

Corruption Perceptions Index 2019: Full Source Description

13 data sources were used to construct the Corruption Perceptions Index (CPI) 2019:

1. African Development Bank Country Policy and Institutional Assessment 2018
2. Bertelsmann Stiftung Sustainable Governance Indicators 2018
3. Bertelsmann Stiftung Transformation Index 2020
4. Economist Intelligence Unit Country Risk Service 2019
5. Freedom House Nations in Transit 2018
6. Global Insight Country Risk Ratings 2018
7. IMD World Competitiveness Center World Competitiveness Yearbook Executive Opinion Survey 2019
8. Political and Economic Risk Consultancy Asian Intelligence 2019
9. The PRS Group International Country Risk Guide 2019
10. World Bank Country Policy and Institutional Assessment 2018
11. World Economic Forum Executive Opinion Survey 2019
12. World Justice Project Rule of Law Index Expert Survey 2019
13. Varieties of Democracy (V-Dem) 2019

1. African Development Bank Country Policy and Institutional Assessment 2018

Code: AFDB

Year of publication: 2019

Type of assessment: Expert evaluations

Data provider: African Development Bank

The African Development Bank (AfDB) is a regional multilateral development bank, engaged in promoting the economic development and social progress of countries on the continent.

The AfDB's 2018 Governance Ratings are part of the Country Policy and Institutional Assessment (CPIA), which assesses the quality of a country's institutional framework in terms of how conducive it is to fostering the effective use of development assistance. The current CPIA strives to achieve a maximum level of uniformity and consistency across all regional member countries surveyed. Also, and in order to comply with the Paris and Rome declarations on Aid Effectiveness, Harmonization and Alignment, the AfDB has modified the questionnaire and guidelines for its CPIA to be in line with those of the World Bank and the Asian Development Bank, thus increasing the comparability and synergy among systems.

The CPIA is carried out by a group of country economists with vast experience in policy analysis. The knowledge of these experts is complemented with that of local contacts that provide both quantitative and qualitative insights. Peer discussions are also used to monitor the quality of the findings.

Corruption question(s)

Experts are asked to assess:

Transparency, accountability and corruption in the public sector.

"This criterion assesses the extent to which the executive can be held accountable for its use of funds and the results of its actions by the electorate and by the legislature and judiciary, and the extent to which public employees within the executive are required to account for the use of resources, administrative decisions, and results obtained. Both levels of accountability are enhanced by transparency in decision-making, public audit institutions, access to relevant and timely information, and public and media scrutiny. National and sub-national governments should be appropriately weighted."

Each of three dimensions are rated separately:

- (a) the accountability of the executive to oversight institutions and of public employees for their performance
- (b) access of civil society to information on public affairs
- (c) state capture by narrow vested interests

For the overall rating, these three dimensions receive equal weighting.

The questionnaire can be accessed here: <https://cpia.afdb.org/documents/public/cpia2018-questionnaire-en.pdf>

Scores

The rating scale ranges from 1 (very weak) to 6 (very strong).

Country coverage

54 African countries are covered.

Countries are scored in terms of their performance during the year of the rating vis-à-vis the criteria, which are included in the CPIA Manual for Drafters and updated every year. The CPIA is a three-phase process involving i) the rating of countries by country teams; ii) the review of all ratings by sector experts; and iii) the endorsement of final ratings at open discussions between country teams and reviewers.

Data availability

The data set has been published annually since 2004. The 2019 Governance Ratings were compiled between September and November 2018 and published in April 2019.

The data is publicly available online at <https://cpia.afdb.org/?page=data&subpage=database>.

2. Bertelsmann Stiftung Sustainable Governance Indicators 2018

Code: BF (SGI)

Year of publication: 2018

Type of assessment: Combination of quantitative data and qualitative expert assessments

Data provider: Bertelsmann Stiftung

The Bertelsmann Stiftung (BF) was founded in 1977 as a private foundation. As a think tank they work toward improved education, a just and efficient economic system, a preventative healthcare system, a vibrant civil society and greater international understanding. The BF is independent and nonpartisan. It designs, launches and runs its own projects.

The Sustainable Governance Indicators (SGI) examine governance and policymaking in all OECD and EU member states in order to evaluate each country's need for, and ability to carry out, reform.

The indicators are calculated using quantitative data from international organisations and then supplemented by qualitative assessments from recognised country experts. For each SGI survey, individual countries are evaluated by two (or more) leading experts.

Corruption question(s)

Experts are asked to assess:

Corruption prevention

"D4.4 To what extent are public officeholders prevented from abusing their position for private interests?"

This question addresses how the state and society prevent public servants and politicians from accepting bribes by applying mechanisms to guarantee the integrity of officeholders: auditing of state spending; regulation of party financing; citizen and media access to information; accountability of officeholders (asset declarations, conflict of interest rules, codes of conduct); transparent public procurement systems; effective prosecution of corruption."

Scores

Scores are given from:

- a low of 1, where "Public officeholders can exploit their offices for private gain as they see fit without fear of legal consequences or adverse publicity."
- to a high of 10, where "Legal, political and public integrity mechanisms effectively prevent public officeholders from abusing their positions."

The questionnaire can be accessed here: <http://www.sgi-network.org/2018/Questionnaire>

Country coverage

41 EU and OECD countries.

For each SGI survey, individual countries are evaluated by two (or more) leading experts. The experts' questionnaire work is supported by eight coordinators. The SGI Advisory Board discusses and approves the findings. The SGI Codebook, a detailed questionnaire, provides a clear explanation for each of the questions, so that all experts share a common understanding of the questions (http://www.sgi-network.org/docs/2018/basics/SGI2018_Codebook.pdf).

The quantitative data are compiled centrally by the SGI project team from official, publicly accessible statistics (primarily from OECD sources).

The assessments of the SGI's Expert Network undergo a six-stage peer review within a concise framework. This thorough process is designed to ensure the validity and reliability of expert assessments.

Data availability

First published in 2009, this is now an annual publication. The most recent Sustainable Governance Indicators assess the period beginning November 2016 and ending November 2017.

The Sustainable Governance Indicators 2018 data is publicly available online <http://www.sgi-network.org/2018/Downloads>.

3. Bertelsmann Stiftung Transformation Index 2020

Code: BF (TI)

Year of publication: 2020 (forthcoming)

Type of assessment: Qualitative expert survey

Data provider: Bertelsmann Stiftung

The Bertelsmann Stiftung (BF) was founded in 1977 as a private foundation. As a think tank they work toward improved education, a just and efficient economic system, a preventative healthcare system, a vibrant civil society and greater international understanding. The Bertelsmann Stiftung is independent and nonpartisan. It designs, launches and runs its own projects.

