GENERAL METHODOLOGY

Click here for the detailed, Technical Methodology

What is the Atlas

The Children's Rights and Business Atlas measures, assesses and prioritises impacts on children's rights in 195 countries.

The Atlas provides users with a high-level scan of the extent to which children's rights are protected in a country in order to assess how vulnerable or resilient children may be to business activities and associated impacts. Atlas data can be explored as a tool on the website or it can be downloaded in Excel (the whole data set and selected countries) and integrated into business risk assessments or other tools.

By exploring the data and issues, users can also learn about children's rights and the ways in which business can impact children.

The purpose of the Atlas is to guide business in their initial assessment of how their business operations and activities are relevant to children and may have an impact on them in a country.

- The Atlas enables the user to identify and prioritise the most important issues impacting children in a country
- By prioritising issues according to the strength or weakness of protections in place for children, users can determine where to focus due diligence efforts to prevent and mitigate adverse impacts on children.
- By prioritising issues that are material to a specific industry or business activity, companies can use the Atlas to better target their management of human rights to specific areas of risk.

Note. The Atlas data provides a perspective on risk to children's rights that is based on the issues and indicators selected. The data cannot account for or explain other contextual factors in a country. To understand a particular country's score and the root causes of risk, explore and investigate the detailed scores for issues and categories, and the scores and raw data for indicators.

ATLAS STRUCTURE

Indices

There are three indices in the Atlas: Workplace, Marketplace and Community and Environment:

- The **Workplace Index** measures child labour and decent work for young workers, parents and caregivers.
- The **Marketplace Index** measures marketing to children, and safe products and services for children including online safety.
- The **Community and Environment Index** measures children's rights in relation to environmental protection, land rights, security arrangements, education, health and child protection.

Each index includes a set of issues which in turn are based on a set of indicators.

Issues

There are 13 different issues in the Atlas created to assess risks to children's rights specific to a potential business impact, such as child labour, maternity and paternity protections, or child online protection.

Analysing risks by issue enables users to identify where the risk mitigation may be most urgent and allows businesses from different sectors to select the risks material to their activities.

Each issue includes a set of indicators organised into four categories: international and national legal indicators, enforcement indicators, and outcome indicators.

Figure 1. Atlas structure by index and issue

Index	Issue	Description
Workplace	**Child labour**	minimum age of employment, worst forms of child labour and hazardous work
	Decent working conditions	fundamental labour rights and working conditions for young workers, parents and caregivers
	Maternity and paternity protections	maternity and paternity leave, and job protection
Marketplace	**Marketing and advertising**	the extent of inappropriate or harmful advertising and marketing to children and adolescents
	Product safety	the risk of injury to children from product use
	Online abuse and exploitation	the risk of online child abuse and exploitation, including cyber-bullying
Community and Environment	**Resource use and damage to the environment**	the risk of environmental damage leading to health consequences for children
	Land rights	the risk of children in communities (including indigenous) being affected by land acquisition or land use for business purposes
	Security arrangements	the risk of children being recruited and used or harmed by state or private military and security companies (PMSCs) in armed conflicts and other security situations
	Natural disasters	the risk of children being affected by natural disasters

	Fulfilment of children's rights	the extent to which children enjoy protection of their right to essential services (education, health, protection from violence, etc.)

Indicator categories

The Atlas analyses risk by organising indicators into four main categories: international legal indicators; national legal indicators; enforcement indicators; and outcome indicators.

Each indicator belongs to one of these four categories that define the type of risk the indicator measures. Using this approach enables the user to investigate within an index or issue where the root cause of risk may lie, for example, in a common scenario, a country may receive a good score for its legal framework, but a poor score on how it enforces the law, and a poor score as a result on the outcomes it achieves.

Figure 2. Atlas structure by INDICATOR CATEGORY

Category	Description
International legal framework	Measures a state's international commitments to implement measures to protect children, in line with the UN Convention on the Rights of the Child (CRC) and other relevant conventions.
National legal framework	Measures a state's national legal commitments to protect children.
Enforcement	Measures a state's capacity and effectiveness in implementing measures to protect children.
Outcomes	Capture the current situation (most recent data) in the country and the status of key indicators of children's rights.

The Atlas methodology is guided by the UN Guiding Principles for Business and Human Rights (UNGPs) and Children's Rights and Business Principles (CRBPs), which set out the expectations on companies to respect human and children's rights. It is also aligned with the 'structure, process, outcome' approach to measuring human rights, developed by the UN Office of the High Commissioner for Human Rights.

Indicators

The foundation of the Atlas is the set of 206 indicators selected to inform specific risks to children.

Indicators are drawn from data that is quantitative (numerical) or qualitative (where answers are based on defined and categorical options) and from publicly available sources, published by reputable international, academic and expert organisations. For example, an indicator might be the percentage of children who are underweight (%) or whether a country has ratified ILO Convention No. 182 on the worst forms of child labour (yes/no).

Each indicator in the Atlas belongs to an index and an issue, and in this structure, each indicator has a role in measuring and informing the perspective of the Atlas on risks to children as community members, consumers and workers, or dependents of workers.

SCORE CALCULATION

INDICATOR SCORES

The 206 indicators included in the CRBA draw on a wide variety of sources. Therefore, the raw data is extremely heterogenous. For example, some raw data may be a percentage (e.g. % of children overweight), other raw data might be whether or not a country has signed a certain treaty.

To make indicators and their scores meaningful, the CRBA converts raw data into identical, scaled scores between 0 and 10. The indicator score is a measure of how well a given country is doing with regards to a given domain (i.e. indicator). The higher a score, the better the children's rights in a given country in that specific domain.

The computation of indicator scores based on raw data differs firstly with regard to the indicator raw data type, namely whether it is categorical or numeric:

1. **Categorical raw data**

If the raw data of an indicator is categorical, the category values are mapped to scores 0 and 10, and if more than two category values are present, scores are mapped to values in between.

Example 1: The indicator "Forced labour convention" has only two category values 'yes' and 'no'. If a country has ratified the convention, it receives a score of 10, if not a score of 0.

Example 2: The indicator "Sexual harassment" measures whether sexual harassment is explicitly prohibited in the workplace. The category values are 'Yes for both women and men', 'Only harassment of women' and 'No prohibition'. A country's score will be 10, 5 or 0 respectively.

Countries for which no data is available do not receive a score.

2. **Numeric raw data**

To calculate a country's indicator score for numeric indicators we followed a statistical normalization approach. We compare the raw data of a country to the highest and lowest value recorded for that indicator across all countries in the dataset:

$$Score_{Country\ A} = 10 * \frac{(X_{Country\ A} - X_{min})}{(X_{max} - X_{min})}$$

In doing so, we

- Only take the value for the relevant dimension values of a given indicator e.g., if an indicator has a gender breakdown we only take, for example, the value for 'both sexes'.
- Only take the latest raw data point of each country e.g., if a country reported data in 2016 and 2018, we take the value of 2018
- Exclude countries whose latest observation is older than 2010, e.g. if a country had the latest reported observation of a given indicator in the year 2008, it would be excluded from the above normalization process
- Exchange the applied maximum and minimum value if they come from outlier countries (see. technical methodology for more details)
- Invert the score if an indicator's raw data meant worse children's rights. E.g., the indicator 'Youth smoking rate' is an inverted indicator. So, if through the above normalization a country's score is 1.5 then it would be inverted to (10 – 1.5) = 8.5

$$Score_{Country\ A} = 10 - (10 * \frac{(X_{Country\ A} - X_{min})}{(X_{max} - X_{min})})$$

For more details See Technical Methodology.

Aggregation

To calculate country scores at the index, issue and category level, the following aggregations are applied:

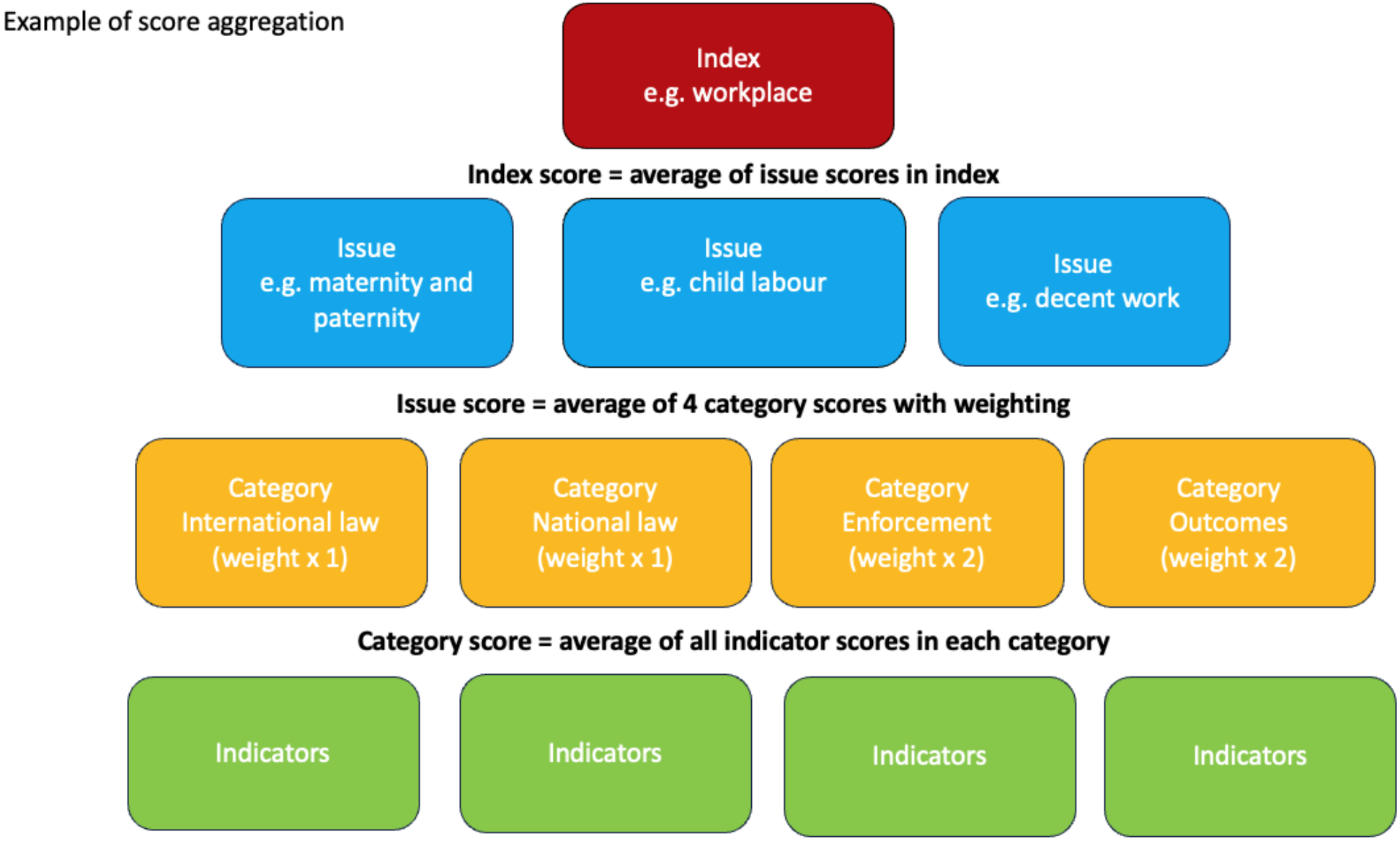
Category score: The score for a category (international legal, national legal, enforcement and outcomes) is calculated by taking the average score of all indicators which fall under a given category and issue, for example, the average of enforcement indicators assigned to the issue of Decent Working Conditions.

