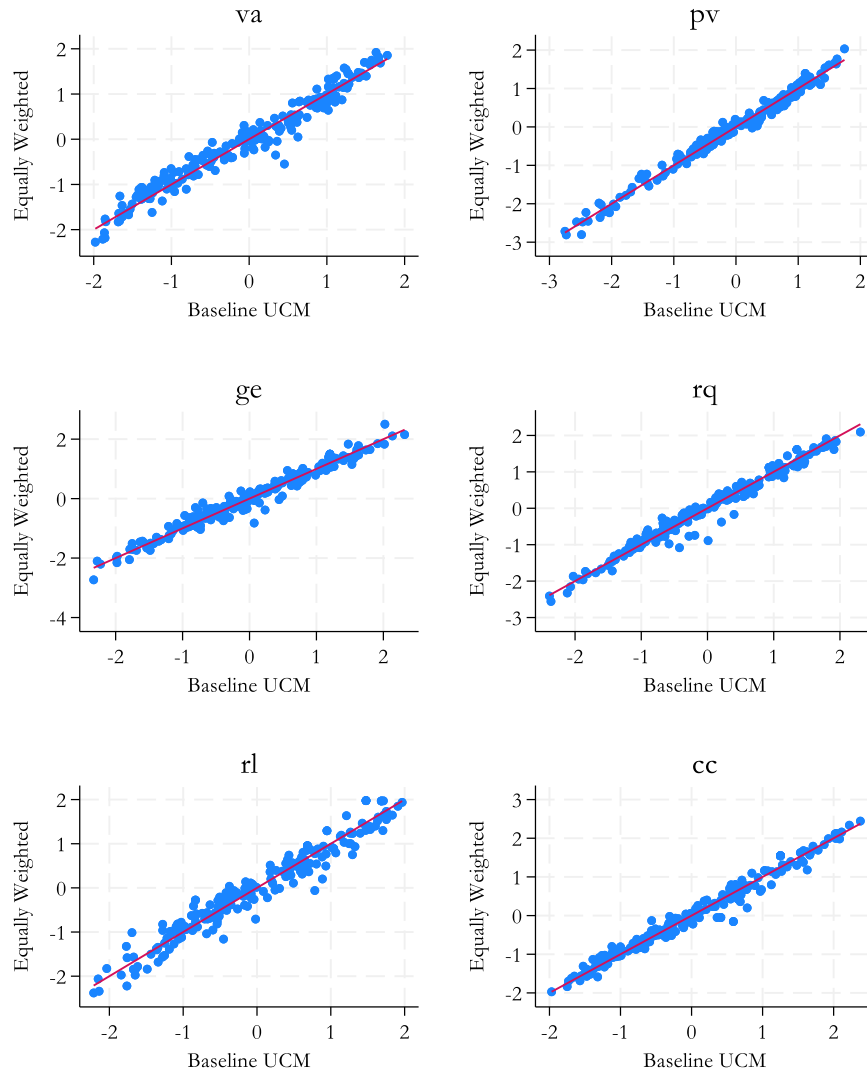
Experts with Experts -- Solid Line
 Experts with Surveys -- Dashed Line



Notes: This figure shows average pairwise correlations among selected expert assessments (WGI data source codes Economist Intelligence Unit Country Viewswire, Political Risk Services International Country Risk Guide, Crisis24 Country Security Assessment Rating, and S&PGlobal Country Risk Service) as solid lines, and average pairwise correlations between these four expert assessments and two surveys (World Economic Forum and Institute for Management and Development Executive Opinion Surveys) as dashed lines (see Table 1 for WGI data source codes). The six panels correspond to the six aggregate WGI indicators.

Figure 4 – Comparison of Baseline WGI with Equally Weighted Alternative Estimates of Governance

Comparison with Equally-Weighted Version
(2023)

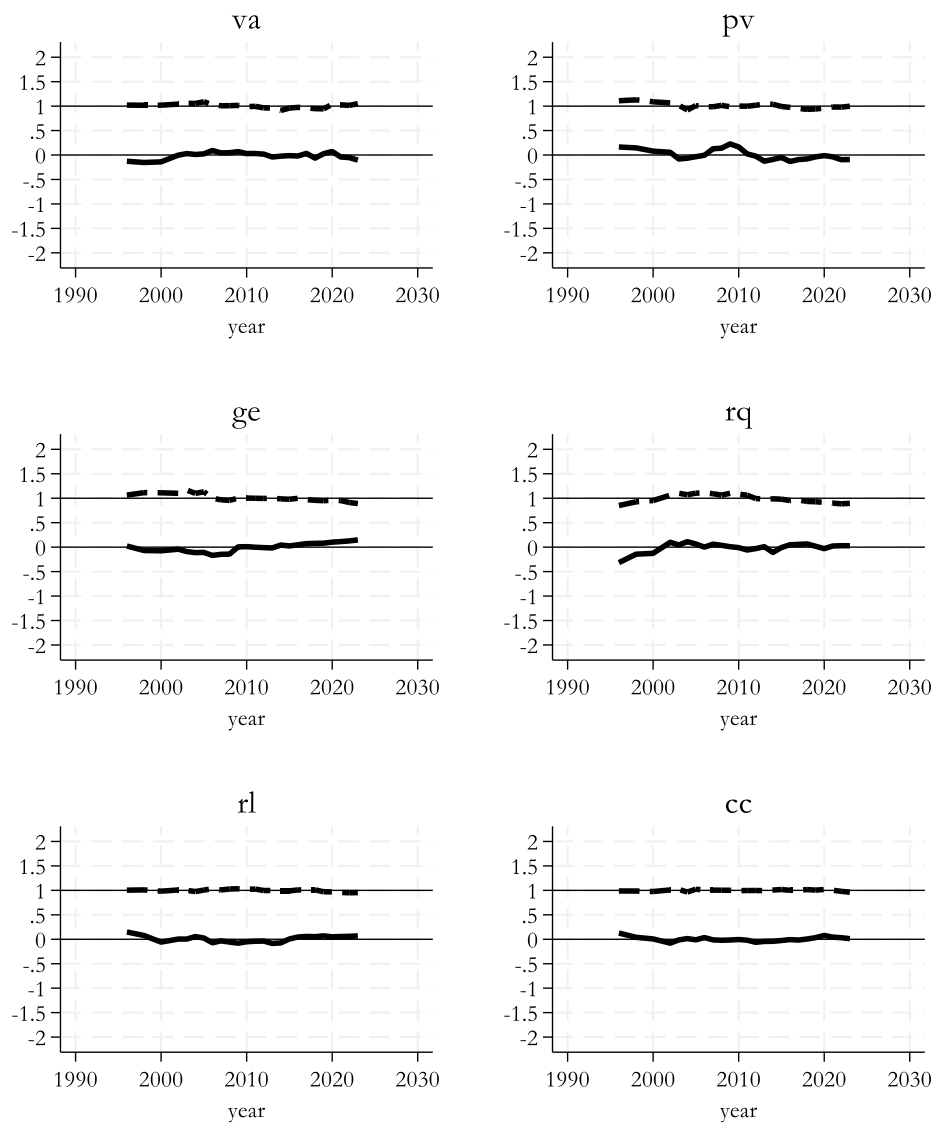


Notes: This figure compares the baseline estimates of the WGI using the Unobserved Components Model (on the horizontal axis) against an alternative equally weighted aggregate indicator (on the vertical axis). The six panels correspond to the six aggregate WGI indicators.

