# THE COMMITMENT TO REDUCING INEQUALITY INDEX 2022

## Methodology note

The Commitment to Reducing Inequality (CRI) Index is a multidimensional index that ranks 161 countries on their policy performance to reduce inequality through public services, progressive taxation and labour rights.

This fourth edition of the index builds on the 2020 Index, with the same methodology employed. The methodology has also been audited by the European Commission's Joint Research Centre (JRC).[1] The current CRI Index (2022) is calculated for 161 countries. There are four new countries included that were not in the 2020 edition: Iran, Kiribati, Tonga and Tuvalu. However, Colombia which had been included in previous editions of the CRI could not be included this time around.[2]

This note describes the principles behind the index in detail. It explains the changes to the methodology used to construct it, and improvements in the data and sources that have been used. It should be read in conjunction with the main report and the web-based data tool at www.inequalityindex.org.

Further details and clarification are available from Matthew Martin at Development Finance International (matthew.martin@dfi.org.uk) or Max Lawson at Oxfam International (max.lawson@oxfam.org).

# 1  STRUCTURE OF THE INDEX

The CRI Index has three vertical pillars, each of which relates to one policy area that has been found to be critical in reducing inequality based on previous extensive research and evidence:[3] public services, taxation and labour. Each pillar is arranged in a three-tiered structure horizontally to also look at the impact of a government's policy commitments within each area, taking into account its implementation efforts:

1. the policies that each government has enacted in the pillar area;

2. the implementation or coverage of these policies in practice; and

3. the impact of these policies on reducing income inequality.

The basic construction of the index is shown in Figure 1.

**Figure 1: Structure of the CRI Index**

| | **PUBLIC SERVICES SPENDING** | **TAX PROGRESSIVITY** | **LABOUR RIGHTS AND WAGES** |
|---|---|---|---|
| Policy indicators | • **PS1a** Education<br>• **PS1b** Health<br>• **PS1c** Social protection | • **T1a**–Personal income tax<br>• **T1a**–Corporate income tax<br>• **T1a**–Value added tax<br>• **T1b**–Harmful tax practices | • **L1a** Labour rights<br>• **L1b** Women's labour rights<br>• **L1c** Minimum wage |
| | Spending as % of total budget | Progressive tax structures | Governments' efforts to protect workers in law and practice |
| Implementation or coverage indicators | • **PS2a** Secondary education completion by poorest quintile<br>• **PS2b** Universal health coverage and out-of-pocket expenditure<br>• **PS2c** Pension coverage | • **T2** Tax productivity across VAT, PIT & CIT | • **L2a** Unemployment<br>• **L2b** Vulnerable employment |
| Impact indicators | • **PS3** Impact of spending on inequality (Gini) | • **T3** Impact of tax on inequality (Gini) | • **L3** Impact of labour income (wage) on inequality (Gini) |
| Total CRI score | Average of 3 pillar scores | | |

## 1.1 PUBLIC SERVICES (PS) PILLAR

The public services (PS) pillar measures government commitment to investing in three key sectors (education, health and social protection) in ways which reduce inequality. The three sets of public services indicators are:

• **PS1 (policy):** Government spending on progressive sectors as a percentage of total government spending;

- **PS2 (implementation):** The coverage of that service, i.e. the proportion of the relevant population that benefits from it, including, where data are available, on whether this reaches the poorest people;
- **PS3 (impact):** Impact of this spending on inequality, as measured by the incidence of the spending on the Gini coefficient of income.

# 1.2 TAX (T) PILLAR

The tax pillar measures government commitment to designing and collecting taxes such that their burden falls more on those who can afford it the most (i.e. if taxes are progressive). The three sets of tax (T) indicators are:

- **T1 (policy):** This includes two indicators. The first, 'T1a: Progressive structure', measures the progressivity of the tax structure on paper, based on the rates and bands of personal income tax (PIT), rate of corporate income tax (CIT), and rate of value added tax (VAT) corrected for threshold and exemption for food items. The second, 'T1b: Harmful tax practices', examines harmful tax practices (HTPs) and preferential regimes, which reduce a country's own and other countries' tax revenues.
- **T2 (implementation):** This indicator measures whether countries are collecting as much tax as they could, making their tax collection genuinely progressive. Tax 'productivity' is the amount of revenue actually collected from VAT, CIT and PIT compared with the collection predicted based on the rate and potential tax base (aggregate final consumption for VAT and gross domestic product (GDP) for CIT and PIT).
- **T3 (impact):** Impact of tax policies and collection on inequality (measured by incidence of taxes on the Gini coefficient of income).