Issue score: The score for an issue is based on the average of the four category scores (international legal, national legal, enforcement and outcomes, plus a weighting. All category scores in the enforcement and outcome categories are counted twice. This is done to make more significant whether a country acts upon its legal commitments and promotes and enforces children's rights in practice.

Index score: The score for an index is the average of all issue scores relevant to that index.

Figure 3. Scoring framework

Example of score aggregation



DATA INTERPRETATION

Scores and risk categories are applied to the data in the CRBA to help users interpret and apply the data to prevent risks to children.

- **Scores**: All indicator scores are calculated on a 0 to 10 range – higher scores (closer to 10) are best, while lower scores (closer to 0) are worse.
    - A higher score indicates more robust protection of children's rights, whereas a lower score signals that children are more vulnerable due to weaker protection and enforcement of their rights.
- **Risk categories**: At the index and issue level, the CRBA classifies country scores into three risk categories (lower, medium, higher risk), in order to reflect what the data suggests about the situation regarding children's rights in country, and to identify the issues where business impacts may be most relevant.
    - A higher score (closer to 10) is lower risk; a lower score (closer to 0) is higher risk.

RISK CATEGORIES

For each index and issue in the CRBA, a country's score assigns it to one of three risk categories: Lower, Medium, or Higher risk.

Assigning countries to the three risk categories is calculated by considering the distribution of the 194 countries in the CRBA for a given issue or index and then identifying the bottom, middle and top 33% of countries within a given issue and index. A country's risk category is therefore calculated relative to other countries. See Technical Methodology for more detail on risk categories and scoring.

The table below, Figure 4. explains what the three risk categories denote.

FIGURE 4. SCORE CLASSIFICATION

	Classification	Description
	**Stronger protections Lower risk**	In this lower risk country context, business activities are less likely to result in negative impacts on children when companies undertake regular due diligence and implement targeted mitigation measures. A score in this range suggests the country has moderate to strong protections in place and is taking effective steps to enforce legal commitments to protect and fulfil the specific children's rights issues measured in the Atlas.
	Moderate protections Medium risk	In this medium risk country context, business activities are likely to result in negative impacts on children when companies do not undertake regular due diligence and implement targeted mitigation measures.

The higher the score the better children's rights are likely to be protected		A score in this range suggests the country has weak to moderate protections in place and is taking some effective steps to enforce legal commitments to protect and fulfil the specific children's rights issues measured in the Atlas.
	Weaker protections Higher risk	In this higher risk country context, business activities are very likely to result in severe negative impacts on children when companies do not undertake regular due diligence and implement targeted mitigation measures. A score in this range suggests the country has very weak or weak protections in place and is taking limited, ineffective steps to enforce legal commitments to protect and fulfil the specific children's rights issues measured in the Atlas.

HOW DATA IS CREATED AND PROCESSED

The CRBA-dataset is created through an open-source, publicly accessible Python code base. This Python code base pulls data from a wide range of sources (around 200 sources). For example, various APIs (e.g. SDG API), publicly accessible datasets in .xlsx format (e.g. World Policy Analysis data) and reports.

- The code base (repository) can be publicly accessed on: MajorDaxx/crba-etl at publish_v2023_06_26 (github.com)
- The repository can be used to re-run the final CRBA dataset and
- Input: The code base takes data from various sources
- Output: WHen run, the codebase created a single .csv file as the CRBA dataset
- Please refer to the repository's .ReadMe for further information

DATA LIMITATIONS

To read in more detail about the data validation process, See the Technical Methodology.

The Atlas presents a risk perspective on specific issues, based on the data available and the data selected. The Atlas is limited in some cases by insufficient data collection on human rights issues, although collaboration around the SDGs is improving the quality and availability of global indicators.

It is also important to note that the Atlas is a first step - it provides a high-level country assessment of children's rights and is thus part of a variety of steps a business will take in order to assess risk and mitigate potential impacts on children. The Atlas is a guide, pointing companies toward important issues affecting children and signalling potential areas of risk.

How does the Atlas treat countries with no data?

Where data is not available for a particular indicator and country, that country is not given an indicator score and consequently this indicator is not included in aggregated score calculations. We do not penalize countries without data, because we are unable to make a judgement about why the data is missing.

However, for indicators concerning the signature or ratification of an international treaty of the UN or ILO, an absence of data is counted as "not having signed or ratified" rather than "no data". This implies that the country does receive a score (typically 0 points) because it is not a signatory or has not ratified a certain treaty.

How does the Atlas treat countries without a full set of indicators?

The data validation process calculated the number of indicators where a country either reported no data or was not included in the dataset (See Technical Methodology for more information).

The highest number of indicators a country had was Indonesia with 197 indicators, and the lowest was Kosovo, with only 56 indicators.

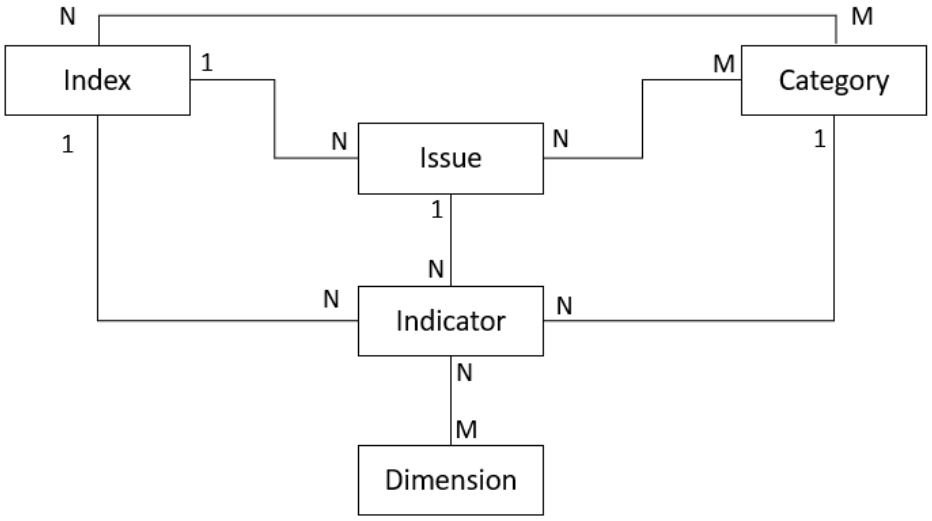
The aggregated index and issue scores are only meaningful and comprehensive if a country has a certain number of indicators. Therefore, we do not provide aggregated scores for countries which have less than 100 indicator scores in total, which corresponds to roughly 50% of the overall number of indicators. The country will still receive scores and show raw data for indicators where data is available. In practice, this results in the exclusion of Kosovo from aggregate scores.

Does the Atlas have a THRESHOLD TO EXCLUDE OLD data?

We have excluded observations (countries) from receiving a score, if the data provided is older than 10 years. To see the distribution of the age of observations in the Atlas, go to the validation section of the Technical Methodology.

Overview of the CRBA structure and data model

The CRBA consists of several levels. This is a simplified data model:

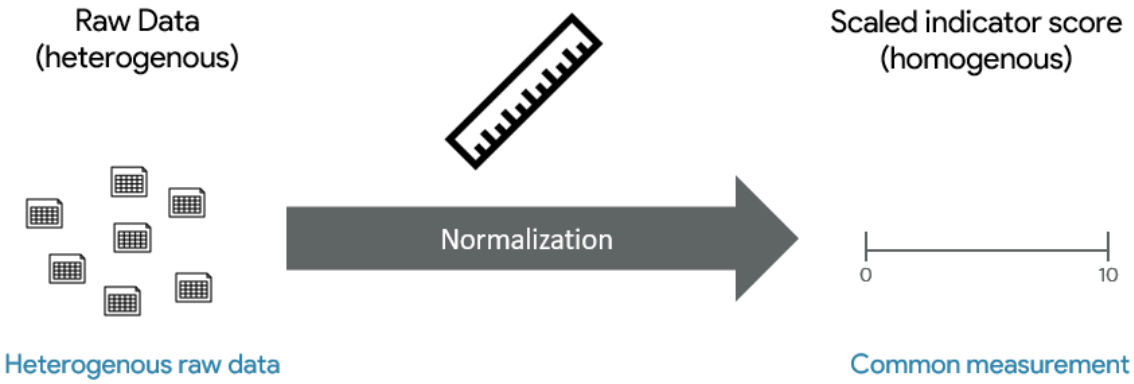


The central entity are indicators. Indicators are a measure of a certain variable for a set of countries, e.g. 'Children smoking rate'. An indicator may have defining dimensions, e.g. 'Gender' or 'Age Group', e.g. the value of the children smoke rate of Afghanistan might be broken down into values for male, female and both sexes as well as '13-15' and '15-18' years old.

A given indicator pertains to exactly one category, issue and index. An index contains indicators of several issues and categories. And issue typically consist of indicators pertaining to several categories. And indicators of a different categories typically exist within each issue and index.

How are indicator scores for a given country calculated?