Figure 5 – Estimated Trends in the Global Mean and Standard Deviation of Governance

Global Mean and Std Deviation of Governance

Mean -- Solid Line
Standard Deviation -- Dashed Line



Notes: This figure shows estimates of the global mean (solid line) and global standard deviation (dashed line) of governance, for the six aggregate WGI indicators, using the methodology described in Section 5.3.

Annex 1: Data Sources for the Worldwide Governance Indicators

WGI Code	Organization	Data Source	Country Coverage* (most recent year)	Frequency*	Type**	Methodology and Data Availability
ADB	African Development Bank	Country Performance Assessments	37 African Development Bank client countries eligible for concessional finance.	Every two years; used in WGI since 2004.	Expert/GOV	Expert assessment along 16 dimensions, scored by AfDB country economists subject to centralized review. Questionnaire and process are similar to the World Bank Country Policy and Institutional Assessment (PIA), the IFAD Rural Sector Performance Assessment (IFD) and the Asian Development Bank Country Performance Assessment (ASD). Link to methodology here . Data are publicly available only for countries eligible for concessional finance.
AFR	Afrobarometer	Afrobarometer Surveys	35 African economies in Round 9.	Approximately every 2-3 years; used in WGI since 2002	Survey/HH	Detailed description of survey instruments and sampling methodology are available here . Record-level survey data is publicly available.
ASD	Asian Development Bank	Country Performance Assessment	26 Asian Development Bank client countries.	Every two years; used in WGI since 2005.	Expert/GOV	Expert assessment along 16 dimensions, scored by ADB country economists subject to centralized review. Questionnaire and process are similar to the World Bank Country Policy and Institutional Assessment (PIA), the IFAD Rural Sector Performance Assessment (IFD), and the African Development Bank Country Performance Assessment (ADB). Link to methodology here . Data are publicly available only for countries eligible for concessional finance.
BPS	World Bank and European Bank for Reconstruction and Development	World Bank Business Environment and Enterprise Performance Survey (BEEPS)	30 transition economies in Eastern Europe and Central Asia.	Every three years, used in WGI 2000-2015.	Survey/Firm	Enterprise surveys conducted by the World Bank Enterprise Survey (WBES) unit and cofinanced with the European Bank for Reconstruction and Development. Before 2023, this was the only region for which the WBES produced surveys with sufficient frequency to be included in the WGI. Beginning in 2023 the WBES has global coverage on a three-year rotating cycle and is included as a new data source in the WGI (see source WBS below). Record-level survey data is publicly available through the WBES website. Link to methodology and questionnaires here .
BTI	Bertelsmann Foundation	Bertelsmann Transformation Index	137 countries covering a global sample.	Every two years; used in WGI since 2002.	Expert/NGO	Expert assessment along 47 dimensions scored by country experts recruited by Bertelsmann Foundation. Assessments are subject to centralized review and follow a detailed checklist with scoring criteria . Link to full methodology here .

CCR	Freedom House	Countries at the Crossroads	32 countries, rotating sample.	Annual, used in WGI 2004-2012.	Expert/NGO	Expert assessment scored by Freedom House staff. This report series was discontinued by Freedom House in 2012. Link to methodology and past reports here .
EBR	European Bank for Reconstruction and Development	Transition Report Transition Indicators	35 countries in Eastern Europe and Central Asia.	Annual, used in WGI 1996-2016.	Expert/GOV	Expert assessment of regulatory environment scored by EBRD staff. After 2014, the methodology for this indicator changed so that it was no longer based on primary analysis by EBRD staff but instead became based on existing other data sources, and therefore became ineligible for inclusion in the WGI. The 2014 data was used in WGI for 2015 and 2016 as well while the new EBRD methodology as under development. Description of methodology provided in Transition Report available here .
EIU	Economist Intelligence Unit	Country Viewpoint Operational Risk Service ; Democracy Index	Operational Risk Service: 180 countries covering a global sample. Democracy Index: 164 countries covering a global sample.	Monthly for Operational Risk Service; used in WGI since 1996. Annual for Democracy Index, used in WGI since 2006.	Expert/CBIP	Expert assessment of multiple dimensions of business environment, scored by EIU staff in regional offices subject to centralized review. Data come from the EIU Country Viewpoint Operational Risk Service . Data are commercially available. Averages of questions as assigned to six WGI indicators are publicly available on the WGI website. The Democracy Index is publicly available, methodology is described in accompanying report available here . Data from December of each calendar year is used in the WGI.
EQI	Quality of Governance Institute	European Quality of Governance Index	27 European economies.	Every three years. Used in WGI since 2010.	Survey/HH	Household survey of perceptions of the quality of government. Codebook with survey questions and details of sampling methodology and weights is available here . Record-level survey data is available free of charge.
FRH	Freedom House	Freedom in the World ; Freedom of the Net ; Nations in Transit	Freedom in the World: 197 economies covering a global sample. Freedom of the Net: 70 economies covering a global sample. Nations in Transit: 29 economies.	Annual. Used in WGI since 1996 (Freedom in the World and Nations in Transit) and since 2019 (Freedom of the Net).	Expert/NGO	Freedom in the World : An overview of the Freedom House Freedom in the World methodology is available here . A detailed description of the scoring criteria for the 2024 report is available here . Freedom of the Net : A detailed description of the methodology, including scoring criteria, is available here . Nations in Transit : A detailed description of the methodology, including scoring criteria, is available here . Note: between 1996 and 2017 the WGI also included data from the Freedom House Freedom of the Press which was discontinued in 2017. Data and methodology for this report is available here .
GCB	Transparency International	Global Corruption Barometer	Varies with survey rounds, latest round covering Pacific Islands covered 10 countries.	Every 2-3 years covering regionally rotating sample.	Survey/HH	Household survey of corruption perceptions. Documentation of survey methodology is provided separately for different rounds of the survey here . For a link to the 2017 round methodology, click here .