The Transformation Index provides the framework for an exchange of good practice among agents of reform. Within this framework, the Bertelsmann Stiftung Transformation Index (BTI) publishes two rankings, the Status Index and the Management Index, both of which are based on in-depth assessments of 129 countries. The scores are based on detailed country reports which assess 52 questions divided into 17 criteria.

Assessments are provided by two experts per country. Country assessments consist of two sections: the written assessment of the state of transformation and management performance in a country (country report) and the numerical assessment of the state of transformation and management performance (country ratings). Scores are given by a country expert, which are then reviewed blind by a second country expert who also provides a second independent rating of the country. These scores by experts are then verified and discussed by regional coordinators to ensure intra and inter-regional comparability in ratings. In addition, BF has also instituted an extra layer of verification to ensure the scores provided match the qualitative descriptions for each country.

Corruption question(s)

Experts are asked to assess:

“Q3.3 To what extent are public officeholders who abuse their positions prosecuted or penalized?”

Assessments range from:

- a low of 1, where “Officeholders who break the law and engage in corruption can do so without fear of legal consequences or adverse publicity.”
- to a high of 10, where “Officeholders who break the law and engage in corruption are prosecuted rigorously under established laws and always attract adverse publicity.”

“Q15.3 To what extent does the government successfully contain corruption?” Assessments range from:

- from a low of 1, where “The government fails to contain corruption, and there are no integrity mechanisms in place.”
- to a high of 10, where “The government is successful in containing corruption, and all integrity mechanisms are in place and effective.”

Scores

Scores are assigned on a scale of 1-10 with 10 being the lowest level of corruption and 1 being the highest. The score for each country is an average of the two questions. The BTI 2018 (previous edition) codebook is accessible here edition: https://www.bti-project.org/fileadmin/files/BTI/Downloads/Zusaetzliche_Downloads/BTI2018_Codebook.pdf

The BTI is based on a qualitative expert survey in which written assessments are translated into numerical ratings and examined in a multi-stage review process so as to make them comparable both within and across regions. The process of country assessment has both a qualitative and quantitative component, in each case performed by two country experts. As a rule, one foreign and one local expert are involved in the evaluation process; this ensures that both external and internal perspectives are taken into account in the course of assessment and helps counteract subjective influence. In total, 248 experts from leading research institutions around the world contribute to the production of the country reports.

In order to ensure the validity, reliability and comparability of the assessment, each individual score undergoes a multi-step process of review by the country experts, the regional coordinators, the project team and the BTI board. The scores and responses provided by the experts for each of the 49 indicators

are initially reviewed by regional coordinators, who examine the content to ensure it is both complete and consistent.

Country scores pass through an intra-regional review stage followed by an inter-regional review and ratings aggregation.

Country coverage

137 countries and territories are scored.

Data availability

The BTI was first published in 2003, and has been published every two years since then. The data for the CPI 2019 was kindly provided by the Bertelsmann Stiftung ahead of the publication of the BTI 2020 report, which will be launched in the first half of 2020.

4. Economist Intelligence Unit Country Risk Service 2019

Code: EIU

Year of publication: 2019

Type of assessment: Risk evaluations based on qualitative and quantitative indicators

Data provider: Economist Intelligence Unit

The Economist Intelligence Unit (EIU) was established in 1946 as the research body for The Economist newspaper. Since then, it has grown into a global research and advisory firm that produces business intelligence for policy makers worldwide. 650 full-time and contributing analysts work in and on over 200 countries/territories.

Country Risk Ratings are designed to provide in-depth and timely analysis of the risks of financial exposure in more than 140 countries.

The EIU relies on teams of experts based primarily in London (but also in New York, Hong Kong, Beijing and Shanghai) who are supported by a global network of in-country specialists. Each country analyst covers a maximum of two or three countries/territories. The economic and political reports produced by EIU analysts are subjected to a rigorous review process before publication.

Corruption question(s)

Specific guiding questions include:

- Are there clear procedures and accountability governing the allocation and use of public funds?
- Are public funds misappropriated by ministers/public officials for private or party political purposes?
- Are there special funds for which there is no accountability?
- Are there general abuses of public resources?
- Is there a professional civil service or are large numbers of officials directly appointed by the government?
- Is there an independent body auditing the management of public finances?
- Is there an independent judiciary with the power to try ministers/public officials for abuses?
- Is there a tradition of a payment of bribes to secure contracts and gain favours?

Scores

Scores are given as integers on a scale from 0 (very low incidence of corruption) to 4 (very high incidence of corruption).

The score is a generalised composite measure of corruption that includes an assessment of all areas covered by the indicative questions.

Country coverage

131 countries/territories were scored in 2019.

Data availability

Country risk assessments have been produced by the EIU since the early 1980s. Updated summaries are provided monthly for 100 countries and quarterly for the rest. The CPI draws on risk rating data available as of October 2019.

Data is available to subscribers of EIU Country Risk Service. <http://www.eiu.com>

5. Freedom House Nations in Transit 2018

Code: FH

Year of publication: 2018

Type of assessment: Qualitative expert assessment

Data provider: Freedom House

Founded in 1941, Freedom House is an independent watchdog organisation that supports the expansion of freedom around the world. Freedom House supports democratic change, monitors freedom and advocates for democracy and human rights.

The Nations in Transit (NIT) measures democratisation in 29 nations and administrative areas throughout Central Europe and the Newly Independent States (NIS). The reports focus on democratic progress and setbacks. Each report focuses on the following thematic areas: national democratic governance; electoral process; civil society; independent media; local democratic governance; judicial framework and independence; and corruption.

The NIT surveys were produced by Freedom House staff and consultants. The latter were recommended by relevant authorities and are regional or country specialists. A range of sources were used in compiling the report, including: multilateral lending institutions; non-governmental organisations; and other international organisations; local newspapers and magazines; and select government data.

Corruption question(s)

The Freedom House experts are asked to explore a range of indicative questions, including:

- Has the government implemented effective anti-corruption initiatives?
- Is the country's economy free of excessive state involvement?
- Is the government free from excessive bureaucratic regulations, registration requirements, and other controls that increase opportunities for corruption?
- Are there significant limitations on the participation of government officials in economic life?
- Are there adequate laws requiring financial disclosure and disallowing conflict of interest?
- Does the government advertise jobs and contracts?
- Does the state enforce an effective legislative or administrative process—particularly one that is free of prejudice against one's political opponents—to prevent, investigate, and prosecute the corruption of government officials and civil servants?
- Do whistleblowers, anti-corruption activists, investigators, and journalists enjoy legal protections that make them feel secure about reporting cases of bribery and corruption?
- Are allegations of corruption given wide and extensive airing in the media?
- Does the public display a high intolerance for official corruption?