The CRBA draws on data from a wide range of sources. For instance, the raw data of some indicators may be expressed in percentages, others may be in distinct categories (has ratified a convention yes vs. no). In order to make them comparable, it is necessary to bring them into one common format and scale. The scale we chose was an indicator score between 0 (bad) and 10 (good).



We followed this methodology to create indicator scores:

- Retrieve the latest raw data observation for of country
- Exclude countries whose latest observation is older than 10 years
- Exclude countries which do not have data
- Select the dimension subgroup which is relevant to an indicator (e.g. if there is a gender breakdown an indicator score is typically only calculated for the dimension value 'both sexes')

The further procedure fundamentally differs between indicators with categorical and numeric raw data:

1. Categorial raw data

Some indicators have categorical raw data. Categories must always be mutually exclusive. The number of category levels must be at least 2, can be indefinitely large but typically isn't more than 7 categories.

For categorical raw data we ranked the category values from worst to best. Countries with the worst category receive an indicator score 0. Countries with the highest category value receive an indicator score of 10. If more than 2 category values are present, the category values in between are mapped with equal distance to the extremes. For example, if three category values are present, the respective scores are 0, 5 and 10. Or, if four category values are present, the respective scores are 0, 3.3, 6.7 and 10.

Example 1: The indicator “Forced labour convention” has only two category values ‘yes’ and ‘no’. If a country has ratified the convention, it receives a score of 10, if not a score of 0.

Example 2: The indicator “Sexual harassment” measures whether sexual harassment is explicitly prohibited in the workplace. The category values are ‘Yes for both women and men’, ‘Only harassment of women’ and ‘No prohibition’. A country’s score will be 10, 5 or 0 respectively.

2. Numeric raw data

To calculate a country’s indicator score for numeric indicators we followed a statistical normalization approach, i.e. this formula:

S

where

- $X_{country}$: The raw data value of a certain country
- X_{min}: The lowest recorded raw data value across all countries for this indicator
- X_{max}: The highest recorded raw data value across all countries for this indicator

Higher raw data values do not always mean better children’s rights. For example, the ‘frequency of bullying’ or ‘prevalence of sexual violence’, higher values are tantamount to worse situations for children. In such cases, we applied an inversion to the score as follows:

S

Example:

Let's look at the indicator 'Mothers receiving maternity cash benefits (%)'. Let's assume in country A the latest raw data value is from year 2019 and is 50%. The latest raw data value of country B is the highest recorded value in the dataset with 75%. The latest raw data value of country C is the lowest recorded value in the dataset with 25%. The latest raw data value of all other countries is thus between 25% and 75%. The indicator score of country A would thus be calculated as follows:

S

S

S

It is important to note, that the indicator scores of numeric indicators therefore do not give an absolute measurement of children's rights. Instead, they reflect how well a country is doing in terms of the indicator as compared to the best and worst country. It is thus a country-relative measure. This makes the indicator scores susceptible to outliers. To counteract that we followed this methodology:

How are outliers dealt with?

If X_{min} or X_{max} are values of outliers, we did not apply their values for the normalization, but instead computed and applied a value closer to the centre of the distribution. To determine outliers, we followed the standard statistical definition of outliers. That is, we defined as outlier each country with a value X where

- X > q3 + 1.5 IQR or
- X < q1 + 1.5 IQR

where

- IQR: Interquartile range of the distribution of that indicator
- q1: 25^{th} percentile of the distribution of that indicator
- q3: 75^{th} percentile of the distribution of that indicator

If the X_{min} and X_{max} are of outliers, we substituted the values of X_{min} and X_{max} to

- X_{max} = q3 + 1.5 IQR or
- X_{min} = q1 + 1.5 IQR

The goal of this methodology was to prevent the scores of all countries being distorted by outlier countries.

How are indicator scores aggregated into category/ issue/ index scores?

The CRBA does not only provide scores for a given country for a given indicator, but also grouping of indicators. Concretely, individual indicator scores of countries are aggregated to these levels:

- **Level 1**: The first aggregation level is category-issue sores. That is, for each issue, we calculate the aggregated category score. This is done by simply taking the average score of all indicators which fall under a given category and issue (e.g. 'Decent working conditions - Enforcement').
- **Level 2**: The second aggregated score is the aggregated issue score. This is done with a weighting. Level 1 scores of category "outcome" and "enforcement" are counted double (level 1 cores of category "legal framework national" and "legal framework international" are counted only once), and then the average of all level 1 scores of a certain issue is taken to compute the aggregated issue score. This essentially gives the categories outcome and enforcement double the weight.
- **Level 3**: Lastly, all issues within a certain index are taken to compute the index score of a country. This is done by simply taking the average of level 2, issue scores within an index

In all cases, we take the simple arithmetic mean and disregard blank values, e.g. countries with no data.

We decided to exclude Kosovo from aggregation, because it has data for too few indicators, so that aggregated scores would not be meaningful or reflective of the situation.

How are risk categories calculated?

Scores on all levels, which are i) indicator scores, ii) level 1 category-issue scores, iii) level 2 issue scores and iv) index scores are numeric on a scale from 0 to 10. The CRBA also provides risk categories to highlight the associated risk in a more user-friendly way. This risk categorization is provided for:

- Issue scores (level 2)
- Index scores (level 3)

This is how we assigned the countries to risk categories: We considered the distribution of the 194 countries in the CRBA for a given issue or index. We then split this distribution up into three parts by means for the 33rd and 67th percentile. In other words, we looked at the bottom, middle and top 33% of countries within a given issue and index. For each issue and index we then classified the countries accordingly:

- High risk: Bottom 33% countries within an issue or index respectively
- Medium risk: Middle 33% countries within an issue or index respectively
- Low risk: Top 33% countries within an issue or index respectively

Just like with the computation of indicator scores for numeric indicators, it should be noted that the assigned risk category of a given country therefore depends on the distribution of issue/ index scores, and therefore on the scores of other countries.

Where can I find more information and the implementation of the methodology?

We are committed to making the CRBA as transparent and accessible as possible. All calculations and data transformations from extraction until the finalized version of the CRBA can be looked at under the following link:

MajorDaxx/crba-etl at publish_v2023_06_26 (github.com)

There, you will also find instructions on how you can replicate the CRBA and its results by yourself.

DATA VALIDATION 2020

How was the correctness of the CRBA and raw data validated?

Due its size, the research, extraction, transformation and score-computation of the CRBA is quite an involved process. To double-check and guarantee the correctness of the data, we have run several validation methods.

Technical validation:

One set of validation methods we applied were of technical nature. That is, we validated the correctness of data from a pure statistical and mathematical point of view. The validation we ran were:

- Assert that all scores are always between 0 and 10
- Check the presence of all countries for a given indicator
- Check the age distribution of country data for a given indicator (and subsequently exclude observations older than 2010)
- Check the number of indicators per country
- Check the number of indicators per category
- Check the number of indicators per index
- Check the number of indicators per issue
- No value errors (e.g. both indicator scores and raw data should always be numeric and never of type ‘text’)

Anomalies were solved during the development of the CRBA.

Domain expert validation:

On top of the above technical validation, we also ran a number of sanity-checks from a domain-expert point of view. This included reviewing the final results to do the following:

- Check that individual indicator scores make sense (spot check for some indicators)
- Check that the distribution of scores make sense
- Look at certain pairs of countries we would expect on the lower and higher end of children's rights. Then manually double-check indicators where a country expected to be at the lower end, has a better score than the country expected to be at the higher end
- Compare the 2018 CRBA results with the 2020 CRBA results

If any anomalies were found, they were investigated and resolved.

CRBA overview in numbers:

These are some summary statistics that give an overview of the CRBA and its results.

Total number of indicators:	206
Total number of sources: (NB some sources were used for several indicators)	196
Total number of indices	3
Total number of issues	11
Total number of categories	4
Total number of countries included	195 (Kosovo was excluded for aggregated scores)

Number of indicators per index

Community and Environment	72
Marketplace	52
Workplace	78

Number of indicators per issue

Child labour	24
Decent working conditions	33
Fulfilment of children's rights	13
Land rights	9
Marketing and advertising	25
Maternity and paternity protection	21
Natural disasters	11
Online abuse and exploitation	19
Product safety	12
Resource use and damage to the environment	22
Security arrangement	17

Number of indicators per category (across issues)

Enforcement	49
Legal framework international	43
Legal framework national	62
Outcome	52

Distribution of data age (NB: Observations older than 2010 were not included in the score calculation)

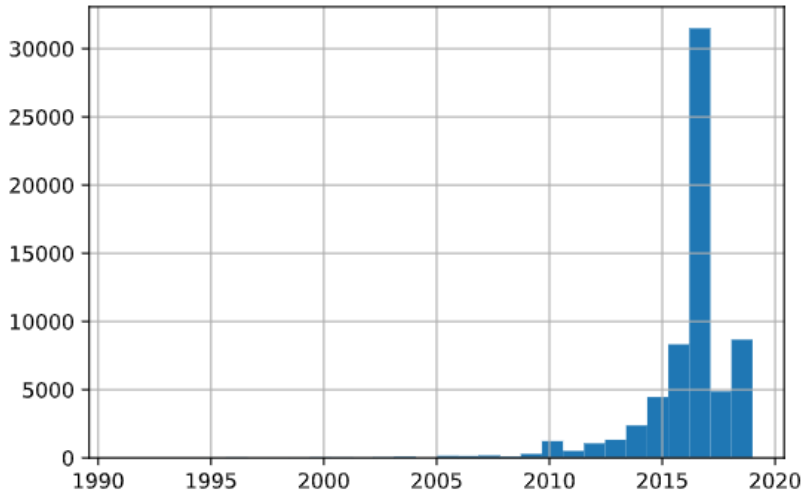


Figure x: Before excluding observation older than 10 years

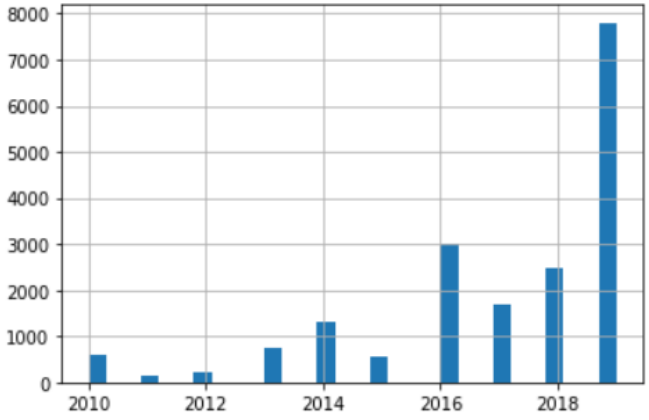


Figure x: After excluding observations older than 10 years

Number of indicators per country

	COUNTRY_ISO_3	COUNTRY_NAME	INDICATOR_CODE
0	XKX	Kosovo	56
1	PSE	State of Palestine	107
2	MCO	Monaco	107
3	LIE	Liechtenstein	107
4	NRU	Nauru	120
5	PLW	Palau	122
6	KNA	Saint Kitts and Nevis	122
7	SMR	San Marino	122
8	AND	Andorra	124
9	MHL	Marshall Islands	124
10	FSM	Micronesia	125
11	TUV	Tuvalu	126
12	PRK	North Korea	130
13	SSD	South Sudan	132
14	DMA	Dominica	133
15	SOM	Somalia	135
16	TON	Tonga	140
17	GRD	Grenada	140
18	VCT	Saint Vincent and The Grenadines	142
19	LBY	Libya	142
20	BHS	Bahamas	145
21	ATG	Antigua and Barbuda	146
22	KIR	Kiribati	146
23	BHR	Bahrain	146
24	STP	Sao Tome and Principe	146
25	GNQ	Equatorial Guinea	147
26	HTI	Haiti	149
27	FJI	Fiji	150
28	BRN	Brunei	151
29	SLB	Solomon Islands	151
30	KWT	Kuwait	151