			Earlier rounds had larger country coverage.	Used in WGI since 2004.		
GCS	World Economic Forum	Global Competitiveness Report Executive Opinion Survey	121 countries covering a global sample.	Annual. Use in WGI since 1996.	Survey/Firm	Survey of business executives. Documentation on the survey methodology is available here . Country-level data is available by request here .
GII	African Institute for Development Policy	Africa Integrity Indicators	54 African economies.	Annual. Used in WGI since 2006.	Expert/NGO	Expert assessment scored by recruited country experts, following a highly detailed questionnaire pairing “in law” and “in practice questions” together with a written justification for each score. Scores are subject to blind peer review before publication. A detailed description of the methodology is available here . Data is publicly available. Note: this data source uses a methodology originally developed by Global Integrity in the mid-2006 and published as the Global Integrity Index between 2006 and 2012. We use the Global Integrity data in the WGI for this period, and the Africa Integrity Indicators beginning in 2013.
GWP	Gallup Organization	Gallup World Poll	137 economies covering a global sample.	Annual. Used in WGI since 2006.	Survey/HH	Household survey. A detailed description of the GWP survey methodology and the full codebook is available here . Data are commercially available. Averages of questions as assigned to six WGI indicators are publicly available on the WGI website.
HER	Heritage Foundation	Index of Economic Freedom	177 economies covering a global sample.	Annual. Used in WGI since 1996.	Expert/NGO	Components of the index used in the WGI are an expert assessment scored by Heritage Foundation staff following a structured methodology subject to centralized review. Description of the methodology is available in the report available here .
HRM	Human Rights Measurement Initiative	Rights Tracker	30 economies.	Annual. Used in WGI since 2017.	Expert/NGO	Expert assessment of multiple dimensions of human rights scored by local experts recruited by HRMI. Selected components are used in the WGI. Data are publicly available here . Complete description of methodology is available here .
HUM	University of North Carolina-Asheville; Binghamton University	Political Terror Scale; CIRI Human Rights Data	Political Terror Scale: 197 economies covering a global sample. CIRI Human Rights Data: 194 economies covering a global sample.	Annual. Used in WGI since 1996. CIRI Human Rights Data was discontinued in 2014 and last used in WGI in 2013.	Expert/NGO	Both data sources are expert assessments scored by coding information in US Department of State Country Reports on Human Rights Practices and Amnesty International Annual Reports . Coding is done by researchers affiliated with the project. A complete description of the methodology is available here for the Political Terror Scale and here for the CIRI Human Rights Data. Because both products draw on the same primary sources they are treated as a single source in the WGI.
IFD	International Fund for	Rural Sector Performance Assessment	66 IFAD client countries.	Every three years. Used in WGI since 2004	Expert/GOV	Expert assessment of quality of institutions and policies relevant for rural development scored by IFAD staff subject to centralized review. Questionnaire and process are similar to

	Agricultural Development					the World Bank Country Policy and Institutional Assessment (PIA) and the African Development Bank and Asian Development Bank Country Performance Assessments (ADB, ASD). Description of methodology available here .
IJT	Crisis24	Country Security Assessment Ratings	205 economies in a globally representative sample.	Annual with real-time updates. Used in WGI since 2004.	Expert/CBIP	Expert assessment of security risks faced by international travelers, scored by Crisis24 staff using a structured methodology subject to central review. More information is available at company website here . Full data is commercially available. WGI use data from December of each calendar year and is reported publicly in the WGI website.
IPD	Agence Francais de Developpement	Institutional Profiles Database	144 economies covering a global sample.	Approximately every three years. Last update was in 2016. Used in WGI between 2006 and 2019.	Expert/GOV	Expert assessment scored by country office staff following a detailed questionnaire subject to centralized review. A complete description of the methodology is available here . Data is publicly available upon request here .
IRP	Ghana Center for Democratic Development	African Electoral Integrity Index	54 economies in Africa.	Every two years. Used in WGI since 2000.	Expert/NGO	Expert assessment measuring various dimensions of electoral integrity. Scored by network of respondents convened by GCDD following a structure methodology subject to centralized review. This data source is commissioned by the Mo Ibrahim Foundation as an input to the Ibrahim Index of African Governance . Data and methodology are publicly available here .
LBO	Latinobarometro	Latinobarometro	17 countries in Latin America.	Every one to three years. Used in WGI since 1996.	Survey/HH	Household survey of households in countries in Latin America conducted by Latinobarometro. Full access to the record-level data, questionnaires, and survey methodology are available here .
MSI	International Research and Exchanges Board	Vibrant Information Barometer	18 countries in Europe and Central Asia	Annual. Used in WGI since 2000.	Expert/NGO	Expert assessment scored by local panels of experts convened by the International Research and Exchanges Board in each country. Scoring follows a structured methodology and is subject to centralized review. Data are publicly available here . Details on the methodology are available in the annual report available here . Note: Between 2000 and 2019, the International Research and Exchanges Board published the Media Sustainability Index, which was substantially revised into the Vibrant Information Barometer in 2020. We use data from the Media Sustainability Index between 2000 and 2019.
OBI	International Budget Partnership	Open Budget Survey	125 countries covering a global sample.	Every two years. Used in WGI since 2005.	Expert/NGO	Expert assessment scored by locally recruited expert respondents with expertise in budget processes. Scoring follows a detailed questionnaire subject to centralized review.