# 1.3 LABOUR (L) PILLAR

The labour pillar measures legal protection of workers. The three sets of labour (L) indicators are:

- **L1 (policy):** The policy indicators look at governments' legislation regarding workers' rights, gender equality in the workplace and the level of minimum wages compared with per capita GDP.
- **L2 (implementation):** This is the proportion of the active population that does enjoy labour rights, which is formulated as one minus the sum of the unemployment rate and the proportion of 'vulnerable workers' (which includes both informal and non-contractual workers).
- **L3 (impact):** This measures labour market inequality (measured by the Gini coefficient of labour income), which is driven in part by the above policies, but also by market factors.

# 1.4 CONSTRUCTING THE INDEX

## THE DATA-GATHERING AND QUALITY-CHECKING PROCESS

The CRI Index is calculated using 19 different indicators, some of which are computed with several data points. The data needed are compiled by Development Finance International (DFI), whose researchers go through a lengthy and detailed collection exercise using a wide range of primary and secondary sources.

Each data point is then checked by DFI to ensure that it is of the highest quality (especially if more than one possible source of data exists). A dataset is then compiled for each indicator and tripled-checked by DFI and Oxfam, before being sent to Oxfam country offices, where there is a country office, for final checks/inputs on each set of country data. More details of the quality control process for each pillar are given in the relevant pillar sections. This process enables us to ensure that the data are of high quality, while also ensuring good coverage of data across the index.

In the CRI Index 2022, virtually all tax and labour data are for 2021–22 except for the impact indicators (T3 and L3), and HTP indicators which has data mainly for 2020–21, and the labour rights indicator (L1). Most data in the public services pillar are from 2019–20, but some, especially data on public services coverage, are from earlier years. Obtaining up-to-date information proved particularly difficult for the coverage data for a small handful of countries, so proxy data had to be calculated using very similar data. Given that these indicators are all part of the Sustainable Development Goals (SDGs) framework, it is assumed that data availability will improve, and in some areas gathering of such data (especially where household surveys are frequent).

Countries missing from the index were not included because they lacked sufficient or reliable data for at least one indicator for each pillar. The challenges faced during the data-gathering and checking processes have led us to make strong policy recommendations in the report for better, more accessible data on inequality and government policies, so that the public, academics and civil society can analyse outcomes and policies.

## RESCALING, WEIGHTING AND AGGREGATION

Each of the 19 indicators is measured on a different scale. To make the resulting indicators aggregable, we rescale all indicators to a 0–1 scale using the Min-Max standardization formula.[4] After standardization, the country with the lowest score for progressivity is reset at 0, and the country with the highest score is reset at 1.

The standardized results from the indicators are then aggregated into the respective pillar scores by using the simple arithmetic mean, and re-standardizing again on a scale of 0–1. The scores from the three pillars are then combined using the arithmetic mean, and re-standardized once more, to give the final CRI Index score on a scale of 0–1, 0 being the lowest score and 1 the highest. The decision to use this aggregation method was based on recommendations from the EU JRC review of the index, and is in line with the methodology used by other composite indices such as the Human Development Index (HDI).[5]

Figure 2 presents the constituent indicators for each of the pillars of the index. Each pillar has equal weight, and the three pillar components (policy, implementation and impact) also have equal weight. However, the number of indicators within a pillar component can vary, and hence the weight of each indicator varies, and the contribution (or weight) that each data point makes to the overall score for the pillar varies. For example, the three indicators for implementation of the public services pillar have together the same weight as the one indicator for implementation of the tax pillar or as the two indicators for implementation of the labour pillar.

## SCORES AND RANKS

A country's rank in each pillar is based on its score across the indicators for that pillar. The overall CRI Index rank for a country is likewise based on its scores across the three pillars; it is not the average of its three pillar ranks.