31	QAT	Qatar	152
32	TKM	Turkmenistan	152
33	PNG	Papua New Guinea	152
34	SYR	Syria	153
35	DJI	Djibouti	153
36	ERI	Eritrea	153
37	CUB	Cuba	153
38	ARE	United Arab Emirates	153
39	SGP	Singapore	153
40	GNB	Guinea-Bissau	154
41	CAF	Central African Republic	154
42	MLT	Malta	155
43	LCA	Saint Lucia	155
44	SYC	Seychelles	155
45	MDV	Maldives	155
46	VUT	Vanuatu	156
47	SUR	Suriname	156
48	LUX	Luxembourg	156
49	COG	Congo	156
50	CPV	Cabo Verde	157
51	COM	Comoros	159
52	DNK	Denmark	159
53	GRC	Greece	160
54	LBN	Lebanon	160
55	GAB	Gabon	160
56	MKD	Macedonia	161
57	WSM	Samoa	161
58	SAU	Saudi Arabia	161
59	TTO	Trinidad and Tobago	161
60	ISL	Iceland	161
61	LSO	Lesotho	161
62	ISR	Israel	162
63	BRB	Barbados	162
64	IRN	Iran	163
65	TLS	Timor-Leste	163

66	HUN	Hungary	163
67	UZB	Uzbekistan	163
68	POL	Poland	163
69	COD	DR Congo	163
70	BIH	Bosnia and Herzegovina	164
71	OMN	Oman	164
72	LTU	Lithuania	165
73	TUN	Tunisia	165
74	BWA	Botswana	166
75	YEM	Yemen	166
76	GMB	Gambia	166
77	IRL	Ireland	166
78	CYP	Cyprus	166
79	MUS	Mauritius	166
80	MRT	Mauritania	166
81	TCD	Chad	166
82	GIN	Guinea	166
83	AZE	Azerbaijan	166
84	BTN	Bhutan	166
85	LVA	Latvia	167
86	NZL	New Zealand	167
87	BEL	Belgium	167
88	KOR	South Korea	167
89	AFG	Afghanistan	167
90	TJK	Tajikistan	167
91	NLD	Netherlands	168
92	EST	Estonia	169
93	GEO	Georgia	169
94	AUT	Austria	169
95	SVN	Slovenia	169
96	VEN	Venezuela	169
97	BEN	Benin	169
98	PRT	Portugal	170
99	USA	United States	170
100	SVK	Slovakia	170

101	SLE	Sierra Leone	170
102	HRV	Croatia	170
103	JPN	Japan	170
104	CAN	Canada	170
105	MDA	Moldova	170
106	BLZ	Belize	170
107	SWZ	Swaziland	171
108	BLR	Belarus	171
109	FRA	France	171
110	CHE	Switzerland	172
111	CHN	China	172
112	AGO	Angola	172
113	TGO	Togo	172
114	MNE	Montenegro	172
115	NAM	Namibia	173
116	CZE	Czech Republic	173
117	BGR	Bulgaria	173
118	ESP	Spain	173
119	GUY	Guyana	173
120	SDN	Sudan	173
121	MAR	Morocco	173
122	ITA	Italy	174
123	NOR	Norway	174
124	CIV	Cote d'Ivoire	174
125	KGZ	Kyrgyzstan	174
126	MLI	Mali	174
127	DOM	Dominican Republic	174
128	FIN	Finland	174
129	ETH	Ethiopia	174
130	DZA	Algeria	175
131	JAM	Jamaica	175
132	NIC	Nicaragua	176
133	SWE	Sweden	176
134	BDI	Burundi	176
135	PRY	Paraguay	177

136	ZWE	Zimbabwe	177
137	DEU	Germany	177
138	JOR	Jordan	177
139	BOL	Bolivia	177
140	IND	India	178
141	IRQ	Iraq	178
142	URY	Uruguay	178
143	AUS	Australia	178
144	LBR	Liberia	178
145	NGA	Nigeria	178
146	MYS	Malaysia	178
147	GBR	United Kingdom	179
148	LAO	Laos	179
149	PAK	Pakistan	180
150	UKR	Ukraine	180
151	ROU	Romania	181
152	ZMB	Zambia	181
153	MDG	Madagascar	181
154	LKA	Sri Lanka	181
155	ECU	Ecuador	182
156	ARM	Armenia	183
157	MWI	Malawi	183
158	NPL	Nepal	183
159	HND	Honduras	183
160	EGY	Egypt	184
161	VNM	Vietnam	184
162	KEN	Kenya	184
163	RUS	Russia	184
164	PAN	Panama	184
165	THA	Thailand	184
166	CRI	Costa Rica	185
167	ALB	Albania	185
168	KAZ	Kazakhstan	185
169	NER	Niger	185
170	SEN	Senegal	185

171	BFA	Burkina Faso	186
172	CHL	Chile	186
173	BGD	Bangladesh	186
174	PHL	Philippines	186
175	RWA	Rwanda	186
176	SRB	Serbia	187
177	TUR	Turkey	187
178	MOZ	Mozambique	187
179	BRA	Brazil	187
180	ARG	Argentina	188
181	MNG	Mongolia	188
182	KHM	Cambodia	189
183	SLV	El Salvador	189
184	GTM	Guatemala	190
185	CMR	Cameroon	191
186	ZAF	South Africa	191
187	UGA	Uganda	191
188	MMR	Myanmar	191
189	MEX	Mexico	194
190	COL	Colombia	195
191	TZA	Tanzania	195
192	PER	Peru	196
193	GHA	Ghana	196
194	IDN	Indonesia	197

Distribution of scores across all countries and indicators

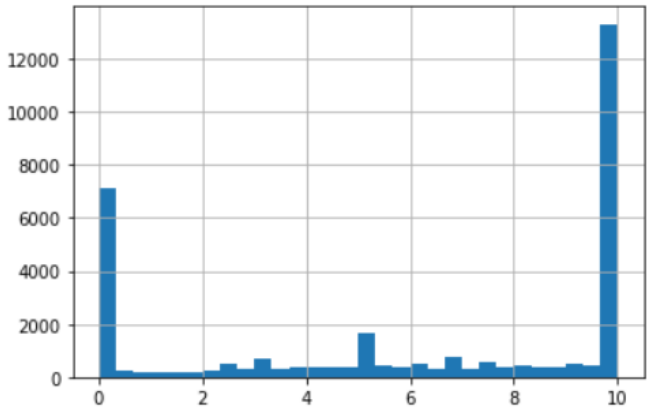
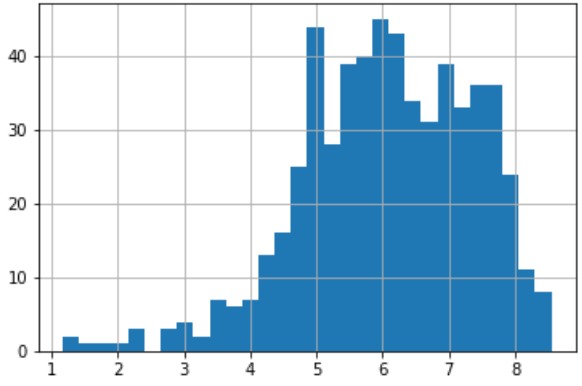


Figure x: Distribution of indicator scores

Distribution of index scores



CHANGE LOG 2023 UPDATE

An update of the CRBA was conducted in 2023 and the following summarises key changes made to sources and indicators.