						The data are publicly available here . A description of the methodology is available here .
PIA	World Bank	Country Policy and Institutional Assessment	74 World Bank client countries eligible for concessional finance.	Annual. Used in the WGI since 2005.	Expert/GOV	Expert assessment scored by World Bank country economists following a detailed questionnaire and scoring criteria, subject to centralized review. The CPIA is used to inform the allocation of concessional lending across countries. Questionnaire and process are similar to the IFAD Rural Sector Performance Assessment (IFD) and the African Development Bank and Asian Development Bank Country Performance Assessments (ADB, ASD). CPIA data for countries eligible for concessional finance is available here . A complete description of the methodology and scoring criteria is available here . CPIA data are also produced for client countries not eligible for concessional finance on a three-year rotating cycle. Data for these countries is not publicly disclosed.
PRC	Political and Economic Risk Consultancy	Report on Corruption in Asia	16 Asia-Pacific economies.	Annual. Used in the WGI since 1996.	Survey/Firm	Survey of businesspeople gathering information on perceptions of corruption. Details of the survey methodology are available in the survey report here . Country-level aggregate responses are publicly available here .
PRS	Political Risk Services Group	International Country Risk Guide	141 economies covering a global sample.	Monthly. Used in the WGI since 1996.	Expert/CBIP	Expert assessment scored by staff of Political Risk Services following a structure questionnaire and subject to centralized review. Details on the scoring methodology can be found here . Full dataset is commercially available. Averages of questions as assigned to six WGI indicators are publicly available on the WGI website. Data from December of each calendar year is used in the WGI.
RSF	Reporters Without Borders	Press Freedom Index	178 economies covering a global sample.	Annual. Used in the WGI since 2002.	Expert/NGO	Expert assessment based on responses of journalists to a detailed questionnaire. Details on the survey methodology, including links to the questionnaire, are here . Data is publicly available here .
TPR	United States Department of State	Trafficking in Persons Report	182 economies covering a global sample.	Annual. Used in the WGI since 2000.	Expert/GOV	Expert assessment prepared by State Department staff. Information on the methodology, including scoring criteria for the different tiers, is available here . Data are publicly available in each annual report.
VAB	Center for Global Democracy at Vanderbilt University	Americas Barometer Survey	26 economies in the Americas.	Every two years. Used in the WGI since 2004.	Survey/HH	Household survey covering economies in the Americas. Record-level survey data is freely publicly available here . Full documentation of the methodology, including questionnaires, interviewer guides, and sampling methodology are available here .
VDM	Varieties of Democracy Institute	Varieties of Democracy	176 economies in a globally representative sample.	Annual. Used in the WGI since 1996.	Expert/NGO	Expert assessment scored by academics recruited by the VDEM project following a detailed methodology. Complete description of the codebook, methodology, and aggregation

						procedures is available here . Full access to the data is available here .
WBS	World Bank	World Bank Enterprise Surveys	56 economies from all regions and income groups.	Every three years on a rotating three-year cycle.	Survey/Firm	These surveys are implemented by the World Bank's Enterprise Survey program which has been operating since the early 2000s and has covered over 150 countries, although with irregular frequency. Starting in 2023, the Enterprise Surveys will cover global sample of 180 countries on a rotating three-year cycle. This table entry refers to the first round of this expanded coverage. A complete description of the WBES methodology, including survey questionnaires and sampling methodology, is available here . Full public access to the record-level data is available here . Note that the Business Environment and Enterprise Performance Surveys are also a product of the Enterprise Survey program and treated as a separate source in the WGI between 2000 and 2015, see entry for BPS above.
WJP	World Justice Project	Rule of Law Index	142 economies covering a global sample.	Annual. Used in the WGI since 2011.	Expert/NGO and Survey/HH	The Rule of Law Index is a hybrid of expert assessments and household survey data. The expert assessments are scored by locally recruited subject matter experts following a detailed questionnaire subject to centralized review. The surveys nationally representative household surveys completed for a rotating sample of countries. A complete description of the methodology, including expert and survey questionnaires, is available here . The data are publicly available here .
WCY	Institute for Management Development	World Competitiveness Report Survey	67 economies covering a global sample.	Annual. Used in the WGI since 1996.	Survey/Firm	We use data from the executive opinion survey conducted by the World Competitiveness Report. Full dataset is available by subscription. Averages of questions as assigned to six WGI indicators are publicly available on the WGI website.
WMO	S&P Global	Country Risk Service	209 economies covering a global sample.	Quarterly, with real-time updates.	Expert/CBIP	Expert assessment of multiple dimensions of business and regulatory risks scored by S&P global analysts, often located in the countries they assess. Data are constructed following a structured methodology and detailed scoring criteria subject to centralized review. An overview of the methodology is available here . We use data from the fourth quarter of each calendar year in the WGI.
<p>* Country coverage and frequency refer to data from the most recently available round of the data. In some cases, there will be discrepancies between these figures and those reported in Table 1 which include countries carried forward from previous years. ** Expert/GOV: Expert assessment conducted by public sector organization; Expert/NGO: Expert assessment conducted by non-governmental organization; Expert/CBIP: Expert assessment conducted by a commercial business information provider; Survey/HH: household survey; Survey/Firm: firm survey.</p>						

Annex 2: Assigning Questions to Governance Dimensions

This annex provides summarize how the individual indicators from the WGI data sources are assigned to the six governance dimensions corresponding to the six aggregate WGI indicators in the most recent year in which they appear in the WGI dataset. For most data sources, this is 2023 (the most recent year available in the 2024 WGI update). However, for a few discontinued data sources, the most recent year the source is used is earlier than 2023 (see Table 1). Note that many of the WGI data sources have changed over time, so the description provided here may not apply to all previous years. For a complete description of the assignment of individual indicators to aggregate clusters over time, please visit www.govindicators.org, and consult the source data Excel files available on the documentation page of the WGI website [here](#).

Voice and Accountability: Individual Indicators in 2024 WGI Update

Representative Sources

- EIU** Democracy index
 - Vested interests
 - Accountability of public officials
 - Human rights
 - Freedom of association
- FRH** Political rights (FRW)
 - Civil liberties (FRW)
 - Freedom of the net (FOTN)
- GWP** Confidence in honesty of elections
- IPD** Freedom of elections at national level
 - Are electoral processes flawed?
 - Do the representative institutions (e.g. parliament) operate in accordance with the formal rules in force (e.g. Constitution)?
 - Freedom of the press (freedom of access to information, protection of journalists, etc.)
 - Freedom of association
 - Freedom of assembly, demonstration
 - Respect for the rights and freedoms of minorities (ethnic, religious, linguistic, immigrants...)
 - Is the report produced by the IMF under Article IV published?
 - Reliability of State budget (completeness, credibility, performance...)
 - Reliability of State accounts (completeness, audit, review law...)
 - Reliability of State-owned firms' accounts
 - Reliability of basic economic and financial statistics (e.g. national accounts, price indices, foreign trade, currency and credit, etc.).
 - Reliability of State-owned banks' accounts
 - Is the State economic policy (e.g. budgetary, fiscal, etc.)... communicated?
 - Is the State economic policy (e.g. budgetary, fiscal, etc.)... publicly debated?
 - Degree of transparency in public procurement
 - Freedom to leave the country (i.e. passports, exit visas, etc.)
 - Freedom of entry for foreigners (excluding citizens of countries under agreements on free movement, e.g. Schengen Area, etc.)
 - Freedom of movement for nationals around the world
 - Genuine media pluralism
 - Freedom of access, navigation and publishing on Internet
- PRS** Military in politics
 - Democratic accountability
- RSF** Press freedom index
- VDM** Expanded freedom of expression
 - Freedom of association
 - Clean elections