**Figure 2: Pillars and indicators methodology**

| | PUBLIC SERVICES PILLAR | | | TAX PILLAR | | | | LABOUR RIGHTS PILLAR | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Policy indicators** | PS1a Education | PS1b Health | PS1c Social protection | T1a-PIT Personal income tax | T1a-CIT Corporate income tax | T1a-VAT Value Added Tax | T1b-HTP Harmful tax practices | L1a Labour rights | L1b Women's labour rights | L1c Minimum wage |
| *Data collection* | Education spending as % of total budget | Health spending as % of total budget | Social protection spending as % of total budget | Progressive tax structures | | | | Labour rights indicator (LRI) score | Scores given across 5 categories | Monthly minimum wage calculated as % per capita GDP |
| | | | | All PIT rates & thresholds combined with new progressivity formula | Standard CIT rate | VAT rate discounted for registration thresholds & food exemptions | Absence of anti-tax avoidance measures and evidence of profit shifting | | | |
| *Standardizing* | Spending standardized 0-1 where 1 is highest score | Spending standardized 0-1 where 1 is highest score | Spending standardized 0-1 where 1 is highest score | Score from formula standardized 0 to 1 where higher rate = higher score | Rate standardized 0-1 where higher rate = higher score | Discounted rate standardized 0-1 where higher rate = lower score | Score standardized 0-1 where higher HTP score = lower score | Score standardized 0-1 where higher LRI = lower CRI Index score | Scores standardized 0-1 where higher WR=higher score | Standardized 0-1 where higher minimum wage = higher score |
| *Combining* | Average of all three scores, re-standardized | | | Average of T1a (T1a-VAT + T1a-PIT + T1a CIT) and T1 b-HTP, re-standardized | | | | Average of all three scores, re-standardized | | |
| **Implementation or coverage indicators** | PS2a Education | PS2b Health | PS2c Pension | T2 Tax productivity across PIT, CIT and VAT | | | | L2a Unemployment | | L2b Vulnerable employment |
| *Data collection* | Secondary education completed by poorest quintile | Universal health coverage and out-of-pocket health expenditures | Population covered by pension | Average PIT rate divided by tax revenue as % GDP | Standard CIT rate divided by tax revenue as % GDP | Discounted VAT rate divided by aggregate consumption | | ILO unemployment rate (% labour force) | | ILO vulnerable employment rate (adjusted to labour force) |
| *Standardizing* | Score standardized 0-1 where 1 is highest score | Geometric mean of UHC and (100-00P) Result of this formula then standardised | % coverage standardised where 1 is highest score | Scores only standardized when combined (see below) | | | | Scores only standardized when added together (see below) | | |
| **Impact indicators** | PS3 Impact of spending on Gini | | | T3 Impact of tax on Gini | | | | L3 Gini of labour income | | |
| *Data collection* | Spending as a % of GDP then adjusted for incidence on Gini of income | | | Tax revenue data collected split into CIT, PIT, VAT, Excise, Customs, and Other as % GDP, then adjusted for incidence on Gini of income | | | | Gini of wages | | |
| *Standardizing* | Score standardized 0-1 where 1 is highest score | | | Scores only standardized when combined (see below) | | | | Score standardized 0-1 where 1 is highest score | | |
| **Final pillar score** | Average across all three components (policy, coverage, impact) then score re-standardized | | | Average across all three components (policy, coverage, impact) then score re-standardized | | | | Average across all three components (policy, coverage, impact) then score re-standardized | | |
| **Total CRI Index score** | Three pillar scores averaged, then score re-standardized for final CRI Index score | | | | | | | | | |

# 2 THE PUBLIC SERVICES PILLAR

## 2.1 POLICY INDICATORS (PS1): GOVERNMENT SPENDING ON PROGRESSIVE SECTORS AS % OF TOTAL SPENDING

This indicator analyses the share of total government spending allocated to education, health and social protection. It was chosen because it is the indicator which best reflects a government's own commitment to spending progressively. It shows what share of government revenues is allocated to sectors that reduce inequality, regardless of the government's capacity to mobilize revenues. Other indicators of public spending, such as percentage of GDP or per capita spending, would have been less effective at capturing a government's commitment to anti-inequality allocations and would have instead favoured wealthier countries with greater capacity to spend.

Across the three spending sectors, data have been chosen which provide information on public spending via government budgets. Specifically, we have used 'general government' or 'non-financial public sector' spending (i.e. aggregating different levels of central and local government spending and social security/pension funds) in order to ensure comprehensive coverage of government spending. This includes all on-budget spending regardless of its funding source (tax revenue, borrowing or grants).[6] We have excluded out-of-pocket (OOP) private expenditure by citizens and off-budget aid, as these do not reflect a government's commitment or decisions on priorities – and indeed OOP expenditure increases inequality. For all three sectors, data are available for all countries and largely for 2020 and 2021, but for some countries (where we rely on UN sources) data are older.