1. List of indicators and sources retired.

ID	S-ID	I-ID	INDICATOR_CODE	CRBA_ID	Source	Reason
1	S-21	I-21	WP_CL_OC_PRHAWA	Crba-93	UCW	Decided to retire because UCW stopped work on the project in 2019 so no prospect of an update. Also some data is older than 10 years, there are very limited data points, and no prospect of an update. We anticipate data on this from the SDGs as child labour/hazardous work is so prominent.
2	S-11	I-11	WP_CL_LF_CSAELF	Crba-82	EIU	The structure of the EIU index changed so we had to adjust our indicators accordingly and made the following decisions: Replace S-120 (legal) = Prevention Replace S-124 (enforcement) = Response Retire S-11 (legal/child labour) [covered by other indicators in this category] Retire S-134 (enforcement) Retire S-229 (outcome)
3	S-134	I-114	MP_OL_EN_CSAEGC	Crba-82	EIU	Ibid
4	S-229	I-216	MP_OL_OC_CHSAEE	Crba-82	EIU	Ibid
5	S-213	I-200	WP_MP_EN_MALECB	Crba-84	ILO	ILO have not updated Maternity and Paternity at Work 2014 and the data is from 2010 so we retired S-70, S-69 and S-213. We already have another indicator that is very similar to I-200-S-213 (S-71 – I62) Mothers receiving maternity cash benefits (outcome indicator) SDG Indicator 1.3.1. Proportion of mothers with newborns receiving maternity cash benefit. SI_COV_MATNL We cannot replace the loss of I-60-S-69 and the loss of I61-S-70
6	S-69	I-60	WP_MP_OC_COMALE	Crba-84	ILO	ibid
7	S-70	I-61	WP_MP_OC_MACABE	Crba-84	ILO	Ibid
8	S-176	I-157	CE_SA_LF_USCHHP	Crba-86	CSI	Child soldier index no longer exists, no replacement found

9	S-46	I-42	WP_DW_LF_FREASS	Crba-94	CGWR	Retire I-42 – S-46 (in law) as the source is not active and is not being updated. We have I-29 which covers this partially, but sufficiently. Keep S-54 and I-50 (in practice) but map to a new source - the ITUC Global Rights Index, including new encoding

2. List of new indicators and sources added

ID	S-ID	I-ID	CRBA_ID	Source	Reason
1	S-123	I-104	Crba-98	NCMEC 2022 CyberTipline Reports by country. [Number of CSAM reports sent by US companies to the NCMEC CyberTipline, per 100,000 population.]	Indicator I-104 NCMEC reports of missing children was based on a map shared by email in 2020, but which is not publicly available and will not be updated. To maintain source transparency, retiring the indicator was discussed. However, there is very little outcomes data for this issue, so it was decided to keep I-104. In addition, it was decided to strengthen the outcomes data for this issue by introducing a new source and indicator from NCMEC. This source is also limited as it only includes reports by global US companies reporting CSAM identified, but it is updated annually and addresses the scale of CSAM material.
2	S-54	I-50	Crba-94	ITUC	S-54 and I-50 (in practice) but map to a new source - the ITUC Global Rights Index, including new encoding

3. List of minor changes to sources

ID	S-ID	I-ID	CRBA_ID	Source	Reason
1	S-139	I-119	101	ITU	The coding in the country profiles had changed, so we adjusted our coding values
2	S-140	I-120	102	Child Helpline	Source information had moved, now logged in the dictionary
3	S-186, 187 and 188	I-167, 168, 169	40	UN SDGs	Change to codes of relevant SDG sources, now logged in dictionary
4	S-104	I-89, I-198	61	WHO	Agreed to take the average value, when two or more source (and thus also values) are given for a country-year pair

5	S-54 (S-221)	I-50	94	Center for Global Workers Rights	Keep S-54 and I-50 (in practice) but map to a new source - the ITUC Global Rights Index, including new encoding
6	S-222	I-209	74	UN SDG	Clarified correct source as data including children - Indicator 2.1.2, Series : Prevalence of moderate or severe food insecurity (%) AG_PRD_FIESMS
7	S-154	I-134	77	EITI	EITI coding changed so we adjusted encoding accordingly
8	S-160	I-178	136	UN SDG	SDG code changed – Agreed to use Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene from diarrhoea, intestinal nematode infections, malnutrition and acute respiratory infections (deaths per 100,000 population) → SH_STA_WASHARI
9	S_10, S-13, S_36, S_45, S_49, S-40, S-41, S-63, S-64, S-65, S-66, S_67, S_68, S-231, S-232	I-10, I-13, I-41, I-45, I-36, I-37, I-54, I-55, I-56, I-57, I-59, I-218, I-219	138 and 131	WPA	There were major structural changes to the WPA data, including some new encodings for indicators (all listed on the ticket), and some updates. We had to identify and date the relevant indicators. Below is the information we were given about the dates of the data. Adult labor: 2016 Infant Caregiving (current January 2022) Paid Leave for Family Health Needs (current January 2022) Paid Sick & Medical Leave (current September 1, 2020) Previously childhood (2014) - all in is now in world areas): Education (indicators current as of September 2019, with the exception of disability-inclusion indicators current as of June 2018). An update is currently in progress Child Labor (current October 2016). Unfortunately this is the most recent data we have available. Child Marriage (current December 2019) – planned for an update later this year. Constitutions (current January 2022)
10		I-18			Change indicator description to: Estimated number of victims of modern slavery per 1,000 people (Global Slavery Index - Prevalence)
11	S-42				New enconding: 2=Yes (either broad prohibition of workplace discrimination based on sex OR sex-specific prohibition, and/or general prohibition of discrimintion in promotions or demotions); 1=No protection; 0=No data

DATA VALIDATION 2023

These are some summary statistics that give an overview of the CRBA and its results.

Total number of indicators:	198 in 2023 (206 in 2020)
Total number of sources: (NB some sources were used for several indicators in 2020)	198 in 2023 (196 in 2020)
Total number of indices	3
Total number of issues	11
Total number of categories	4
Total number of countries included	195 (Kosovo was excluded for aggregated scores)

Number of indicators per index

Community and Environment	71 in 2023 (72 in 2020)
Marketplace	55 in 2023 (56 in 2020)
Workplace	72 in 2023 (78 in 2020)

Number of indicators per issue

Child labour	22 (24 in 2020)
Decent working conditions	32 (33 in 2020)
Fulfilment of children’s rights	13 (no change)

Land rights	9 (no change)
Marketing and advertising	25 (no change)
Maternity and paternity protection	18 (21 in 2020)
Natural disasters	11 (no change)
Online abuse and exploitation	18 (19 in 2020)
Product safety	12 (no change)
Resource use and damage to the environment	22 (no change)
Security arrangement	16 (17 in 2020)

Number of indicators per category (across issues)

Enforcement	47 (49 in 2020)
Legal framework international	43 (no change)
Legal framework national	59 (62 in 2020)
Outcome	49 (52 in 2020)

Distribution of data age (NB: Observations older than 10 years were not included in the score calculation)

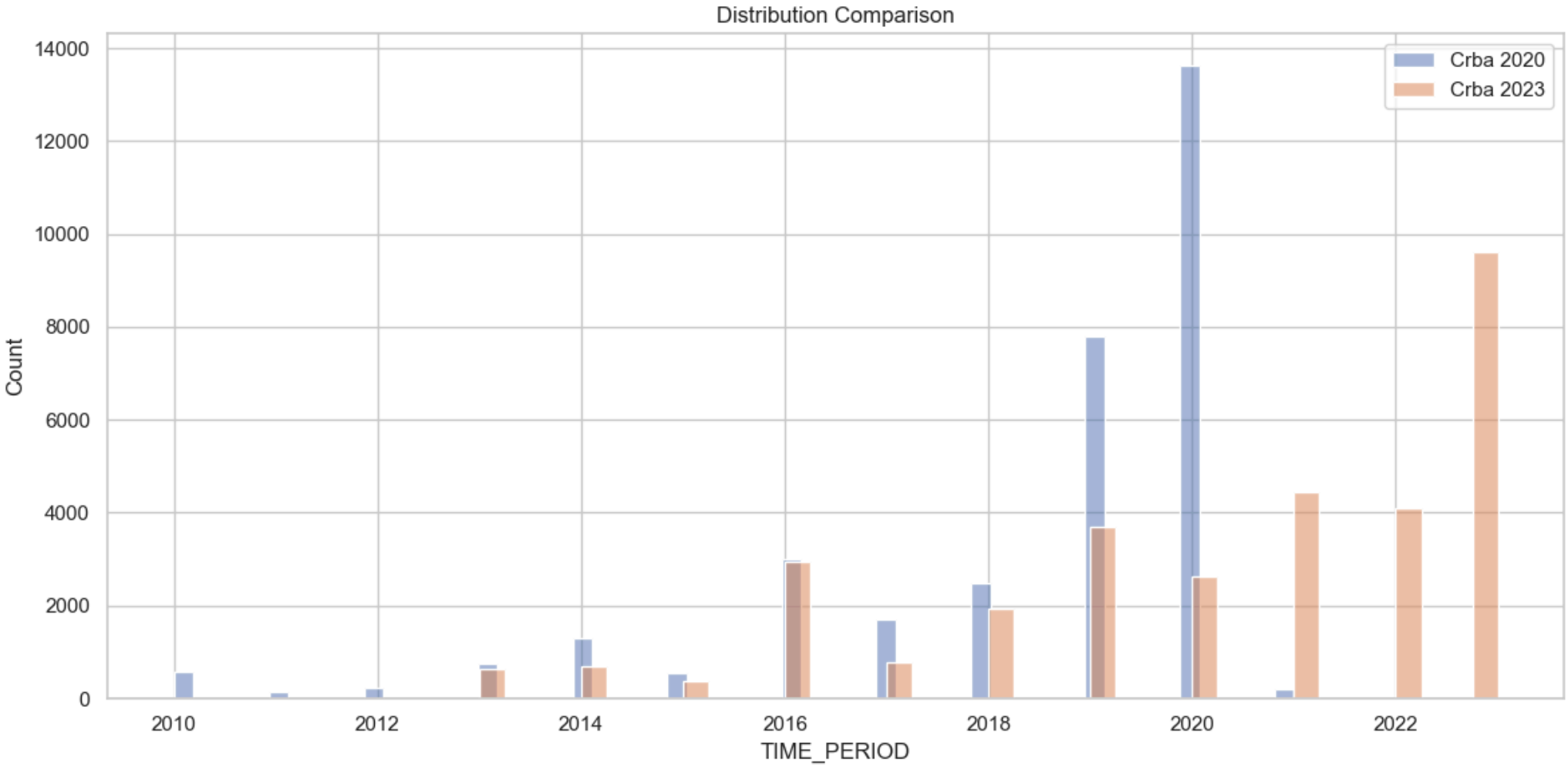


Figure x: After excluding observations older than 10 years

Number of indicators per country

COUNTRY_ISO_3	COUNTRY_NAME	NUMBER_OF_INDICATORS

0	GHA	Ghana	193
1	GTM	Guatemala	188
2	MEX	Mexico	188
3	COL	Colombia	188
4	IDN	Indonesia	188
5	TZA	Tanzania	188
6	MMR	Myanmar	187
7	PER	Peru	187
8	UGA	Uganda	186
9	BRA	Brazil	186
10	CRI	Costa Rica	185
11	ZAF	South Africa	185
12	LBR	Liberia	184
13	EGY	Egypt	184
14	KHM	Cambodia	184
15	BFA	Burkina Faso	184
16	ECU	Ecuador	183
17	HND	Honduras	183
18	BWA	Botswana	183
19	ZMB	Zambia	183