Non-representative Sources

- AFR** Trust parliament / national assembly
 - Satisfaction with democracy
 - Freeness and fairness of the last national election
- BTI** Political participation (SI)
 - Stability of democratic institutions (SI)
 - Political and social integration (SI)
- CCR** Civil liberties
 - Accountability and public voice
- EQI** Confidence in Parliament
 - Elections are Not Free and Fair
- FRH** Independent media (NIT)
 - Civil society (NIT)
 - Electoral Process (NIT)
- GII** Elections
 - Public management
 - Access to information and openness
 - Rights
- HRM** Right to Opinion and Expression
 - Right to Participate in Government
 - Right to Assembly and Association
- IFD** Policies and framework for rural development and rural poverty alleviation
 - Legal frameworks for and autonomy of rural people's organizations
- IRP** Electoral index
- LBO** Satisfaction with democracy
 - Trust in parliament
- MSI** People have rights to create, share, and consume information; people have adequate access to channels of information; there are appropriate channels for government information; there are diverse channels for information flow; and information channels are independent.
- OBI** Open budget index
- VAB** Trust in parliament
 - Satisfaction with democracy
- WCY** Transparency of government policy is satisfactory
- WJP** Factor 1: Limited government powers
 - Factor 4: Fundamental rights
 - Factor 3: Open government

Political Stability and Absence of Violence/Terrorism: Individual Indicators in 2024 WGI Update

Representative Sources

- EIU** Orderly transfers
Armed conflict
Violent demonstrations
Social unrest
International tensions / terrorist threat
- HUM** Political terror scale
- IJT** Security risk rating
- IPD** Intensity of internal conflicts: ethnic, religious or regional
Intensity of violent activities...of underground political organizations
Intensity of social conflicts (excluding conflicts relating to land)
- PRS** Government stability
Internal conflict
External conflict
Ethnic tensions
- WMO** *Protests and riots.* The risk that the nature and impact of protests and riots (excluding those related to labour) cause damage to assets or injure or detain people, particularly if these disrupt normal movement, business operations, and activity.
Terrorism. The risk that the activities of any non-state armed group or individual cause (or are likely to cause) property damage and/or death/injury through violence. This risk definition includes terrorism, which uses violence (or the threat of) to advance a political cause, and similar tactics used by "for profit" organised crime.
Interstate war. This risk measures resultant impacts (death/property damage) and means, covering the spectrum from targeted military strikes against limited targets to full-scale war with the aim of changing the government and/or occupation.
Civil war. The risk of intra-state military conflict, in the form of an organised insurgency, separatist conflict, or full-blown civil war, in which rebels/insurgents attempt to overthrow the government, achieve independence, or at least heavily influence major government policies.

Non-representative Sources

- HRM** Right to Freedom from Disappearance
Right to Freedom from Extrajudicial Execution
Right to Freedom from Arbitrary Political Arrest
Right to Freedom from Torture and Ill-Treatment
- WBS** Political instability as an obstacle to business
- WCY** The risk of political instability is very low
- WJP** Factor 5.2: Civil conflict is effectively limited

Government Effectiveness: Individual Indicators in 2024 WGI Update

Representative Sources

- EIU** Quality of bureaucracy / institutional effectiveness
Excessive bureaucracy / red tape
- GCS** Quality of road infrastructure
Quality of primary education
- GWP** Satisfaction with public transportation system
Satisfaction with roads and highways
Satisfaction with education system
- IPD** Coverage area: public school
Coverage area: basic health services
Coverage area: drinking water and sanitation
Coverage area: electricity grid
Coverage area: transport infrastructure
Coverage area: maintenance and waste disposal
- PRS** Bureaucratic quality
- WMO** *Infrastructure disruption*. This reflects the likelihood of disruption to and/or inadequacy of infrastructure for transport, including due to terrorism/insurgency, strikes, politically motivated shutdowns, natural disasters; infrastructure includes (as relevant) roads, railways, airports, ports, and customs checkpoints.
- State failure*. The risk the state is unable to exclusively ensure law and order, and the supply of basic goods such as food, water, infrastructure, and energy, or is unable to respond to or manage current or likely future emergencies, including natural disasters and financial or economic crises.
- Policy instability*. The risk the government's broad policy framework shifts over the next year, making the business environment more challenging. This might include more onerous employment or environmental regulation; local content requirements; import/export barriers, tariffs, or quotas; other protectionist measures; price controls or caps; more "political" control of monetary policy, or simply more direct intervention into the operations and decisions of private companies etc

Non-representative Sources

- ADB** Quality of public administration
Quality of budgetary and financial management
Efficiency of revenue mobilization
- AFR** Handling improving basic health services
Handling addressing educational needs
- ASD** Quality of public administration
Efficiency of revenue mobilization
Quality of budgetary & financial management
- BPS** How problematic is electricity for the growth of your business?
How problematic is transportation for the growth of your business?
- BTI** Consensus building (MI)
Steering capability (MI)
Resource efficiency
- EQI** Quality of Education System
Quality of Health Care System
- GII** Civil service integrity
Public management
Business environment & infrastructure
Welfare
Health and education
- IFD** Allocation & management of public resources for rural development
- LBO** Trust in government
- PIA** Quality of public administration
Quality of budgetary and financial management
Efficiency of revenue mobilization
- WBS** Electricity as an obstacle
Transport as an obstacle
Tax administration as an obstacle
- WCY** Adaptability of government policy to changes in the economy is high
Bureaucracy does not hinder business activity
The distribution infrastructure of goods and services is generally efficient

Regulatory Quality: Individual Indicators in 2024 WGI Update

Representative Sources

- EIU** Unfair competitive practices
Price controls
Discriminatory tariffs
Excessive protections
Discriminatory taxes
- GCS** Burden of government regulations
Prevalence of non-tariff barriers
- HER** Investment freedom
Financial freedom
- IPD** Ease of starting a business governed by local law?
Ease of setting up a subsidiary for a foreign firm?
Share of administered prices
Does the State subsidize commodity prices (i.e. food and other essential goods, excluding oil)?
Does the State subsidize the price of petrol at the pumps?
narrow constraints of the market)... related to the administration (red tape etc.)
constraints of the market)... related to the practices of already established competitors
Efficiency of competition regulation in the market sector (excluding financial sector)
- PRS** Investment profile
- WMO** *Regulatory burden.* The risk that normal business operations become more costly due to the regulatory environment. This includes regulatory compliance and bureaucratic inefficiency and/or opacity. Regulatory burdens vary across sectors so scoring should give greater weight to sectors contributing the most to the economy.
Tax inconsistency. Tax inconsistency also captures the risk that fines and penalties will be levied for non-compliance with a tax code that appears disproportionate or manipulated for political ends.