Scores

Ratings run from 1 (lowest level of corruption) to 7 (highest level of corruption) and allow for half-point and quarter-point intermediate scores (e.g. 3.25).

The score is a generalised composite measure of corruption that includes an assessment of all areas covered by the indicative questions.

For all 29 countries in NIT, Freedom House—in consultation with the report authors, a panel of academic advisers, and a group of regional expert reviewers—has provided numerical ratings in the seven categories listed above. The ratings are based on a scale of 1 to 7, with 1 representing the highest and 7 the lowest level of democratic progress.

Authors of individual country reports suggest preliminary ratings in all seven categories covered by the study, ensuring that substantial evidence is provided where a score change is proposed. Each draft report is then sent to several regional expert reviewers, who provide comment on both the score change and the quality of its justification in the report's text. Over the course of a two-day meeting, Freedom House's academic advisory board discusses and evaluates all ratings. Report authors are given the opportunity to dispute any revised rating that differs from the original by more than 0.50 points.

More information can be found here: <https://freedomhouse.org/report/nations-transit-methodology>

Country coverage

29 countries/territories were ranked in 2018.

Data availability

The report has been published annually since 2003.

The 2017 NIT data coverage is from 1 January through 31 December 2017.

The data is publicly available online at: <https://freedomhouse.org/report/nations-transit/nations-transit-2018>

6. Global Insights Business Conditions and Risk Indicators 2018

Code: GI

Year of publication: 2018

Type of assessment: Commercial business expert assessment

Data provider: IHS Global Insight Global Risk Service

Founded in 1959, IHS Global Insight is a global information company employing more than 5,100 people in more than 30 countries around the world. It provides a wide range of online services covering macroeconomics, country risk and individual sector analysis.

The Global Insight Country Risk Rating System has been in operation since 1999 and provides a six-factor analysis of the risk environment in over 200 countries/territories. The six factors are political, economic, legal, tax operational and security risk. The corruption risk score used in the CPI is drawn from Global Insight Business Conditions and Risk Indicators.

The assessments are made by over 100 in-house country specialists, who also draw on the expert opinions of in-country freelancers, clients and other contacts. The ratings reflect IHS Global Insights expert perceptions of the comparative level of the problem in each country/territory. The ratings assess the broad range of corruption, from petty bribe-paying to higher-level political corruption and the scores assigned to each country are based on a qualitative assessment of corruption in each country/territory.

Corruption question(s)

Experts are asked to assess:

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.

Scores

The ratings range from a minimum of 1.0 (maximum corruption) to 5.0 (minimum corruption) and allow for half-point intermediate scores (e.g. 3.5).

Country coverage

204 countries/territories worldwide are scored.

Scores provided by country analysts are reviewed and benchmarked by IHS Global Insight's risk specialists at both the regional and global level.

Data availability

The Country Risk Rating System has been available since 1999 and is continuously maintained.

The data for CPI 2019 from IHS Global Insight was accessed through the World Bank World Governance Indicators portal, as IHS Global Insight stopped providing data to Transparency International in 2015. The data used for the CPI can be accessed through:

<http://info.worldbank.org/governance/wgi/Home/Documents#wgiDataSources>

Detailed data is also available to customers of IHS' Country Intelligence:

<http://www.ihs.com/products/global-insight/country-analysis/>

7. IMD World Competitiveness Yearbook 2019

Code: IMD

Year of publication: 2018

Type of assessment: Executive opinion survey

Data provider: IMD World Competitiveness Center

IMD is a top-ranked business school with expertise in developing global leaders through high-impact executive education. 100 per cent focused on real-world executive development, offering Swiss excellence with a global perspective, IMD has a flexible, customized and effective approach.

IMD (www.imd.org) is ranked first in open programs worldwide (Financial Times 2012 & 2013) and first in executive education outside the US (Financial Times 2008 - 2013).

The World Competitiveness Yearbook (WCY) measures the competitiveness of nations and, in doing so, both ranks and examines how a nation's socio-political and economic climate affects corporate competitiveness. The study uses 333 criteria in order to obtain a multifaceted image of the competitiveness of nations, which IMD defines as: "a field of economic knowledge, which analyses the facts and policies that shape the ability of a nation to create and maintain an environment that sustains more value creation for its enterprises and more prosperity for its people."

The WCY largely includes hard data but also a survey of senior business leaders who, together, reflect a cross-section of a nation's corporate community. IMD calls upon local and foreign enterprises operating in a given economy, and surveys both nationals and expatriates, so as to add an international perspective on local environments. In 2019, more than 6,000 business executives responded. The IMD World Competitiveness Centre works in collaboration with 54 partner institutes around the world to assure the validity and relevance of data.

<https://www.imd.org/wcc/research-methodology/>

Corruption question

Survey respondents were asked:

"Bribery and corruption: Exist or do not exist".

Scores

Answers are given on a 1 to 6 scale which is then converted to a 0 to 10 scale where 0 is the highest level of perceived corruption and 10 is the lowest.

https://www.imd.org/uupload/imd.website/wcc/Survey_Explanation.pdf

Country coverage

63 countries/territories around the world were scored in 2019.

Data availability

The IMD WCY has been published annually since 1989.

The data was collected from February to April 2019.

Data is available to customers of IMD WCY, package of online services.

<https://worldcompetitiveness.imd.org/>

8. Political and Economic Risk Consultancy 2019

Code: PERC

Year of publication: 2019

Type of assessment: Executive opinion survey

Data provider: Political and Economic Risk Consultancy

The Political and Economic Risk Consultancy (PERC) is a consulting firm specialising in strategic business information and analysis for companies doing business in the countries of East and Southeast Asia. As part of its services, PERC produces a range of risk reports on Asian countries, paying special attention to critical socio-political variables like corruption, intellectual property rights and risks, labour quality, and other systemic strengths and weakness of individual Asian countries/territories.

PERC publishes fortnightly newsletters, which are available to subscribers, on a number of issues. The data is collected via an executive opinion survey of local and expatriate businesspeople.

All responses were either collected in face-to-face interviews or in response to emails directed to specific people obtained from different national business chambers, conferences and personal name lists. All respondents provided scores and comments only for the country in which they are currently residing. Respondents for each country include local business executives who are nationals of the countries, academics and expatriate executives.

Corruption question(s)

“How do you grade the problem of corruption in the country in which you are working?”

Scores

Answers to the question were scaled from 0 (not a problem) to 10 (a serious problem).

Country coverage

15 Asia Pacific countries/territories plus the United States were surveyed in 2019.

The same questions and survey methodology were employed in each country surveyed. The results are based 1,745 responses to the survey with at least 100 per country except for Cambodia, which relied on only 39 responses this year.