20	MNG	Mongolia	182
21	CMR	Cameroon	182
22	TUR	Türkiye	182
23	BGD	Bangladesh	182
24	JAM	Jamaica	182
25	JOR	Jordan	181
26	RWA	Rwanda	181
27	SEN	Senegal	181
28	MWI	Malawi	181
29	SRB	Serbia	180
30	SLV	El Salvador	180
31	THA	Thailand	180
32	MOZ	Mozambique	180
33	PAN	Panama	180
34	NER	Niger	180
35	KAZ	Kazakhstan	179
36	ARM	Armenia	179
37	ARG	Argentina	179
38	KEN	Kenya	179
39	IRQ	Iraq	178

40	BEN	Benin	178
41	MDG	Madagascar	178
42	AGO	Angola	178
43	CHL	Chile	178
44	GEO	Georgia	177
45	LKA	Sri Lanka	177
46	PAK	Pakistan	177
47	ROU	Romania	177
48	RUS	Russia	177
49	SWZ	Swaziland	177
50	ALB	Albania	177
51	MYS	Malaysia	176
52	DZA	Algeria	176
53	NGA	Nigeria	176
54	UKR	Ukraine	175
55	UZB	Uzbekistan	175
56	VNM	Vietnam	175
57	LAO	Laos	175
58	AFG	Afghanistan	175
59	ZWE	Zimbabwe	175

60	SLE	Sierra Leone	174
61	NAM	Namibia	174
62	MLI	Mali	174
63	NIC	Nicaragua	173
64	TGO	Togo	173
65	BDI	Burundi	173
66	DOM	Dominican Republic	173
67	URY	Uruguay	173
68	IND	India	173
69	ETH	Ethiopia	173
70	BLR	Belarus	173
71	BGR	Bulgaria	172
72	MAR	Morocco	172
73	PRY	Paraguay	172
74	GUY	Guyana	171
75	TJK	Tajikistan	171
76	TTO	Trinidad and Tobago	171
77	AZE	Azerbaijan	171
78	AUS	Australia	171
79	MRT	Mauritania	171

80	BLZ	Belize	170
81	POL	Poland	170
82	SDN	Sudan	170
83	NOR	Norway	170
84	CZE	Czech Republic	170
85	SWE	Sweden	169
86	FIN	Finland	169
87	YEM	Yemen	169
88	HRV	Croatia	169
89	BTN	Bhutan	169
90	WSM	Samoa	169
91	DEU	Germany	169
92	MUS	Mauritius	168
93	NPL	Nepal	168
94	MNE	Montenegro	168
95	HUN	Hungary	168
96	TLS	Timor-Leste	168
97	GAB	Gabon	167
98	LBN	Lebanon	167
99	BRB	Barbados	167

100	BOL	Bolivia	167
101	GBR	United Kingdom	167
102	MDV	Maldives	166
103	VEN	Venezuela	166
104	GIN	Guinea	166
105	CHN	China	166
106	CHE	Switzerland	166
107	MDA	Moldova	166
108	PRT	Portugal	166
109	ITA	Italy	166
110	LVA	Latvia	166
111	BIH	Bosnia and Herzegovina	166
112	SVK	Slovakia	166
113	EST	Estonia	166
114	FRA	France	165
115	VUT	Vanuatu	165
116	TCD	Chad	165
117	ESP	Spain	165
118	KGZ	Kyrgyzstan	165
119	CPV	Cabo Verde	164

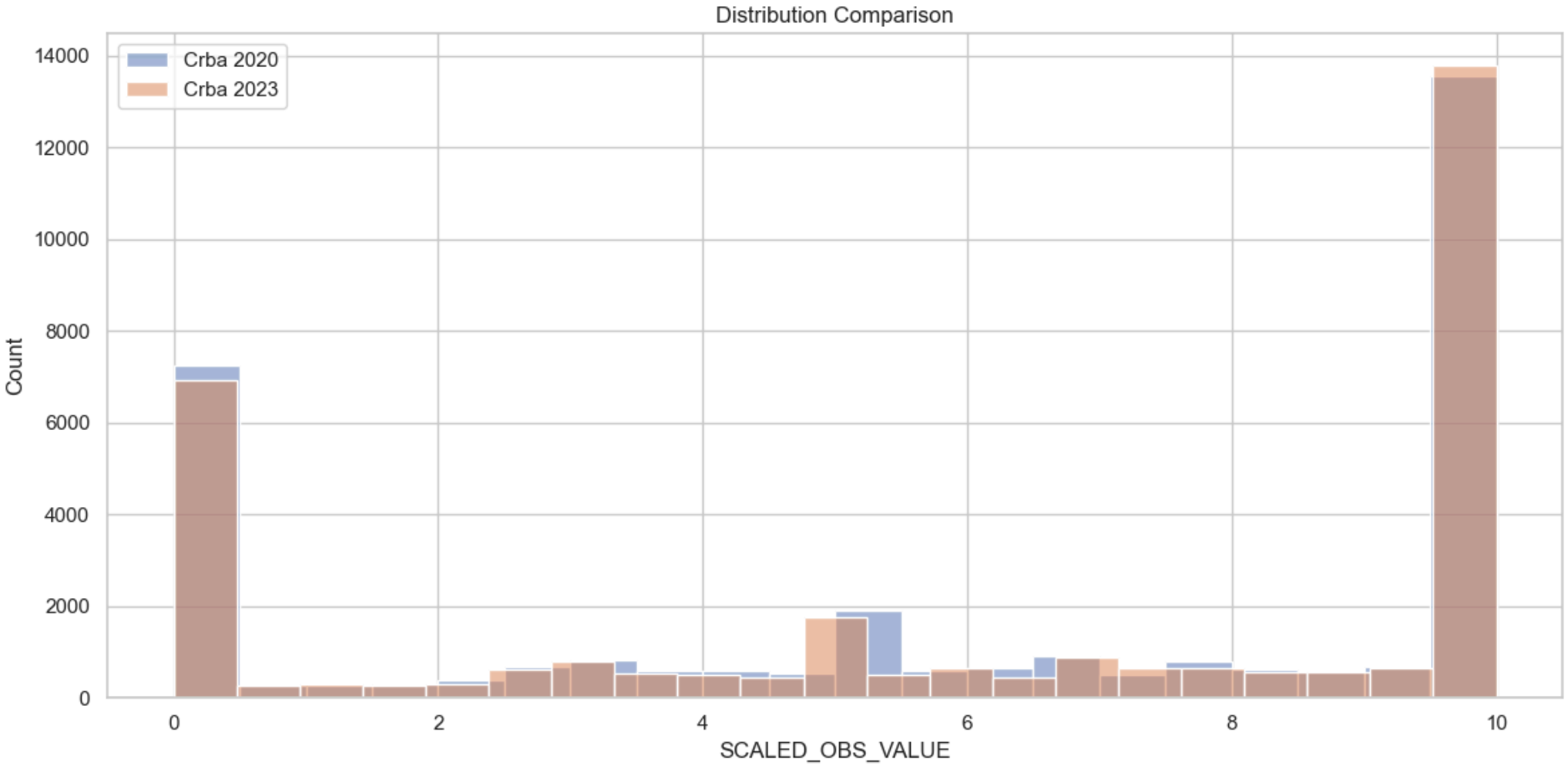
120	KIR	Kiribati	164
121	LTU	Lithuania	164
122	COM	Comoros	163
123	LCA	Saint Lucia	163
124	NZL	New Zealand	163
125	DJI	Djibouti	162
126	SUR	Suriname	162
127	PHL	Philippines	162
128	IRN	Iran	162
129	OMN	Oman	162
130	JPN	Japan	162
131	USA	United States	162
132	LSO	Lesotho	162
133	BEL	Belgium	162
134	IRL	Ireland	162
135	CYP	Cyprus	161
136	SAU	Saudi Arabia	161
137	SYC	Seychelles	161
138	AUT	Austria	161
139	SVN	Slovenia	161

140	GRC	Greece	160
141	MKD	North Macedonia	160
142	KOR	South Korea	160
143	COD	DR Congo	160
144	SYR	Syria	159
145	ARE	United Arab Emirates	159
146	DNK	Denmark	158
147	TKM	Turkmenistan	158
148	GNB	Guinea-Bissau	158
149	CAF	Central African Republic	157
150	ISL	Iceland	157
151	CAN	Canada	157
152	CIV	Côte d'Ivoire	156
153	ISR	Israel	156
154	FJI	Fiji	156
155	LUX	Luxembourg	155
156	SLB	Solomon Islands	154
157	ERI	Eritrea	154
158	ATG	Antigua and Barbuda	153
159	TUN	Tunisia	153