### DATA FOR PS1A, PS1B AND PS1C: EDUCATION, HEALTH AND SOCIAL PROTECTION SPENDING

The vast majority of data points for education (90%[7]) are from 2020–21. In health and social protection 79%[8] and 72%,[9] respectively, was from this period, with a substantial proportion in both from 2019 (see endnotes for detailed analysis).

Data are drawn from a range of comparably calculated sources. The main source is the Government Spending Watch (GSW) database, which covers 2020–21 budget documents for 69 countries, including all low-income countries (LICs), almost all lower middle-income countries (LMICs) and a few upper-middle-income countries (UMICs). Data for the other countries are from secondary sources, which are in turn sourced from budgets or surveys (Asian Development Bank, CEPAL, Eurostat, ILO, IMF, OECD, UNESCO Institute of Statistics for education, and WHO National Health Accounts for health). These global data sources were supplemented by national budget data for 16 countries.

ILO has improved its data for some countries and updated this considerably (especially as some governments have supplied new data on non-contributory pensions). That said,

the data from WHO, for instance, have not been updated in as timely a manner as in previous editions, quite possibly due to the impact of COVID-19 during this period.

For countries covered by the GSW database (LICs and LMICs), in all but two cases the data points measure budgeted spending, because data on actual spending are not published or are subject to long delays. Data for higher-income countries (HICs) from other secondary sources represent actual spending. For virtually all HICs there is little difference between budgeted and actual spending, except in cases of major mid-year fiscal crises; according to DFI analysis, for almost all other countries differences are generally small.[10]

Social protection spending data include all public social security/social protection schemes or programmes, corresponding to the nine classes of benefits included in the ILO Social Security (Minimum Standards) Convention (medical, sickness, unemployment, old age, employment injury, family, maternity, invalidity and survivors), plus other income support and assistance programmes available to those living in poverty, including conditional cash transfers.[11] Data also include contributory as well as non-contributory social protection systems, because (as advised by the ILO) in the vast majority of countries, they have an equalizing impact.

# 2.2 COVERAGE INDICATORS (PS2): MEASURING WHO IS COVERED BY SERVICES, WITH A FOCUS ON EQUITY

The coverage (or implementation) indicators aim to look at how well a government's policy or spending commitments translate into the delivery of public services for its citizens and are redressing known sources of inequality in service coverage. They do this with a strong focus on equity (where data allow) in service provision, which is critical for public services to fight inequality.[12]

For all three sectors, a lengthy process of evaluating the most appropriate datasets available linked to the relevant SDG goal was carried out. Extensive exchanges with UNESCO, WHO and ILO (as the lead UN agencies tasked with gathering data for the relevant SDG targets) identified potential datasets, and then DFI evaluated their country coverage. We found that a number of potential indicators covered only around half the CRI Index countries, and had to eliminate these. In all three cases, indicators were chosen which gave us the 'best possible' option in terms of countries covered. Some of these were missing or had very old data and DFI filled these gaps using additional primary national sources or calculating proxies. Given that we are now seven years – nearly halfway – into the SDGs period, the gaps in data were surprising, and this needs serious global attention and action (including more funding for the relevant UN agencies).

## PS2A: EDUCATION COMPLETION FOR THE POOREST QUINTILE

Indicator PS2a focuses on completion of secondary education for the poorest quintile of income.[13] It is one of a set of indicators for SDG 4 within target 4.1: 'By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.' It was agreed to use this indicator

because the goal of secondary completion is crucial for all countries to meet SDG 4.1. We acknowledge that this indicator privileges wealthier countries which have far better coverage up to upper secondary level, because some lower-income countries are just starting out in scaling up universal secondary education and others (mainly HICs) have had compulsory secondary education for many decades.[14] However, these data were the most available across the widest range of countries, and the indicator also demonstrates the policy 'stretch' agreed in the SDGs (i.e. it goes beyond previous commitments on primary school).

SDG 4 does not only commit to all children completing secondary education; it also commits to equity so that the most disadvantaged are not left behind. Given that wealth is the most important marker of advantage and disadvantage, the completion rate of upper secondary for the poorest quintile was chosen.[15] We acknowledge that intersecting inequalities often lead to the greatest marginalization, and in future editions of the index we may investigate looking at rural/urban, gender and wealth gaps in secondary completion.