Data availability

The survey dates back over 20 years and is conducted annually.

The data used for the CPI 2019 was gathered in a survey carried out between December 2018 and March 2019 and published in March 2019.

The data is available to subscribers under <http://www.asiarisk.com/subscribe/exsum1.pdf>

9. The PRS Group International Country Risk Guide 2019

Code: PRS

Year of publication: 2019

Type of assessment: Risk assessment

Data provider: PRS Group

Based in the vicinity of Syracuse, New York, since its founding in 1979, the PRS Group has consistently focused on political risk analysis.

On a monthly basis since 1980, their International Country Risk Guide (ICRG) has produced political, economic and financial risk ratings for countries/territories important to international business. The ICRG now monitors 140 countries/territories. ICRG ratings form the basis of an early warning system for opportunities and pitfalls, country-by-country.

ICRG staff collect political information and convert it to risk points on the basis of a consistent pattern of evaluation. Political risk assessments and other political information form the basis of ICRG risk ratings. It is therefore possible for the user to check through the information and data so as to assess the ratings against their own assessments, or against some other risk ratings system.

Corruption question(s)

This is an assessment of corruption within the political system. The most common form of corruption met directly by businesses is financial corruption in the form of demands for special payments and bribes connected with import and export licenses, exchange controls, tax assessments, police protection, or loans. The measure is most concerned with actual or potential corruption in the form of excessive patronage, nepotism, job reservations, exchange of favours, secret party funding and suspiciously close ties between politics and business.

Scores

The corruption scores are given on a scale of 0 (highest potential risk) to 6 (lowest potential risk) on a monthly basis. Half points are given. The monthly ratings are then aggregated using a simple average to create a single country score.

Country coverage

The ICRG provides ratings for 140 countries on a monthly basis.

To ensure consistency both between countries/territories and over time, points are assigned by ICRG editors on the basis of a series of pre-set questions for each risk component.

Data availability

The ICRG model was created in 1980 and the data is made available on a monthly basis.

The CPI 2019 data is an aggregate of quarterly assessments covering the period of September 2018 to August 2019.

Data is available to customers of the PRS International Country Risk Guide at www.prsgroup.com

10. World Bank Country Policy and Institutional Assessment 2018

Code: WB

Year of publication: 2017

Type of assessment: Expert assessment

Data provider: World Bank

The World Bank was established in 1944, is headquartered in Washington, D.C. and has more than 10,000 employees in more than 100 offices worldwide. The World Bank is made up of two development institutions: the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA). The IBRD aims to reduce poverty in middle-income and creditworthy poorer countries, while IDA focuses on the world's poorest countries.

The Country Policy and Institutional Assessment (CPIA) rates all IDA-eligible countries against a set of 16 criteria grouped in four clusters: (a) economic management; (b) structural policies; (c) policies for social inclusion and equity; and (d) public sector management and institutions. The criteria are focused on balancing the capture of those factors critical to fostering growth and poverty reduction against avoiding undue burden on the assessment process.

The ratings are the product of staff judgment and do not necessarily reflect the views of the World Bank's Board of Executive Directors or the governments they represent. The Bank has prepared guidance to help staff assess country performance, by providing a definition of each criterion and a detailed description of each rating level. Bank staff assess the countries' actual performance on each of the criteria, and assign a rating. The ratings reflect a variety of indicators, observations and judgments based on country knowledge, originating with the Bank or elsewhere, and on relevant publicly available indicators.

Corruption question(s)

Experts are asked to assess:

Transparency, accountability and corruption in the public sector.

"This criterion assesses the extent to which the executive can be held accountable for its use of funds and the results of its actions by the electorate and by the legislature and judiciary, and the extent to which public employees within the executive are required to account for the use of resources, administrative decisions, and results obtained. Both levels of accountability are enhanced by transparency in decision making, public audit institutions, access to relevant and timely information, and public and media scrutiny. A high degree of accountability and transparency discourages corruption, or the abuse of public office for private gain. National and sub-national governments should be appropriately weighted.

Each of three dimensions should be rated separately:

- (a) accountability of the executive to oversight institutions and of public employees for their performance;
- (b) access of civil society to information on public affairs; and
- (c) state capture by narrow vested interests."

For the overall rating, these three dimensions receive equal weighting.

<http://pubdocs.worldbank.org/pubdocs/publicdoc/2015/6/559351435159340828/cpia14-webFAQ14.pdf>

Scores

The rating scale ranges from 1 (low levels of transparency) to 6 (high levels of transparency) and allows for half-point intermediate scores (eg 3.5). The score is an aggregate of the three dimensions of corruption across national and sub-national government institutions in the country/territory.

Country coverage

73 countries were scored in the CPIA 2018. The process of preparing the ratings involves two phases: (a) the benchmarking phase, in which a small, representative, sample of countries is rated in an intensive Bank-wide process; and (b) a second phase, in which the remaining countries are rated using the derived benchmark ratings as guideposts. The process is managed by the Bank's Operations Policy and Country Services Vice-Presidency.

Data availability

First released in 2005 in its current form, the CPIA is now an annual exercise. The ratings process typically starts in the autumn and is concluded in the spring of the following year. The scores disclosed in July 2019 cover 2018 country performance.

The data is publicly available online at: <http://data.worldbank.org/data-catalog/CPIA>

11. World Economic Forum Executive Opinion Survey 2019

Code: WEF

Year of publication: 2019

Type of assessment: Business executive survey

Data provider: World Economic Forum

The World Economic Forum is an independent international organisation committed to improving the state of the world by engaging business, political, academic and other leaders of society to shape global, regional and industry agendas. Incorporated as a not-for-profit foundation in 1971, and headquartered in Geneva, Switzerland, the Forum is not tied to political, partisan or national interests.

The Executive Opinion Survey (EOS) is the World Economic Forum's annual survey of business executives. The survey has evolved over time to capture new data points essential to the Global Competitiveness Index (GCI) and other Forum indexes.

The Forum's Global Competitiveness and Benchmarking Network works closely with over 160 partner institutes that administer the survey in their respective countries/territories. They are selected because of their capacity to reach out to leading business executives as well as their understanding of the national business environment and their commitment to the Forum's research on competitiveness. The partner institutes are, for the most part, well-respected economics departments of national universities, independent research institutes or business organisations. The surveys are conducted according to detailed guidelines aiming at collecting a sample stratified by sector of activity and company size. The EOS administration process is reviewed on a yearly basis and underwent an external review in 2008 and 2012 by a renowned survey expert consultancy. See chapter 1.3 of the Global Competitiveness Report 2013-2014 for further details www.weforum.org/gcr.