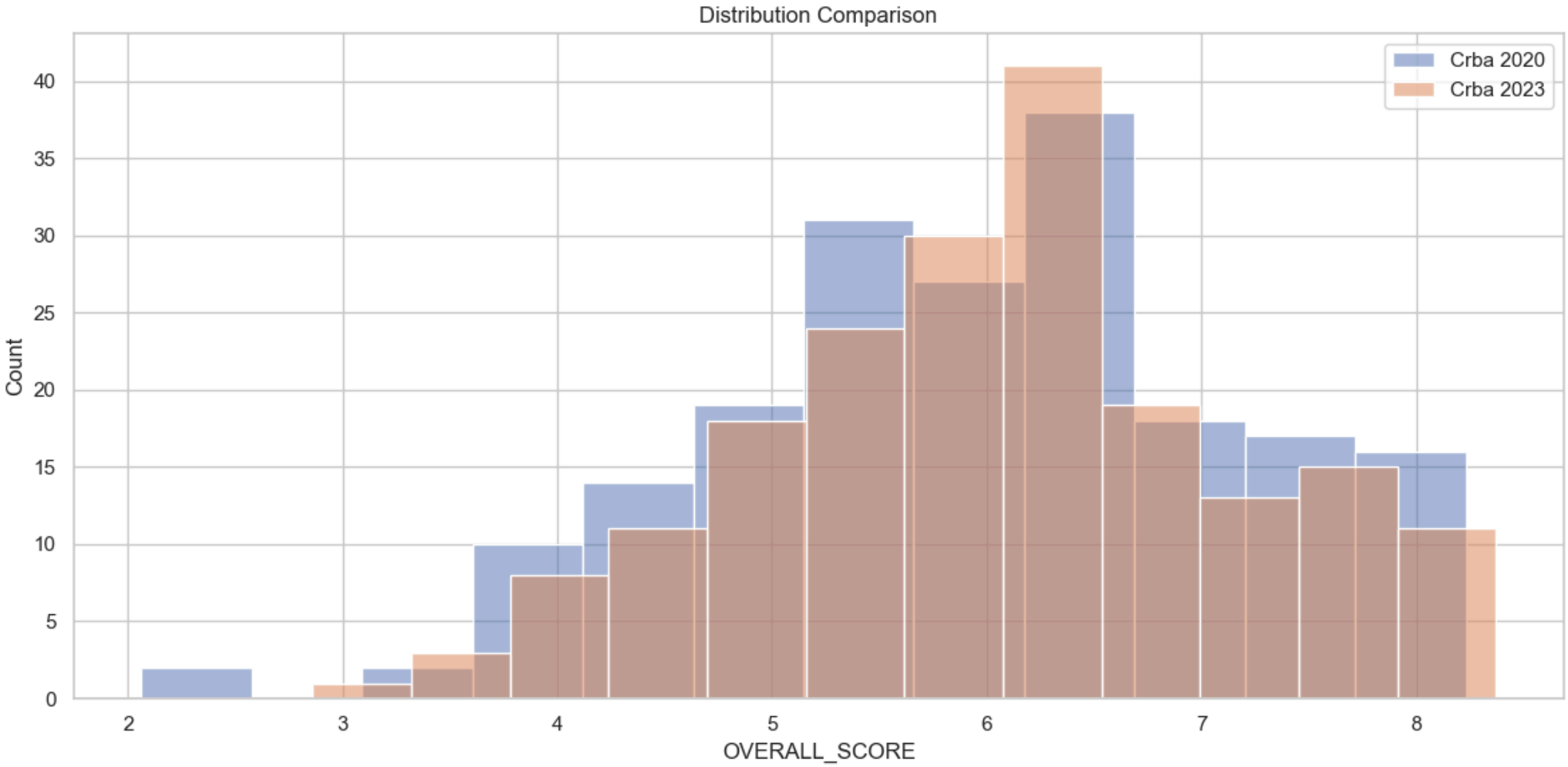
160	SGP	Singapore	152
161	PNG	Papua New Guinea	152
162	SOM	Somalia	152
163	GMB	Gambia	152
164	MLT	Malta	150
165	BHS	Bahamas	150
166	GRD	Grenada	150
167	GNQ	Equatorial Guinea	150
168	CUB	Cuba	148
169	STP	Sao Tome and Principe	148
170	QAT	Qatar	147
171	TON	Tonga	147
172	LBY	Libya	147
173	KWT	Kuwait	146
174	NLD	Netherlands	146
175	VCT	Saint Vincent and The Grenadines	145
176	MHL	Marshall Islands	144
177	BRN	Brunei	144
178	HTI	Haiti	141
179	COG	Congo	140

180	DMA	Dominica	140
181	SSD	South Sudan	140
182	BHR	Bahrain	140
183	KNA	Saint Kitts and Nevis	137
184	TUV	Tuvalu	131
185	SMR	San Marino	129
186	AND	Andorra	125
187	FSM	Micronesia	125
188	PRK	North Korea	125
189	NRU	Nauru	124
190	PLW	Palau	122
191	PSE	State of Palestine	122
192	LIE	Liechtenstein	112
193	MCO	Monaco	111
194	XKX	Kosovo	59

```
Comparison of single indicator scores of countries (variable `SCALED_OBS_VALUE`)
```

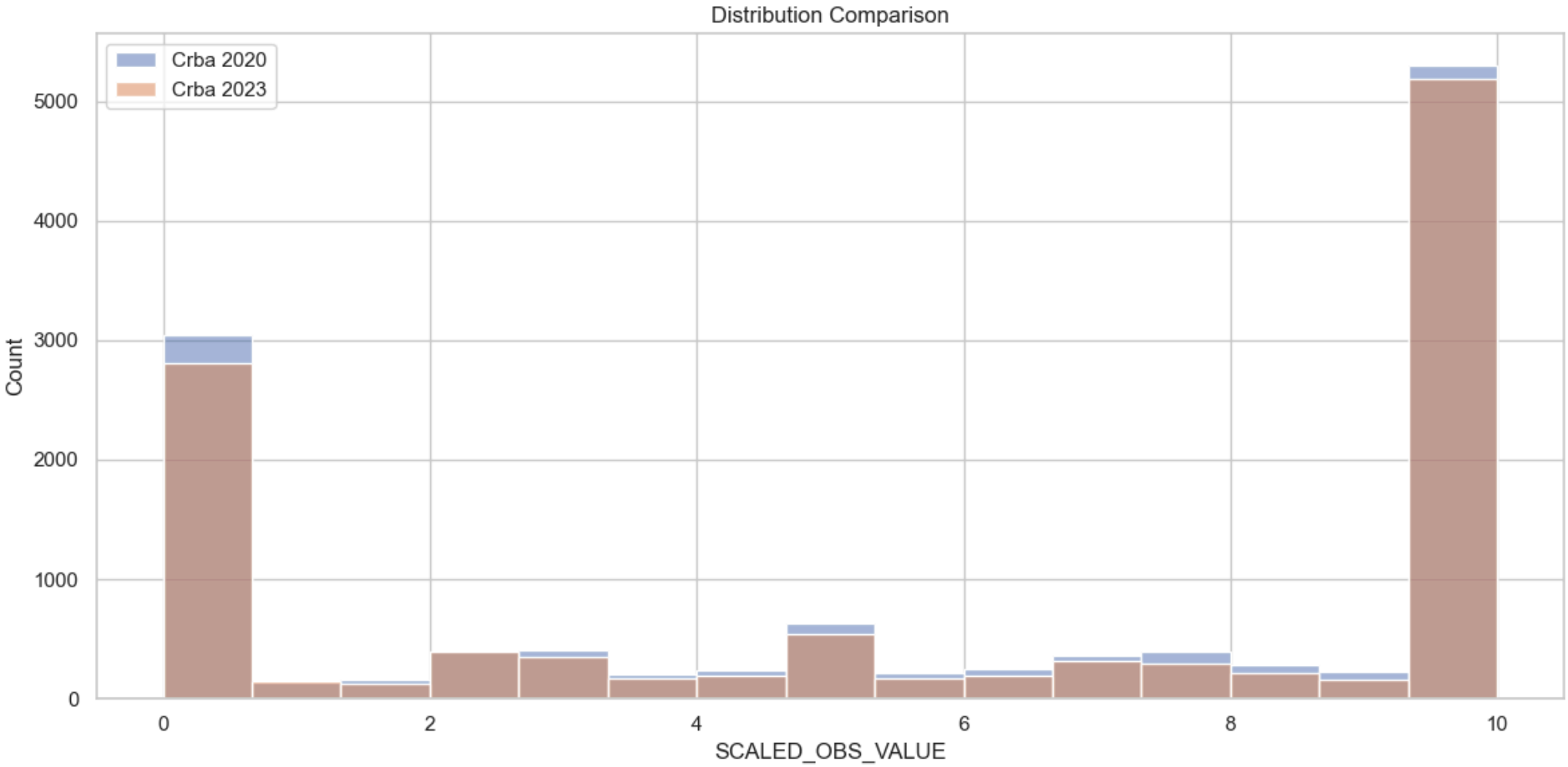



```
Comparison of countries' OVERALL_SCORE (average of index scores, variable `OVERALL_SCORE`)
```