**DATA USED AND DATA GAPS**

Data for this indicator come from the SDG 4 database managed by the UNESCO Institute for Statistics (UIS). During data gathering, however, 20 countries in the CRI Index were found to have missing data, making it insufficient to use as an indicator on its own. For 11 countries, we used data from national household surveys (which are also what the UIS dataset is drawn from). For the remaining countries, we have had to use other proxy indicators from three datasets. The first indicator chosen was upper secondary completion (all students) and the second was the gross graduation ratio (GGR; upper secondary). These alternatives were tested for their correlation with the 'ideal' dataset of completion by poorest quintile,[16] and on this basis priority was given to USC (used for 17 countries), followed by GGR (used for 3).

In order to combine these data into one indicator, we used the standardized ranking (rather than the raw data) in order to ensure that the relationship of the ranking of different countries was reflected in the final score rather than the actual ratio (as this would favour the datasets which set an easier bar to completion). As such, the final data point shown for the indicator is this standardized ranking from the final combined completion rankings.

For a number of countries, the data available are old. It is understood that this is partly because the indicator was only agreed in November 2019,[17] and the data are gathered via household surveys which are only conducted every five years.[18] We were informed by UNESCO that this dataset would improve substantially in coming years, reflecting the agreement of these as the official SDG indicators.

## PS2B: UNIVERSAL HEALTHCARE COVERAGE

There are two sub-indicators here, both of which form part of SDG target 3.8: 'Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.' The first, the 3.8.1 Universal Health Coverage (UHC) Index, looks at access to essential services[19] as a ratio of the population covered. The second is 3.8.2 Catastrophic Household Spending (COOP, or catastrophic out-of-pocket), measured by the percentage of those who spend 10% of their household budget on healthcare.

It was considered that both are required because, while understanding coverage is crucial, it only tells part of the story. If people do not seek care because they are too poor to pay the user fees, then they are not covered. But if there is no coverage, then they experience zero out-of-pocket (OOP) expenses and thus the system appears to offer better financial protection (for some countries in the index with very poor coverage but low OOP spending, it is clear that this is the case).

OOP spending on healthcare is a particularly crucial element of understanding the equity implications; if large OOP expenses (rather than government budgets) are covering health needs, this can worsen inequality. The impact this has on household budgets, rather than as a percentage of total health spending, was considered the best indicator, as this is more likely to show impacts on inequality as a result of pushing certain groups into poverty rather than how much is spent (which may reflect spending by wealthier households). Therefore, we chose the indicator which measures 'catastrophic' spending (meaning 10% of household budgets), as in many countries 10% of household budget for the poorest people would massively reduce their ability to meet other basic needs (food, etc).[20]

In order to combine the two elements of the indicator, without creating too large a data range statistically, we were advised by the EU JRC to use a geometric average formula, which credits countries for high UHC and low COOP.[21]

### DATA USED AND DATA GAPS

Data for the COOP and UHC indicators were from the WHO SDG 3 database. The UHC Index had data for all countries/territories except Hong Kong, for which we found UHC data from a detailed study.[22]

Data in the SDG-3 database for the COOP indicator had gaps for 17 countries. For these countries (without available data on COOP) we estimated COOP as a function of OOP/GDP in two steps:[23]

- First, we employed cross-sectional data of countries in seven regions with available data on both COOP and OOP/GDP to regress COOP with OOP/GDP by a fixed effects technique by regions and robust standard errors.

- Second, we used coefficients of OOP/GDP and constant variables at a 10% significance level to estimate COOP in countries without available data on COOP. The formula for estimates are: $COOP_i = 2.617 * OOP/GDP_i + 3.144$, where i is an index for country i *(2.617 is beta; 3.144 is alpha)*.

As with the UIS data above, there were some countries with old data in the WHO database, although to a lesser extent than with education, and they were mainly HICs with little movement in coverage (i.e. they had scaled up UHC many decades ago).

## PS2C: PENSION COVERAGE AS A MEASURE OF SOCIAL PROTECTION COVERAGE

This indicator is part of the indicators for SDG 1.3, which commits countries to implementing nationally appropriate social protection systems for all (universal), including social protection floors.[24] For this, we used pension coverage as a proxy for overall social protection coverage as there is a lack of data for other programmes, i.e. unemployment, child benefits and benefits for people with disabilities. We are aware that this therefore only shows a partial picture of the overall coverage (or protection) of

most of the population, and that it misses large swathes of those who most need it (e.g. currently, only 35% of children and 22% of unemployed workers receive benefits globally).[25] However, there are major gaps in coverage data, which meant we could only use pensions because this indicator has the widest country dataset available.