Corruption question(s)

Survey respondents were asked:

(On a scale of 1 - 7 where 1 means very common and 7 means never)

"In your country, how common is it for firms to make undocumented extra payments or bribes connected with the following:

- a) Imports and exports
- b) Public utilities
- c) Annual tax payments
- d) Awarding of public contracts and licenses
- e) Obtaining favourable judicial decisions"

(on a scale of 1 - 7 where 1 means very common and 7 means never)

"In your country, how common is diversion of public funds to companies, individuals or groups due to corruption?"

Scores

Each question is scored by respondents on a scale of 1 - 7.

The results of parts a) to e) of the first question were averaged to create a single score. The results of the first and second question were then averaged together to give a score per country/territory.

Country coverage

The 2019 edition of the survey captured the views of 12,987 business executives in 139 economies between January and April 2019. Three additional countries were surveyed in 2019 compared to the previous edition (Barbados, Gabon, Madagascar) and two countries are not covered this year (Liberia and Sierra Leone).

The survey is conducted in each country/territory according to the sampling guidelines and therefore in a consistent manner across the globe during the same time of year.

Data availability

The Forum has conducted its annual survey for more than 30 years. The 2019 data was gathered in a survey conducted between January and April 2019. For the CPI 2019 calculations, disaggregated micro level data from the EOS is provided to Transparency International by the Forum. The Global Competitiveness Report 2019 is available online under:

http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf

12. World Justice Project Rule of Law Index 2019

Code: WJP

Year of publication: 2019

Type of assessment: Expert survey

Data provider: World Justice Project

The World Justice Project (WJP) is an independent, not-for-profit organisation working to advance the rule of law for the development of communities of opportunity and equity. The WJP's multi-national, multi-disciplinary efforts are dedicated to developing practical programmes in support of the rule of law around the world. The work of the WJP is based on two complementary premises: the rule of law is the foundation for communities of opportunity and equity, and multi-disciplinary collaboration is the most effective way to advance the rule of law.

The WJP Rule of Law Index is an assessment tool designed by The WJP to offer a detailed and comprehensive picture of the extent to which countries/territories adhere to the rule of law in practice. The Index provides detailed information and original data regarding a variety of dimensions of the rule of law, which enables stakeholders to assess a nation's adherence to the rule of law in practice, identify a nation's strengths and weaknesses in comparison to similarly situated countries, and track changes over time.

The Index's rankings and scores are the product of a rigorous data collection and aggregation process. Data comes from a global poll of the general public and detailed questionnaires administered to local experts (in-country practitioners and academics with expertise in civil and commercial law, criminal justice, labour law, and public health).

Corruption question(s)

Index 2: Absence of corruption

A total of 53 questions are asked of experts on the extent to which government officials use public office for private gain. These questions touch on a variety of sectors within government including the public health system, regulatory agencies, the police, and the courts.

Individual questions are aggregated into four sub-indices:

- 2.1 Government officials in the executive branch do not use public office for private gain
- 2.2 Government officials in the judicial branch do not use public office for private gain
- 2.3 Government officials in the police and the military do not use public office for private gain
- 2.4 Government officials in the legislature do not use public office for private gain

Only the scores provided by the experts were considered for the CPI calculations. The four sub-indicators are then averaged to create a single score.

Scores

Scores are given on a continuous scale from a low of 0 to a high of 1.

Country coverage

126 countries were scored in the 2018 Rule of Law Index.

The Index is deliberately intended to be applied in countries with vastly differing social, cultural, economic and political systems.

Data availability

The first edition was published in 2010, with slight variation in methodology and country coverage. The data for computing this index was collected between May and November 2018 via a survey of more than 3,800 experts. The

The data aggregated data for the index is publicly available online under <http://data.worldjusticeproject.org/>. For CPI calculations, however, the disaggregated expert survey data is provided exclusively for Transparency International by the WJP.

13. Varieties of Democracy Project 2019

Code: VDEM

Year of publication: 2019

Type of assessment: Expert survey

Data provider: University of Gothenburg, V-Dem Institute and University of Notre Dame

Varieties of Democracy (V-Dem) is a new approach to conceptualising and measuring democracy. V-Dem provides a multidimensional and disaggregated dataset that reflects the complexity of the concept of democracy as a system of rule that goes beyond the simple presence of elections. The V-Dem project distinguishes between seven high-level principles of democracy: electoral, liberal, participatory, deliberative, egalitarian, majoritarian and consensual, and collects data to measure these principles.

It is a collaboration among more than 3,000 scholars worldwide which is co-hosted by the Department of Political Science at the University of Gothenburg, Sweden and the Kellogg Institute at the University of Notre Dame, USA. With four principal investigators, fifteen project managers with special responsibility for issue areas, more than thirty regional managers, 170 country coordinators, research assistants, and 2,500 country experts, the V-Dem project is one of the largest social science data collection projects focusing on research.

As of April 2019, V-Dem's database contains database containing over 27 million data points. Since 2019, the dataset covers 202 countries from 1789-2018 with annual updates to follow around April of each year.

Corruption question(s)

Question: How pervasive is political corruption? (v2x_corr)

The directionality of the V-Dem corruption index runs from less corrupt to more corrupt (unlike the other V-Dem variables that generally run from less democratic to more democratic situation). The corruption index includes measures of six distinct types of corruption that cover both different areas and levels of the political realm, distinguishing between executive, legislative and judicial corruption. Within the executive realm, the measures also distinguish between corruption mostly pertaining to bribery, and corruption due to embezzlement. Finally, they differentiate between corruption in the highest echelons of the executive (at the level of the rulers/cabinet) and in the public sector at large. The measures thus tap into several distinguishable types of corruption: both petty and grand; both bribery and theft; both corruption aimed at influencing law making and that affects implementation.

Aggregation: The index is arrived at by taking the average of (a) public sector corruption index (b) executive corruption index (c) the indicator for legislative corruption and (d) the indicator for judicial corruption. In other words, these four different government spheres are weighted equally in the resulting index.

Scores

Scores are given on a continuous scale from 0 (lowest level of corruption) to 1 (highest level of corruption).

Country coverage

179 countries were scored for the year 2018 in the 2019 update of the index used for the CPI calculation.

V-Dem draws on theoretical and methodological expertise from its worldwide team to produce data in the most objective and reliable way possible. Approximately half of the indicators in the V-Dem dataset are based on factual information obtainable from official documents such as constitutions and government records. The remainder consists of more subjective assessments on topics like democratic and governing practices and compliance with de jure rules. On such issues, typically five experts provide ratings for the country, thematic area and time period for which they have information.