Non-representative Sources

- ADB** Regional integration
Trade policy
Business regulatory environment
- ASD** Trade policy
Business regulatory environment
- BPS** How problematic are labor regulations for the growth of your business?
How problematic are tax regulations for the growth of your business?
How problematic are customs and trade regulations for the growth of your business?
- BTI** Market organization
- EBR** Price liberalization
Trade and foreign exchange system
Competition policy
- IFD** Enabling conditions for rural financial services development
Investment climate for rural businesses
Access to agricultural input and product markets
Trade policy
- PIA** Business regulatory environment
Trade policy
- WBS** Managers dealing with government regulations
Labor regulations as an obstacle
Customs and trade regulations as an obstacle
- WCY** Protectionism does not impair the conduct of your business
Competition legislation is efficient in preventing unfair competition
Capital markets (foreign and domestic) are easily accessible
The legal and regulatory framework encourages the competitiveness of enterprises
Foreign investors are free to acquire control in domestic companies
Public sector contracts are sufficiently open to foreign bidders
Real personal taxes do not discourage people from working or seeking advancement
Labor regulations (hiring/firing practices, minimum wages, etc.) do not hinder business activities
Subsidies do not distort fair competition and economic development
- WJP** Factor 6: Regulatory enforcement

Rule of Law: Individual Indicators in 2024 WGI Update

Representative Sources

EIU	Violent crime Organized crime Fairness of judicial process Enforceability of contracts Speediness of judicial process Confiscation/expropriation Intellectual property rights protection Private property protection
GCS	Business costs of crime and violence Organized crime Judicial independence Efficiency of legal framework in challenging regulations Intellectual property protection Property rights
GWP	Confidence in the police force Confidence in judicial system Have you had money/property stolen from you or another household member? Have you been assaulted or mugged?
IPD	Degree of security of goods and persons Violent activities by criminal organizations (drug trafficking, weapons, prostitution...) Degree of judicial independence vis-à-vis the State Degree of enforcement of court orders Timeliness of judicial decisions Equal treatment of foreigners before the law (compared to nationals) Practical ability of the administration to limit tax evasion Efficiency of the legal means to protect property rights in the event of conflict between private stakeholders? Generally speaking, does the State exercise arbitrary pressure on private property (e.g. red tape...)? Does the State pay compensation equal to the loss in cases of expropriation (by law or fact) when the expropriation concerns land ownership? Does the State pay compensation equal to the loss in cases of expropriation (by law or fact) when the expropriation concerns production means? Degree of observance of contractual terms between national private stakeholders Degree of observance of contractual terms between national and foreign private stakeholders In the past 3 years, has the State withdrawn from contracts without paying the corresponding compensation... vis-à-vis national stakeholders? In the past 3 years, has the State withdrawn from contracts without paying the corresponding compensation... vis-à-vis foreign stakeholders? Respect for intellectual property rights relating to... trade secrets and industrial patents Respect for intellectual property rights relating to... industrial counterfeiting Does the State recognize formally the diversity of land tenure system?
PRS	Law and order
TPR	Trafficking in people
VDM	Liberal component index
WMO	<i>Expropriation.</i> The risk that the state or other sovereign political authority will deprive, expropriate, nationalise, or confiscate the assets of private businesses, whether domestic or foreign. <i>State contract alteration.</i> The risk that a government or state body alters the terms of, cancels outright, or frustrates (usually through delay) contracts it has with private parties without due process. <i>Contract enforcement.</i> The risk that the judicial system will not enforce contractual agreements between private-sector entities, whether domestic or foreign, due to inefficiency, corruption, bias, or an inability to enforce rulings promptly and firmly.
Non-representative Sources	
ADB	Property rights and rule based governance
AFR	How often feared crime in home Trust courts of law Trust police
ASD	Property rights and rule based governance
BPS	How often is following characteristic associated with the court system: Fair and honest? How often is following characteristic associated with the court system: Enforceable? How often is following characteristic associated with the court system: Quick? How problematic is crime for the growth of your business? How problematic is judiciary for the growth of your business?
BTI	Rule of law (separation of powers, independent judiciary, civil rights, prosecution of office abuse)
CCR	Rule of law
EQI	Quality of Police Force
FRH	Judicial framework and independence (NIT)
GII	Rule of law Public management Gender
IFD	Access to land Access to water for agriculture
LBO	Trust in judiciary Trust in police Have you been a victim of crime?
PIA	Property rights and rule based governance
VAB	Trust in supreme court Trust in police Have you been a victim of crime?
WBS	Courts independence Courts as an obstacle Crime as an obstacle Arbitration as a reliable alternative Mediation as a reliable alternative
WCY	Tax evasion is not a threat to your economy Justice is fairly administered Parallel (black-market, unrecorded) economy does not impair economic development Intellectual property rights are adequately enforced
WJP	Factor 5.1: Crime is effectively controlled (order and security) Factor 7: Civil justice Factor 8: Criminal justice

Control of Corruption: Individual Indicators in 2024 WGI Update

Representative Sources

EIU	Corruption among public officials
GCS	Diversion of public funds Irregular payments in exports and imports Irregular payments in public utilities Irregular payments in tax collection Irregular payments in public contracts Irregular payments in judicial decisions
GWP	Is corruption in government widespread?
IPD	Level of "petty" corruption between administration and citizens Level of corruption between administrations and local businesses Level of corruption between administrations and foreign companies
PRS	Corruption
VDM	Corruption index
WMO	<i>Corruption.</i> The risk that individuals/companies will face bribery or other corrupt practices to carry out business, from securing major contracts to being allowed to import/export a small product or obtain everyday paperwork. This threatens a company's ability to operate in a country, or opens it up to legal or regulatory penalties and reputational damage.

Non-representative Sources

ADB	Transparency, accountability, and corruption in public sector
AFR	Corruption: office of the presidency Corruption: judges and magistrates Corruption: government officials
ASD	Transparency, accountability, and corruption in public sector
BPS	How common is it for firms to have to pay irregular additional payments to get things done? Percentage of total annual sales do firms pay in unofficial payments to public officials? How often do firms make extra payments in connection with taxes, customs, and judiciary? How problematic is corruption for the growth of your business?
BTI	Anti-corruption policy
CCR	Anti-corruption and transparency
EQI	Corruption Is Prevalent in Education System Corruption is Prevalent in Health Care System Corruption is Prevalent in Police Force Been Asked For a Bribe in Past 12 Months (% Yes) Paid a Bribe in Past 12 Months (% Yes)
FRH	Corruption (NIT)
GCB	Frequency of household bribery: education Frequency of household bribery: judiciary Frequency of household bribery: medical Frequency of household bribery: police Frequency of household bribery: permit Frequency of household bribery: utilities Frequency of corruption among public institutions: Parliament / legislature Frequency of corruption among public institutions: Legal system / judiciary Frequency of corruption among public institutions: Public officials
GII	Accountability
IFD	Accountability, transparency and corruption in rural areas
PIA	Transparency, accountability and corruption in public sector
PRC	To what extent does corruption exist in a way that detracts from the business environment for foreign companies?
VAB	Perception of politicians to be corrupt -- % of respondents agreeing with statements: more than half & all politicians are corrupt Thinking of the politicians, how many of them do you believe are involved in corruption?
WBS	Bribery incidence Informal payments as a share of revenue Corruption as an obstacle
WCY	Bribery and corruption do not exist
WJP	Factor 2: Absence of corruption

Annex 3: Details on the Unobserved Components Model

This annex provides further technical details on the Unobserved Components Model. We first formally derive the expressions for the estimate of governance and its standard error in Equations (2) and (3). We then discuss in more detail how the parameters of the UCM are estimated.