We also acknowledge that, even within pensions, this does not speak to the equity or adequacy of pensions to fight inequality. How pensions are financed, who they cover and how large the transfer is all affect how much (or how little) an impact a pension may on inequality.[26] Firstly, some models (even with high coverage rates) mask inequalities, especially contributory models, which favour those who work in the formal sector (often wealthier workers in LICs).[27] They can also drive gender divides, if built around a male breadwinner model; for instance, in the EU women's pensions are on average 40% lower than those of men.[28]

However, the ILO (which collects the data on this) expects coverage and adequacy data to improve in the future, and so future editions of the CRI Index will aim to measure all types of coverage (to cover all life phases) and their adequacy in fighting inequality.

### DATA USED AND GAPS

Data are taken from the ILO *World Social Protection Report 2020–22* and its accompanying database.[29] For Kenya, Mexico, Turkey and the OPT, DFI has supplemented this with national data sources and/or Oxfam country offices have supplied data.

# 2.3 IMPACT INDICATOR (PS3): IMPACT OF SPENDING ON THE GINI COEFFICIENT

This indicator measures the impact of government spending on inequality, based on the degree of progressivity *within* each spending sector. Specifically, it identifies the impact that extra spending on education, health and social protection has collectively on reducing or increasing the Gini coefficient produced by the 'market' (i.e. before government spending and tax are taken into account). The cost of public education and health services is considered as in-kind income for the users of these services, and the Gini coefficient is calculated before and after this extra income is added to market income. The country with the largest decrease in the value of the Gini as a result of this spending scores a maximum of 1 for this indicator, and the country that records the smallest decrease scores 0.

### DATA ON SPENDING AND INCIDENCE

For 74 countries, this indicator is calculated by multiplying the total amount of spending as a share of GDP on each sector, by a standard global coefficient for each sector that predicts the impact that spending has on the Gini. The standard global coefficients for the predicted impact of spending from each sector on the Gini have been extracted from a well-regarded global panel-based incidence study, Martinez-Vazquez, et al. (2014).[30] The results from the three sectors are then added together to measure the total predicted impact or 'incidence' of spending on the Gini. All the coefficients are negative because an increase in spending would reduce the Gini. As shown in Table 1, the global panel data find that an increase in health spending is more powerful in reducing the Gini coefficient than an increase in education or social protection spending.

For 31 OECD countries, the coefficients are supplemented by national studies of the impact of social protection spending on the Gini. The incidence of social protection spending is therefore taken from the OECD's Income Distribution and Poverty dataset, as the difference between Market Gini and Gross Gini, where Market Gini is income before tax and transfers and Gross Gini is income before tax.

For 54 countries, instead of the global coefficients, we used the results of national studies conducted by the Commitment to Equity Institute (CEQ) at Tulane University. For two countries – Brazil and Spain – we used national incidence studies conducted by the International Policy Centre for Inclusive Growth (Brazil) and Fedea (Spain).[31] These studies are based on actual incidence on household income derived from analysis of the latest national household surveys; the dates for these vary between 2010 and 2021. We expect such studies to become available for more countries in the coming years, as the United Nations has recently adopted a new indicator for SDG 10.4: the Redistributive Impact of Fiscal Policy.[32]

**Table 1: Global coefficients for each sector**

| Sector | Education | Health | Social protection |
|---|---|---|---|
| Coefficient | –0.0013 | –0.0070 | –0.0014 |

# 3 THE TAX PILLAR

Governments have a variety of taxes that they can use to raise the revenue needed to pay for public services. Depending on the type of tax and its design, the burden of tax will be felt by people from different income and wealth groups. As a result, the design and implementation of taxes have key and direct effects on inequality. This pillar seeks to measure the extent to which governments are committed to ensuring that the burden falls more on those who can afford it the most. It comprises indicators for policy that measure commitments on paper, indicators that look at implementation in practice and, finally, impact indicators that look at the impact of tax on the Gini coefficient of income. Other indicators that assess tax progressivity have not been included due to data limitations, including revenues from extractive industries and effective tax rates. Other areas for further investigation include the gender impact of tax, tax exemptions and tax treaties.