To address variation in coder ratings, V-Dem works closely with leading social science research methodologists and has developed a state of the art Bayesian measurement model that, to the extent possible, addresses coder error and issues of comparability across countries and over time. V-Dem also provides upper and lower point estimates, which represent a range of probable values for a given observation. When the ranges of two observations do not overlap, there is relative confidence that difference between them is significant. V-Dem is continually experimenting with new techniques and soliciting feedback from experts throughout the field. In this sense, V-Dem is at the cutting edge of developing new and improved methods to increase both the reliability and comparability of expert survey data. V-Dem also draws on the team's academic expertise to develop theoretically informed techniques for aggregating indicators into mid- and high-level indices.

Data availability

V-Dem data can be publicly accessed through <https://www.v-dem.net/en/data/data-version-9/>
The codebook is available at https://www.v-dem.net/media/filer_public/e6/d2/e6d27595-9d69-4312-b09f-63d2a0a65df2/v-dem_codebook_v9.pdf

Corruption Perceptions Index 2019: Short Methodology Note

The Corruption Perceptions Index (CPI) aggregates data from a number of different sources that provide perceptions by business people and country experts of the level of corruption in the public sector.

The following steps are followed to calculate the CPI:

- 1. Select data sources:** Each data source that is used to construct the CPI must fulfil the following criteria to qualify as a valid source:
 - Quantifies perceptions of corruption in the public sector
 - Be based on a reliable and valid methodology, which scores and ranks multiple countries on the same scale
 - Performed by a credible institution
 - Allow for sufficient variation of scores to distinguish between countries
 - Gives ratings to a substantial number of countries
 - The rating is given by a country expert or business person
 - The institution repeats their assessment at least every two years

The CPI 2019 is calculated using 13 different data sources from 12 different institutions that capture perceptions of corruption within the past two years. These sources are described in detail in the accompanying [source description document](#).

- 2. Standardise data sources** to a scale of 0-100 where a 0 equals the highest level of perceived corruption and 100 equals the lowest level of perceived corruption. This standardisation is done by subtracting the mean of each source in the baseline year from each country score and then dividing by the standard deviation of that source in the baseline year. This subtraction and division using the baseline year parameters ensures that the CPI scores are comparable year on year since 2012. After this procedure, the standardised scores are transformed to the CPI scale by multiplying with the value of the CPI standard deviation in 2012 (20) and adding the mean of CPI in 2012 (45), so that the data set fits the CPI's 0-100 scale.
- 3. Calculate the average:** For a country or territory to be included in the CPI, a minimum of three sources must assess that country. A country's CPI score is then calculated as the average of all standardised scores available for that country. Scores are rounded to whole numbers.
- 4. Report a measure of uncertainty:** The CPI is accompanied by a standard error and confidence interval associated with the score, which captures the variation in scores of the data sources available for that country/territory.

Corruption Perceptions Index 2019: Frequently Asked Questions

What is the Corruption Perceptions Index (CPI)?

The CPI scores and ranks countries/territories based on how corrupt a country's public sector is perceived to be by experts and business executives. It is a composite index, a combination of 13 surveys and assessments of corruption, collected by a variety of reputable institutions. The CPI is the most widely used indicator of corruption worldwide.

Which data sources are used for the CPI?

The 2019 CPI draws on 13 data sources from 12 independent institutions specialising in governance and business climate analysis. The sources of information used for the CPI 2019 are based on data published in the previous two years. The CPI includes only sources that provide a score for a set of countries/territories and that measure expert perceptions of corruption in the public sector. For a full list of the data sources, the type of respondents and the specific questions asked, please see the [CPI sources description document](#).

Why do we need the CPI if there are 13 other sources that measure manifestations of corruption in the public sector?

There are four properties which make the CPI a valuable governance indicator:

1. The CPI has a global geographical coverage.
2. The CPI is more reliable than each source taken separately because it compensates for eventual errors among sources by taking the average of at least three different sources and potentially as many as 13.
3. The CPI, with its 0-100 scale, can differentiate between perceived levels of corruption with more granularity than sources which, for example, have scales of 1-7 or 1-10 where each country is assigned a full number.
4. Since the underlying CPI sources assess different dimensions and manifestations of public sector corruption, the CPI manages to reconcile different aspects of corruption into one indicator.

Why is the CPI based on perceptions?

Corruption generally comprises illegal activities, which are deliberately hidden and only come to light through scandals, investigations or prosecutions. Whilst researchers from academia, civil society and governments have made advances in terms of objectively measuring corruption in specific sectors, to date there is no indicator which measures objective national levels of corruption directly and exhaustively. The sources and surveys which make up the CPI, ask their respondents questions which are based on carefully designed and calibrated questionnaires. (For a list of all sources and the questions that they ask, please see [here](#).) The CPI contains informed views of relevant stakeholders, which generally correlate highly with objective indicators, such as citizen experiences with bribery as captured by the [Global Corruption Barometer](#).

Which countries/territories are included in the CPI 2019 and why?

For a country/territory to be included in the ranking, it must be included in a minimum of three of the CPI's data sources. If a country is not featured in the ranking, then this is solely because of insufficient survey information and not an indication that corruption does not exist in the country. This year 180 countries and territories are included in the index.

What is the difference between a country/territory's rank and its score?

A country/territory's score indicates the perceived level of public sector corruption on a scale of 0-100, where 0 means that a country is perceived as highly corrupt and a 100 means that a country is perceived as very clean. A country's rank indicates its position relative to the other countries/territories included in the index. Ranks can change merely if the number of countries included in the index changes.

Which manifestations of corruption does the CPI capture?

CPI source data captures the following aspects of corruption, based on the specific question wording used to collect the data:

- Bribery
- Diversion of public funds
- Prevalence of officials using public office for private gain without facing consequences
- Ability of governments to contain corruption and enforce effective integrity mechanisms in the public sector
- Red tape and excessive bureaucratic burden which may increase opportunities for corruption
- Meritocratic versus nepotistic appointments in the civil service
- Effective criminal prosecution for corrupt officials
- Adequate laws on financial disclosure and conflict of interest prevention for public officials
- Legal protection for whistleblowers, journalists, investigators when they are reporting cases of bribery and corruption
- State capture by narrow vested interests
- Access of civil society to information on public affairs

For a full list of the questions used by the CPI sources, please see our [source description document here](#).

Which manifestations of corruption does the CPI not capture?

CPI source data does not capture the following aspects of corruption:

- Citizens' perceptions or experience of corruption
- Tax fraud
- Illicit financial flows
- Enablers of corruption (lawyers, accountants, financial advisors etc)
- Money-laundering
- Private sector corruption
- Informal economies and markets

Is the country/territory with the lowest score the world's most corrupt nation?