Deriving the Unobserved Components Model

Let $y(c)$ denote the $K \times 1$ vector with the observed data for country c , and let α , β , and σ^2 denote the $K \times 1$ vectors of parameters with $\alpha(k)$, $\beta(k)$, and $\sigma^2(k)$ as their k^{th} elements. Also let B and Σ denote $K \times K$ diagonal matrices with the elements of β and σ^2 on their diagonals. The linear model for governance in Equation (1) together with the assumptions that $g(c)$ and $\varepsilon(c, k)$ are normally distributed with means zero and standard deviations 1 and $\sigma(k)$ respectively, and are mutually independent, i.e. $E[g(c)\varepsilon(c, k)] = 0$ for all data sources k and $E[\varepsilon(c, k)\varepsilon(c, k')] = 0$ for all data sources $k \neq k'$, implies that the joint distribution of unobserved governance $g(c)$ and the observed data $y(c)$ is:

$$(10) \quad \begin{pmatrix} g(c) \\ y(c) \end{pmatrix} \sim N \left(\begin{pmatrix} 0 \\ \alpha \end{pmatrix}, \begin{pmatrix} 1 & \beta' \\ \beta & B\Sigma B + \beta\beta' \end{pmatrix} \right)$$

The expressions for the “estimate” and “standard error” of governance in Equations (2) and (3) simply come from the application of properties of the multivariate normal distribution. For the estimate of governance, note that:

$$(11) \quad \begin{aligned} E[g(c)|y(c)] &= \beta'(B\Sigma B + \beta\beta')^{-1}(y(c) - \alpha) \\ &= \beta' \left(B^{-1}\Sigma^{-1}B^{-1} - \frac{1}{1 + l'\Sigma^{-1}l} B^{-1}\Sigma^{-1}l'l'\Sigma^{-1}B^{-1} \right) (y(c) - \alpha) \\ &= \left(1 - \frac{l'\Sigma^{-1}l}{1 + l'\Sigma^{-1}l} \right) l'\Sigma^{-1}B^{-1}(y(c) - \alpha) \\ &= \left(\frac{1}{1 + l'\Sigma^{-1}l} \right) l'\Sigma^{-1}B^{-1}(y(c) - \alpha) \\ &= \sum_{k=1}^K \left(\frac{\sigma^{-2}(k)}{1 + \sum_{k'=1}^K \sigma^{-2}(k')} \right) \left(\frac{y(c, k) - \alpha(k)}{\beta(k)} \right) \end{aligned}$$

The first line is the expression for the conditional mean of the multivariate normal distribution. The second line applies the rule for inverting matrices of the form $B\Sigma B + \beta\beta'$. The third line exploits the fact that $\beta' B^{-1} = \iota'$ where ι is a $K \times 1$ vector of ones. The fourth line simplifies the third line, and the last line converts the resulting matrix expression to summation notation, reproducing Equation (2) in the main text.

The derivation for the standard deviation follows similar lines:

$$\begin{aligned}
SD[g(c)|y(c)] &= (1 - \beta'(B\Sigma B + \beta\beta')^{-1}\beta)^{\frac{1}{2}} \\
&= \left(1 - \beta' \left(B^{-1}\Sigma^{-1}B^{-1} - \frac{1}{1 + \iota'\Sigma^{-1}\iota} B^{-1}\Sigma^{-1}\iota\iota'\Sigma^{-1}B^{-1} \right) \beta \right)^{\frac{1}{2}} \\
&= \left(1 - \left(\iota'\Sigma^{-1}\iota - \frac{1}{1 + \iota'\Sigma^{-1}\iota} \iota'\Sigma^{-1}\iota\iota'\Sigma^{-1}\iota \right) \right)^{\frac{1}{2}} \\
(12) \quad &= \left(1 - \left(1 - \frac{\iota'\Sigma^{-1}\iota}{1 + \iota'\Sigma^{-1}\iota}\right) \iota'\Sigma^{-1}\iota \right)^{\frac{1}{2}} \\
&= \left(\frac{1}{1 + \iota'\Sigma^{-1}\iota} \right)^{\frac{1}{2}} \\
&= \left(\frac{1}{1 + \sum_{k=1}^K \sigma^{-2}(k)} \right)^{\frac{1}{2}}
\end{aligned}$$

This reproduces Equation (3) in the main text.

Estimating the Parameters of the Unobserved Components Model

To implement the calculations above, we need estimates of the parameters of the UCM, $\alpha(k)$, $\beta(k)$, and $\sigma^2(k)$. We obtain these estimates in two steps.

In the first step, we restrict attention to a subset of data sources that are globally representative. This is necessary because we first need a group of data sources that cover similar sets of countries, for which it is plausible to assume that the unobserved distribution of governance is the same. For these

data sources, we estimate the parameters of the model by maximum likelihood. Specifically, the contribution of the data for country c to the log-likelihood function is given by:

$$(13) \quad \ln L(\alpha, \beta, \sigma | y(c)) \propto \ln |B\Sigma B + \beta\beta'| + (y(c) - \alpha)'(B\Sigma B + \beta\beta')^{-1}(y(c) - \alpha)$$

Summing across all countries and maximizing with respect to the parameters delivers maximum likelihood estimates of $\alpha(k)$, $\beta(k)$, and $\sigma^2(k)$ for the representative data sources.²³