## 3.1 POLICY INDICATOR (T1): PROGRESSIVE TAX STRUCTURES

### T1A: PROGRESSIVITY OF PIT, CIT AND VAT

This indicator measures the progressivity of tax structures on paper, based on the rates and levels of different taxes in the country. Specifically, it assesses the progressivity of personal income tax (PIT), corporate income tax (CIT) and value added tax (VAT). The indicator identifies countries with higher and more progressive direct tax rates and lower indirect tax rates (or with exemptions for basic foods and high registration

thresholds) as being those that are making more effort to set progressive tax rules. It also shows that many countries have room for improvement by increasing very low or zero CIT and/or PIT rates, and reducing relatively high basic VAT rates.[33] In addition, they could set higher minimum tax thresholds for PIT to exclude the lowest income earners, or lower top tax rate thresholds to make sure that the highest income earners are adequately taxed.[34]

Ideally, it would be desirable to assess additional types of tax, notably those on wealth, financial assets, capital gains and land/real estate, which can be highly progressive.[35] It would also be desirable to assess the rates of social security contributions, which are generally regressive. The section on wealth taxes in the CRI Index 2020 report begins work on this analysis, pending future work to compile a global database on such taxes.

To assess the degree of a country's PIT progressivity, Oxfam and DFI have adopted a progressivity measure (called 'progressive capacity') introduced in a recent IMF working paper.[36] Such a measure is defined as a Kakwani index[37] (i.e. twice the area between the income and tax payment Lorenz curves[38]), but calculated over a fixed range of incomes, each of which is given equal weight. In other words, pre-tax income is treated as if it were uniformly distributed. The choice of Oxfam and DFI is to measure the progressivity of certain taxes in isolation and to rely on a robust cross-country comparability; this makes a structural progressivity indicator based on statutory tax schedule information in place of actual taxpayer data more suitable[39] than an effective progressivity measure estimated on the basis of data collected from household surveys. The progressive capacity belongs to the family of the structural progressivity measures. It has the merit of remaining unaffected by in-country pre-tax income distribution. It is also higher in countries which have designed their PIT system to redistribute more, even if there is little distribution in practice because market income is very equally distributed to begin with. It is important to note that the limited availability of tax schedule information for the 162 countries covered by the index led Oxfam and DFI to compute the approximate tax payment Lorenz curve using only countries' PIT rates and thresholds as input (so excluding standard tax allowances and credits).

CITs are simply ranked in order of their statutory rate (as relatively few countries have progressive or differentiated CITs, and the main rate usually applies to the vast bulk of corporations). The highest CIT rate in the sample achieves a maximum score of 1. VAT rates are ranked inversely in order of their levels, with the lowest VAT rate given the maximum score of 1, because VAT is assumed to be regressive. However, in line with actual incidence evidence, the score of each country is adjusted depending on whether it: a) exempts or applies a reduced rate to basic foodstuffs, and b) applies a relatively high minimum threshold of 10 times per capita GDP for VAT registration for small businesses. Both these measures have been found to be pro-poor, and together they have been found to partially mitigate the regressive effect of VAT. We therefore discount the VAT score by 50% for exemption of basic foods (or a proportion of that if reduced rates are applied), and by 50% for a high minimum threshold, such that the VAT rate falls to 0% if both are applied. Each tax (PIT, CIT, VAT) is analysed separately. The score for this indicator is a simple average of the standardized scores for each of the three sub-indicators.

To assemble these data, DFI conducted a major data collection exercise, drawing on national tax code documents, national budgets and accounting company tax guides (principally those published by EY and Deloitte).[40]

As a result, it has been possible to collect 2021 data for all 162 countries. Where necessary (and possible), we have aggregated central and decentralized government rates; it should be noted that for Switzerland and the USA some taxes are a sum of the federal rate and the average of the rates applied across different decentralized areas, or with representative rates, as suggested by the OECD.

# T1B: HTP INDEX – HARMFUL TAX PRACTICES

One important measure of a government's commitment to fighting inequality is the extent to which its tax system is undermining its own and other countries' capacity to generate and retain tax revenues. The volume of cross-border transactions (in goods and services) has increased dramatically in recent years, and has been accompanied by enhanced efforts by multinational corporations (MNCs) to use inconsistencies among countries' tax systems to artificially allocate profits to lower-tax countries, rather than to where the real activity takes place and value is created. This has been accompanied by a proliferation of harmful tax practices (HTPs) and preferential regimes which make a country more attractive to foreign investment, but at the expense of its own and other countries' tax revenues. This therefore explains why in many cases the 'effective' (i.e. actual) level of taxation of MNCs in such countries is much lower than the statutory CIT rates.