No. The CPI is an indicator of perceptions of public sector corruption, i.e. administrative and political corruption. It is not a verdict on the levels of corruption of entire nations or societies, or of their policies, or the activities of their private sector. Citizens of those countries/territories that score at the lower end of the CPI often show the same concern about and condemnation of corruption as the public in countries that perform strongly.

Further, the country/territory with the lowest score is the one where public sector corruption is perceived to be greatest *among those included in the list*. The CPI provides no information about countries/territories which are not included in the index.

Can the score of a country in the 2019 CPI be compared with the previous year?

Yes. As part of the update to the methodology used to calculate the CPI in 2012 we established the new scale of 0-100. Each country score given by the underlying data sources is rescaled using the global mean and standard deviation from the CPI 2012 as the year of reference. Using this scale we can compare CPI scores from one year to the next since 2012. Because of the update in the methodology, however, CPI scores before 2012 are not comparable over time.

For a more detailed description of the change in methodology in 2012, please see [Corruption Perceptions Index – An updated Methodology for 2012](#).

Where can I find the full tables of results in a time series format?

You can find this on our website [here](#).

I want to reproduce CPI results for my own publication – do I need to ask permission?

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Can I compare results from before 2012?

No, due to a change in our methodology in 2012, results from before that year cannot be compared. Only CPI results from 2012 onwards can be compared.

Can you compare countries when they are rated by different sources?

Yes. Through our rescaling process, all our sources are brought closer to the global mean and standard deviation with the baseline of 2012, to allow for cross time comparison. For a full explanation of our rescaling process, please see [our technical methodology note](#).

My country has changed CPI score by one or two points? Does that mean corruption has increased/decreased?

The CPI is a composite indicator, with at least three sources used per country for calculating the CPI score. For some countries the sources give very similar ratings while for other countries the sources give a wider range of ratings. We report this difference using the standard error and upper and lower bounds for the confidence intervals. Countries which are given similar ratings by the sources will have a smaller standard error, while countries with a range of source scores will have a larger standard error. It is unlikely that a one or two point CPI score change would be

statistically significant. Statistically significant changes are reported in our excel tables of results. Please see the excel document labelled "[Statistically Significant Changes](#)".

Does the CPI tell the full story of corruption in a country?

No. The CPI is limited in scope, capturing perceptions of the extent of corruption in the public sector, from the perspective of business people and country experts. Complementing this viewpoint and capturing different aspects of corruption, Transparency International produces a range of both qualitative and quantitative research on corruption, both at the global level and at the national level through Transparency International's network of national chapters based in over 100 countries around the world.

Complementing the CPI, Transparency International has a range of global, regional and sectoral research products. Full details can be found on our website.

Have there been any independent checks on the validity of the CPI methodology?

The European Commission Joint Research Centre undertook an independent audit of the CPI 2017 and its methodology. The same audit was conducted in 2012 following the introduction of a new methodology for the CPI calculation. Both audits found that the CPI is conceptually and statistically coherent and has a balanced structure. The full report and recommendations can be found [here](#).

How are statistically significant changes calculated?

Since 2018, Transparency International uses a revised approach to calculate standard errors and effect sizes, based on advice from the European Commission Joint Research Centre. Statistically significant movers are calculated using the effect size, the standard deviation, and the number of sources used for each country. Changes in CPI scores are considered statistically significant using a 90% confidence interval. A full explanation, including all formulas, can be found in the technical methodology note [here](#).

Corruption Perceptions Index 2019: Technical Methodology Note

Background

The Corruption Perceptions Index (CPI) was established in 1995 as a composite indicator used to measure perceptions of corruption in the public sector in different countries around the world. During the past 20 years, both the sources used to compile the index and the methodology have been adjusted and refined. In 2012, important changes were made to the methodology to allow for score comparison across time¹, which was not possible prior to 2012.

Methodology

The methodology follows four basic steps: selection of source data, rescaling source data, aggregating the rescaled data and then reporting a measure for uncertainty. The calculation process also incorporates a strict quality control mechanism which consists of parallel independent calculations conducted by two in-house researchers and two academic advisors with no affiliation to Transparency International.

1. Selection of data sources

The CPI draws upon [13 data sources](#) which capture the assessment of experts and business executives on a number of corrupt behaviours in the public sector, including:

- Bribery
- Diversion of public funds
- Use of public office for private gain
- Nepotism in the civil service
- State capture

Some of the sources also look at the mechanisms available to prevent corruption in a country, such as:

- The government's ability to enforce integrity mechanisms
- The effective prosecution of corrupt officials
- Red tape and excessive bureaucratic burden
- The existence of adequate laws on financial disclosure, conflict of interest prevention and access to information

¹ The methodology used to calculate the CPI 2019 builds on the work examining alternative approaches for constructing the CPI carried out by Prof. Andrew Gelman: Professor, Department of Statistics and Department of Political Science, Columbia University and Dr Piero Stanig: Fellow, Methodology Institute, London School of Economics and Political Science. This work was presented to Transparency International in a report that is available on request. Please email cpi@transparency.org.

- Legal protection for whistleblowers, journalists and investigators

Each of the data sources used to calculate the CPI is evaluated against the following criteria:

- A) Methodological reliability and institutional reputation:** For a source to be included in the CPI, it is necessary to ensure the quality and adequacy of its methodological approach. For that reason, each source must originate from a professional institution that clearly documents its data collection methods and measurement approach. Transparency International then evaluates the soundness of the methodology..
- B) Conceptual alignment of the data:** As it is a measurement of corruption in the public sector, all data sources used to construct the CPI must be explicitly linked to the levels of corruption or corruption risks in the public sector. The questions can relate to a defined 'type' of corruption (for example, petty corruption) or to the effectiveness of corruption prevention mechanisms, which can also be used as a proxy for the perceived level of corruption in a country.
- C) Quantitative granularity:** The scales used by the data sources must allow for sufficient differentiation in the data (that is, at least a four-point scale) on the perceived levels of corruption across countries so that it can be rescaled to the CPI's 0-100 scale.
- D) Cross country comparability:** As the CPI ranks countries against each other, the source data must also be legitimately comparable between countries and not be country specific. Moreover, the source must measure the same concept across countries and with the same scale. While there is currently no criteria regarding the minimum coverage a source must have to be part of the CPI, the data source with the lowest coverage provides scores for a total of 16 countries.
- E) Multi year data availability:** Since the CPI measures corruption across countries and time, sources that capture corruption perceptions for a single point in time, but that are not designed to be repeated over time, are excluded.