In the second step, we estimate the parameters for non-representative sources covering subgroups of countries with different geographical or income group coverage using a different approach. This is because we cannot assume that the unobserved distribution of governance has the same mean and standard deviation in these subgroups as in the global sample. To address the problem, in the second step we interpret Equation (1) as a linear regression and substitute unobserved governance $g(c)$ with an estimate of governance based on the representative data sources, $\hat{g}(c) = g(c) + u(c)$ where $u(c)$ represents the measurement error in our estimate of governance based on representative data sources. Because the right-hand-side variable in this regression is measured with error, the slope coefficient will suffer from attenuation bias, i.e. for non-representative data source k , the probability limit of the slope coefficient of a regression of $y(c, k)$ on $\hat{g}(c)$ is $\text{plim}\hat{\beta}(k) = \beta(k) \frac{V[g(c)]}{V[\hat{g}(c)]}$. However, because we know the margin of error of the estimate of governance based on the representative data sources, we can use this to estimate the ratio $\frac{V[g(c)]}{V[\hat{g}(c)]}$ and then use this to adjust the slope coefficient to obtain a consistent estimate $\hat{\hat{\beta}}(k) = \hat{\beta}(k) \frac{V[\hat{g}(c)]}{V[g(c)]}$. Finally, with this adjusted estimate of $\beta(k)$ in hand, we can obtain estimates of $\alpha(k)$ and $\sigma(k)$ as the mean and standard deviation of $y(c, k) - \hat{\hat{\beta}}(k)\hat{g}(c)$.

These two steps give us estimates of the parameters of the UCM for all data sources. We then insert these estimates into Equations (2) and (3) to obtain our final estimates and standard deviations of governance for each country. These estimates by construction have a mean and standard deviation close to zero and one, respectively. For ease of interpretation, as a final step we standardize the indicators and standard errors so that the reported estimates of governance have exactly mean zero and standard deviation of one across countries in every time period.

²³ This is equivalent to maximum likelihood estimation of a principal components model. In fact, we implement the calculations in Stata using the command for estimation of principal components models. Details can be found in the reproducibility package for the WGI available [here](#).

References

- [Andersen, Jorgen Juel, Niels Johannesen and Bob Rijkers \(2022\). "Elite Capture and Foreign Aid". Journal of Political Economy. 130\(2\): 388-425.](#)
- [Best, Michael, Jonas Hjort and David Szakonyi \(forthcoming\). "Individuals and Organizations as Sources of State Effectiveness". American Economic Review.](#)
- [Best, Michael, Anne Brockmeyer, Henrik Jacobsen Kleven, Johannes Spinnewijn, and Mahar Waseem \(2015\). "Production versus Revenue Efficiency with Limited Tax Capacity: Theory and Evidence from Pakistan". Journal of Political Economy. 123\(6\):1311-1355.](#)
- [Chalendar, Cyril, Ana Fernandes, Gael Raballand, and Bob Rijkers \(2023\). "Corruption in Customs". Quarterly Journal of Economics. 138\(1\): 575:636.](#)
- [Efron, Bradley and Carl Morris \(1972\). "Limiting the Risk of Bayes and Empirical Bayes Estimators--Part II: The Empirical Bayes Case". Journal of the American Statistical Association. 67\(337\):130-139.](#)
- [Freund, Caroline, Antonio Nucifora and Bob Rijkers \(2017\). "All in the Family: State Capture in Tunisia". Journal of Development Economics. 124\(1\):41-59.](#)
- [Goldberger, Arthur \(1972\). "Maximum Likelihood Estimation of Regressions Including Unobservable Independent Variables". International Economic Review. 13\(1\):1-15.](#)
- [Golden, Miriam and Lucio Picci \(2005\). "Proposal for a New Measure of Corruption, Illustrated with Italian Data". Economics and Politics. 17\(1\):37-75.](#)
- [International Monetary Fund \(2017\). "Review of the Debt Sustainability Framework for Low-Income Countries".](#)
- [International Monetary Fund \(2021\). "Review of the Debt Sustainability Framework for Market Access Countries".](#)
- [Kaufmann, Daniel, Aart Kraay and Pablo Zoido-Lobaton \(1999a\). "Aggregating Governance Indicators". World Bank Policy Research Working Paper 2195.](#)
- [Kaufmann, Daniel, Aart Kraay and Pablo Zoido-Lobaton \(1999a\). "Governance Matters". World Bank Policy Research Working Paper 2196.](#)
- [Kaufmann, Daniel, Aart Kraay and Pablo Zoido-Lobaton \(2001\). "Governance Matters II: Updated Indicators for 2000-01". World Bank Policy Research Working Paper 2772.](#)
- [Kaufmann, Daniel, Aart Kraay and Massimo Mastruzzi \(2004\). "Governance Matters III: Governance Indicators for 1996, 1998, 2000 and 2002". World Bank Economic Review. 18\(2\):253-287.](#)
- [Kaufmann, Daniel, Aart Kraay and Massimo Mastruzzi \(2005\). "Governance Matters IV: Governance Indicators for 1996-2004". World Bank Policy Research Working Paper No. 3630.](#)

[Kaufmann, Daniel, Aart Kraay and Massimo Mastruzzi \(2006\). "Governance Matters V: Aggregate and Individual Governance Indicators for 1996-2005". World Bank Policy Research Working Paper No. 4012.](#)

[Kaufmann, Daniel, Aart Kraay and Massimo Mastruzzi \(2007a\). "Governance Matters VI: Aggregate and Individual Governance Indicators for 1996-2006". World Bank Policy Research Working Paper No. 4280.](#)

[Kaufmann, Daniel, Aart Kraay and Massimo Mastruzzi \(2007b\). "The Worldwide Governance Indicators: Answering the Critics". World Bank Policy Research Working Paper No. 4149.](#)

[Kaufmann, Daniel, Aart Kraay and Massimo Mastruzzi \(2008\). "Governance Matters VII: Aggregate and Individual Governance Indicators for 1996-2007". World Bank Policy Research Working Paper No. 4654.](#)

[Kaufmann, Daniel and Aart Kraay \(2008\). "Governance Indicators: Where Are We, and Where Should We Be Going?". World Bank Research Observer. 23\(1\):1-30.](#)

[Kaufmann, Daniel, Aart Kraay and Massimo Mastruzzi \(2009\). "Governance Matters VIII: Aggregate and Individual Governance Indicators for 1996-2008". World Bank Policy Research Working Paper No. 4978.](#)

[Kaufmann, Daniel, Aart Kraay and Massimo Mastruzzi \(2011\). "The Worldwide Governance Indicators: Methodology and Analytical Issues". Hague Journal of the Rule of Law. 3:220-246.](#)

[Kraay, Aart and Peter Murrell \(2016\). "Misunderestimating Corruption". The Review of Economics and Statistics. 98\(3\):455-466.](#)

[Standaert, Samuel \(2015\). "Divining the Level of Corruption: A Bayesian State Space Approach". Journal of Comparative Economics 43:782-803.](#)