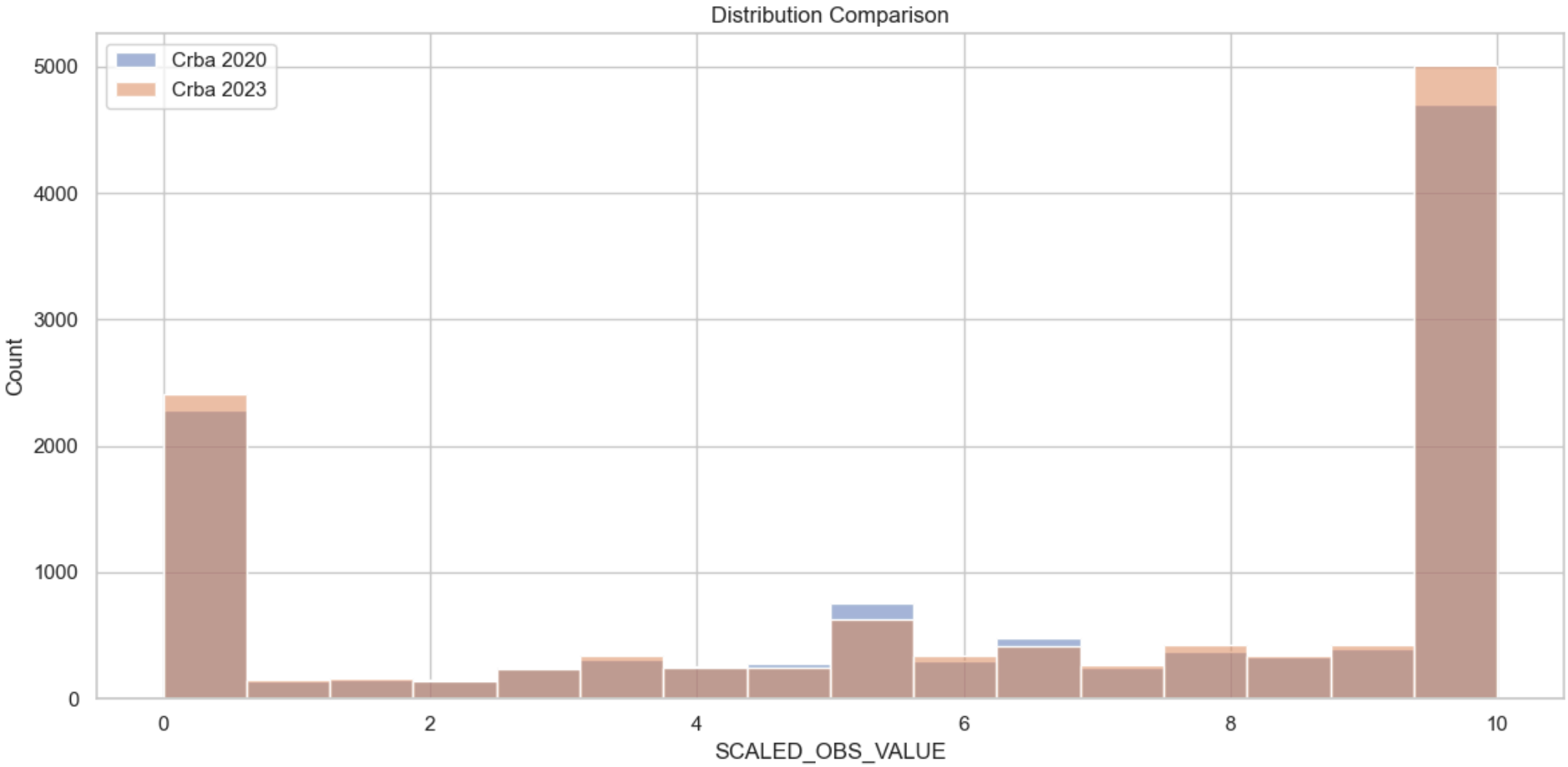


Distribution of index scores

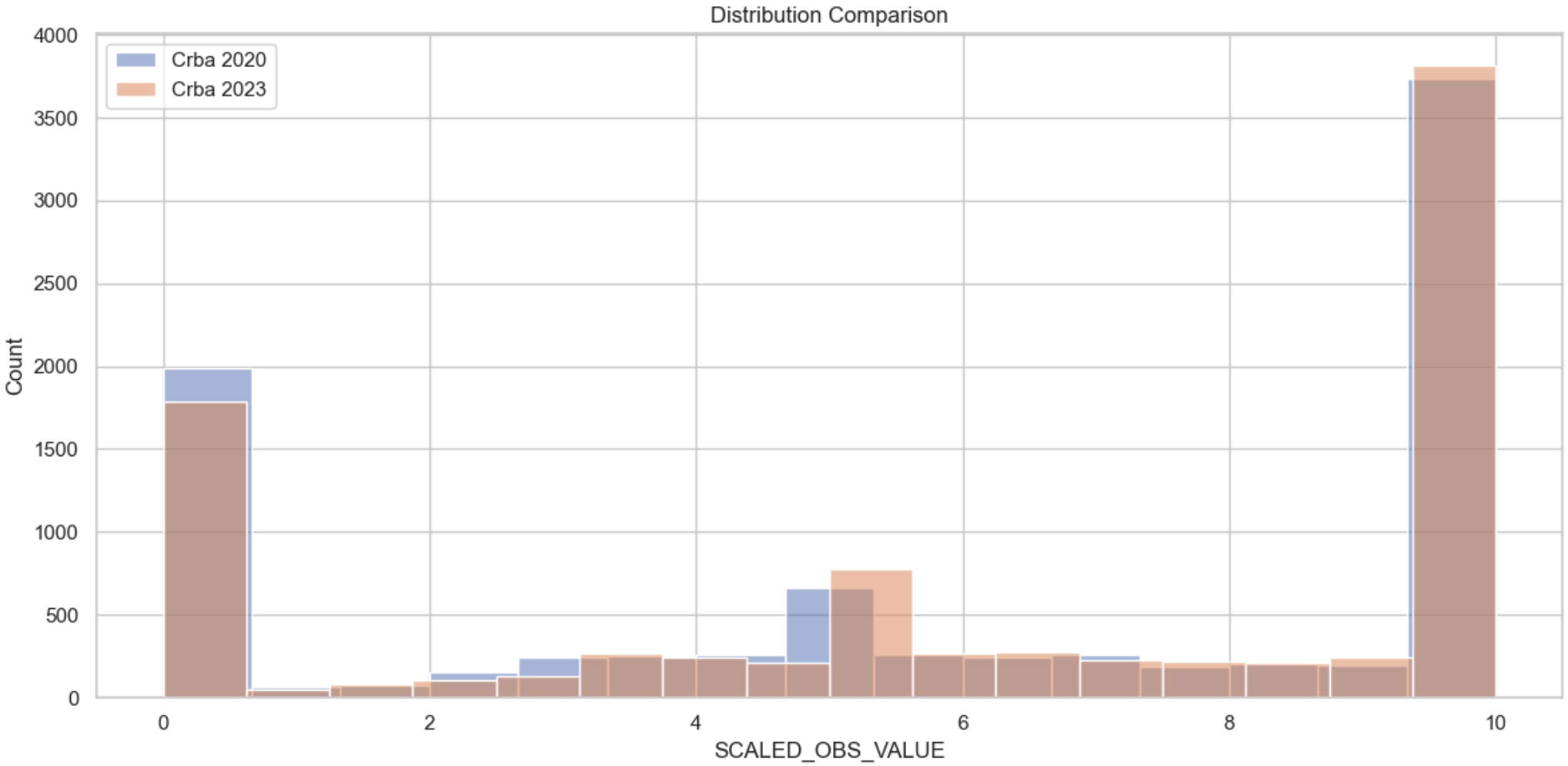
Worplace



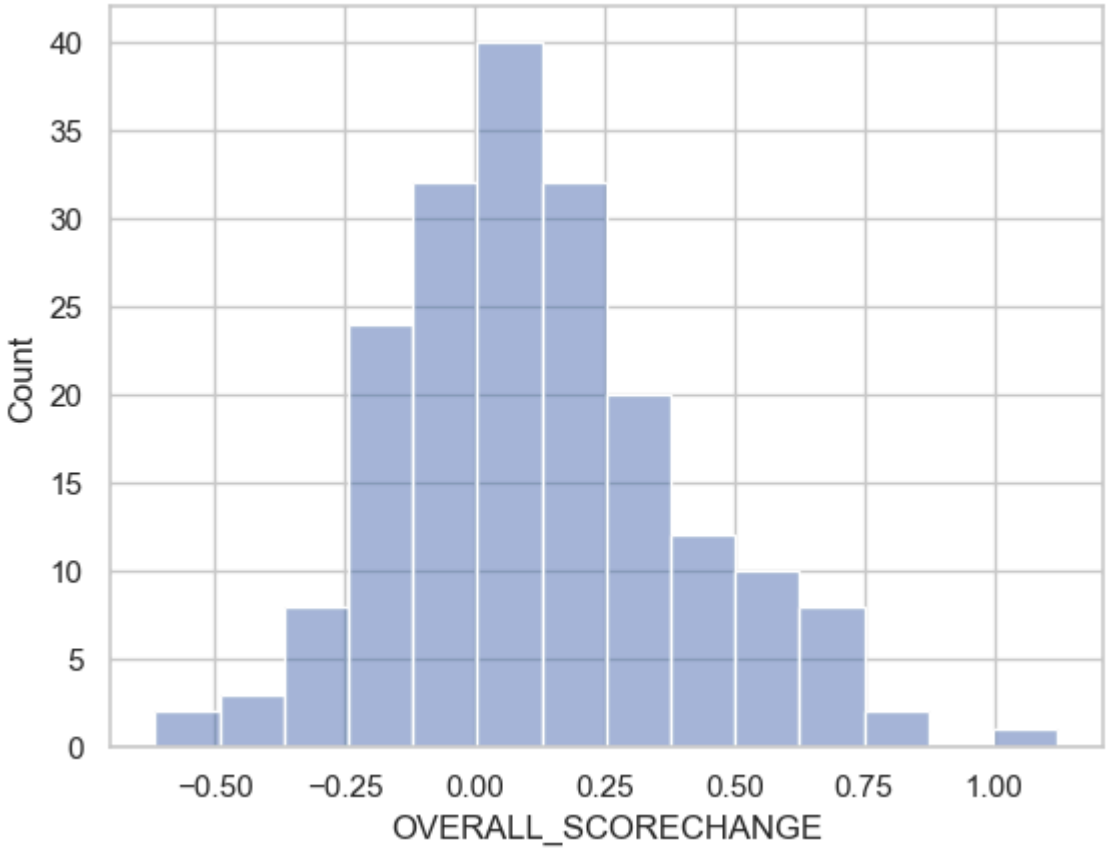
Community and environment



Marketplace


Distribution Comparison
Crba 2020
Crba 2023
Count
SCALED_OBS_VALUE
0
500
1000
1500
2000
2500
3000
3500
4000
0
2
4
6
8
10

Country overall score change between 2020 and 2023, incl which countries improved/ deteriorated most



Top 10 countries which improved most:

	COUNTRY_ISO_3	OVERALL_SCORECHANGE
159	SSD	1.121821
45	DJI	0.842883
157	SOM	0.797194
64	GIN	0.725303
172	TKM	0.688655
91	KIR	0.675806
65	GMB	0.673209
41	CUB	0.666016
148	RWA	0.653601
122	MWI	0.645539

Bottom 10 countries which worsened most:

	COUNTRY_ISO_3	OVERALL_SCORECHANGE
94	KWT	-0.616005
176	TUN	-0.529248
80	IRQ	-0.382138
175	TTO	-0.380173
133	OMN	-0.378414
75	HUN	-0.365549
123	MYS	-0.332025
70	GTM	-0.325779
115	MLT	-0.301409
0	AFG	-0.296717

Please find the full list of validation and the entire Exploratory Data Analysis here: crba-etl/validation/comparison_of_final_files.html at publish_v2023_06_26 · MajorDaxx/crba-etl · GitHub (.html file, so download and then open with your internet browser).

Indicators and sources

Below is a table listing the indicators and sources for each index and issue. Download the table by clicking here.

Insert table from data dictionary when finalised or link to download of this table

ABOUT THE CRBA

The Children's Rights and Business Atlas was jointly developed by UNICEF and the Global Child Forum, with the goal of creating a business-friendly resource providing businesses with the data, analysis and tools they need to make informed decisions in the best interest of children.

UNICEF is an integral part of the United Nations, and works with governments, civil society organizations and other partners worldwide to advance children's rights to survival, protection, development and participation, guided by the Convention on the Rights of the Child. UNICEF is a UN humanitarian and development program working in 190 countries for the rights of every child. UNICEF has spent 70 years working to improve the lives of children and their families. UNICEF's children's rights and business work promotes the corporate responsibility to respect and support children's rights in the workplace, marketplace and community, alongside working with governments to protect and fulfil children's rights.

Founded in 2009 by the Swedish Royal Family, Global Child Forum is a leading forum for children's rights and business dedicated to innovative thinking, knowledge-sharing and networking. We believe in the power and responsibility of business, working in partnership with all parts of society, to create a prosperous, sustainable and just society for the world's children. In addition to our forums, Global Child Forum delivers research perspectives, best practices and risk assessment tools designed to unlock opportunities for business to integrate children's rights into their operations and communities

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