In order to carry out this quality assurance process, Transparency International reaches out to each one of the institutions providing data in order to verify the methodology used to generate their scores. Since some of the sources are not publicly available, Transparency International also requests permission to publish the rescaled scores from each source alongside the composite CPI score. Transparency International is, however, not permitted to share the original scores given by private sources with the general public.

2. Standardise data sources

Each of the sources included in the CPI is standardised to allow for the aggregation into the CPI score. The standardisation converts all the data points to a scale of 0-100 where a 0 represents the highest level of perceived corruption, and 100 the lowest level of perceived corruption. While most of the underlying CPI sources are also coded in the same direction (with lower scores indicating higher levels of

perceived corruption), four sources are scaled the opposite way, i.e. with lower scores denoting lower levels of corruption. For comparability purposes, these four sources are reversed by multiplying every score by -1.

The sources that need to be reversed are:

- Economist Intelligence Unit's corruption indicator
- Freedom House's Nations in Transit corruption score
- Political and Economic Risk Consultancy Asian Intelligence's perceptions of corruption score
- Varieties of Democracy Project's political corruption index

Since many of the sources used for the CPI do not have a global coverage, the missing values for these sources are imputed for the baseline year.² This process is conducted using the statistical software package STATA and, more specifically, the programme's "impute" command. The "impute" command in STATA estimates a value for each missing data point using only those data sources with at least 50% of the total number of countries covered by the CPI in any given year.³ This is with the exception of the Bertelsmann Foundation's Transformation Index data, which is not used for the imputation of the Bertelsmann Foundation's Sustainable Governance Indicators.

After the imputation process, the mean and standard deviation for each data source is calculated and used as parameters to standardise the original data into z scores. The standardised z scores are calculated by subtracting the mean of each source from each country score and dividing by the standard deviation of the respective source. This results in a data set centred around 0 and with a standard deviation of 1. Critically, the z scores are calculated using the mean and standard deviation parameters from the imputed baseline year sources. This ensures that CPI scores are comparable year-on-year since the baseline year.

² Until 2016, the global parameters from 2012 were used as a baseline. With the introduction of the VDEM data into the CPI in 2016, the missing values for 2016 were imputed again. A comparison of the global parameters from 2012 and 2016, however, proved to be statistically insignificant, which means that the change in baseline did not affect comparability across time. In 2017, VDEM expanded its country coverage to over 50 per cent of the CPI countries. For this reason, the global parameters had to be re-calculated once again. The changes in the global mean and standard deviation were again not statistically significant. As a result, the effective reference year remains 2012.

³As per the 50 per cent country coverage rule mentioned above, the following seven data sources were used for the imputation process for the CPI 2017:

- Varieties of Democracy Project 2017 (83.58 per cent sample coverage)
- Bertelsmann Foundation's Transformation Index 2018 (62.32 per cent sample coverage)
- Economist Intelligence Unit Country Risk Ratings 2017 (63.29 per cent sample coverage)
- Global Insights Country Risk Ratings (98.55 per cent sample coverage)
- Political Risk Services International Country Risk Guide (67.63 per cent sample coverage)
- World Economic Forum Executive Opinion Survey 2017 (64.42 per cent sample coverage)
- World Justice Project rule of Law Index 2017-2018 (54.59 per cent sample coverage)

It is important to note that the complete data set with imputed values is used only to generate the baseline global parameters and the imputed values themselves are not used in the final aggregation that produces the CPI scores.

The z scores are then transformed to fit the CPI scale of 0-100. This uses a rescaling formula, which aims to sets the mean value of the standardised dataset to 45, and the standard deviation to 20. The following formula is used for this purpose:

$$\begin{aligned} & \text{Rescaled Indicator } X_{Country} \\ &= \frac{\text{Original Indicator } X_{Country} - \text{mean imputed Indicator } X^{t=\text{baseline}}}{\text{standard deviation imputed Indicator } X^{t=\text{baseline}}} * 20 + 45 \end{aligned}$$

Any rescaled scores which take values of less than 0 are made equal to 0 and any rescaled scores which exceed 100 are capped to 100.

3. Aggregate the rescaled data

Each country's CPI score is calculated as a simple average of all the available rescaled scores for that country. (Note, we do not use any of the imputed values as a score for the aggregated CPI.) A country will only be given a score if there are at least three data sources available from which to calculate this average.

4. Report a measure of uncertainty

The CPI score is reported alongside a standard error and 90 per cent confidence interval which reflects the variance in the value of the source data that comprises the CPI score. Furthermore, changes in CPI scores that are statistically significant are identified and reported.

Following the recommendation of the [European Commission Joint Research Centre](#) audit of the conceptual and statistical coherence of the CPI, the formula for computing standard errors was changed starting from CPI2018. The previous formula calculated the standard error terms as the standard deviation of the rescaled source data, divided by the square root of the number of sources. The new formula expressed in the equation below takes into account a small population of sources:

$$\Sigma = \sqrt{\frac{N - n}{N - 1} \frac{\sigma}{\sqrt{n}}}$$

where Σ is the standard error term, N is the total number of sources used for the CPI calculation, n is the number of sources for the CPI score of any given country, and σ is the standard deviation of the CPI score for that given country.⁴

Using this standard error, we can calculate the 90 per cent confidence interval and report the upper and lower bounds of the CPI score for each country, assuming a normal distribution.

After computing the standard errors, we establish whether the change in CPI score for each country is statistically significant or not. For this purpose, we first compute the effect size of the difference between the score of one country in the two years being compared using the below formula:

⁴ In 2018 the total population of sources (N) was 13.

$$effect\ size = \frac{M_1 - M_2}{\sqrt{\frac{(N_1 - 1)SD_1^2 + (N_2 - 1)SD_2^2}{N_1 + N_2 - 2}}}$$

where M_1 is the CPI score for a given country in a given year, M_2 is the CPI score for that country in the year of comparison, N_1 is the number of sources in the given year, N_2 is the number of sources in the year of comparison, SD_1^2 is the square of the standard deviation of the CPI score in the given year and SD_2^2 is the square of the standard deviation of the CPI score in the year of comparison.

Having obtained the effect size we then compute the standard deviation (σ) of the effect size using the below formula:

$$\sigma(d) = \sqrt{\frac{N_1 + N_2}{N_1 \times N_2} + \frac{d^2}{2 \times (N_1 + N_2)}}$$

where d is the effect size of the differences in the CPI scores, and N_1 and N_2 are the number of sources available for each country. Then, the 90% confidence interval is calculated using the below formula:

$$CI_{0.90} = d \pm 1.645 \times \sigma(d)$$

If this confidence interval includes the value of zero, then there are no statistically significant differences between the countries. On the other hand, if zero is outside the range, then the difference is 'statistically significant at the 10% level'.