The indicator consists of three components:

1. **The presence of HTPs or aggressive tax schemes:** A simple 'yes' or 'no' assessment was carried out on whether a country has 1) some HTPs in place (as defined by the OECD Forum on Harmful Tax Practices in 1998), based on the EU Code of Conduct Group on Business Taxation[41] (around 120 countries assessed), and the OECD Peer Reviews[42] (317 HTP schemes assessed in more than 80 countries); or 2) aggressive tax schemes according to the EU tax havens list blacklist,[43] the EU tax Observatory,[44] the European Commission Annual Report on Taxation[45] and the OECD R&D tax incentives database.[46] High- and upper-middle-income countries with HTPs are given two points, and low- and lower-middle-income countries with HTPs get one point. The reason for giving different scores to countries with different income levels is that evidence shows that wealthier countries with HTP regimes have a far stronger negative effect on profit-shifting from other countries, as well as reducing their own tax collection by much larger amounts.[47] Examples of HTPs include, but are not limited to:

   • **Patent boxes:** Measures to shelter intellectual property income from taxes;

   • **Tax holidays:** Temporary tax exemptions;

   • **Unilateral advance price agreements (APAs):** An agreement between a country's tax administration and a taxpayer to interpret the law in a certain way that favours the taxpayer; and

   • **Generous notional interest deductions:** A tax deduction for equity financing.

2. **The absence of anti-avoidance measures:** Countries get half a point (if high- and upper-middle-income countries) or one-quarter of a point (if low- and lower-middle-income countries) for each of the following measures that they lack:

   - **Controlled foreign company (CFC) rules:** Rules meant to tax in a company's home country profits shifted to tax havens.

   - **Interest limitation:** Rules meant to limit the ability of companies to shift profits to tax havens through payment of interests between subsidiaries;

   - **General anti-avoidance rule (GAAR):** A broad principle enacted into tax law that helps courts enforce the spirit of the law and counter aggressive tax planning; and

   - **Exit tax:** Tax owed by companies that transfer their assets to another country.

   (Sources: Deloitte's *Tax Guide and highlights*[48] and PwC's *Worldwide Tax Summaries*.[49])

3. **Disproportionate levels of foreign investment, trade and passive income:** Countries get up to five points if they have attracted certain kinds of income above certain thresholds. The list of HTPs and anti-tax avoidance measures above is not exhaustive, and countries may be implementing a wide range of other measures that encourage profit shifting or reduce tax liabilities. To account for these additional measures, we have carried out an analysis of three economic indicators which help establish whether countries are attracting profits which exceed reasonable indicators of economic activity. These indicators stand as proxies for the HTPs not accounted for in the other two sub-indicators:

   - **Disproportionate passive income (two points):** Excessively high levels of royalties, interest and dividends entering and/or leaving the country are strong indicators that countries make use of aggressive tax practices to attract royalties, interest or dividends (acting as offshore centres), or to shift them towards other offshore centres (usually zero or low tax jurisdictions), acting as a 'conduit tax haven'. Our source for this indicator was the IMF's Balance of Payments database.[50]We set the threshold for these indicators as follows:

     o Net interest, based on loans and net interest on equity and investment fund share above 1% of GDP;

     o Interest paid and interest received on equity and investment fund shares above 2.5% of GDP;

     o Royalties (charge for intellectual property use) received, paid and net above 2.5% of GDP; and

     o Dividends (dividends and withdrawals from income of quasi-corporations) received, paid and net, above 5% of GDP.

   - **Levels of foreign direct investment (FDI) stock (one point):** Very high inward FDI relative to a country's economy is usually related to offshore structures and conduit jurisdictions. The indicator is calculated as inward, outward and net FDI stock (stock of inward investment minus stock of outward investment) in excess of 250% of GDP. Data were retrieved from UNCTAD.[51]

   - **Disproportionate levels of income from trade of goods and services (two points):** Very high exports compared with GDP can indicate that excessive trade flows are being routed through a jurisdiction, implying intra-group profit-shifting activities. The thresholds are set at net exports of services to the EU of 50% of GDP, and total exports of goods to the rest of the world of 100% of GDP. The data sources were

Eurostat[52] and UN STAT, respectively.[53] These high thresholds allow countries with legitimate large tourism sectors or manufacturing exports to be excluded from the listing process.

# 3.2 TAX PRODUCTIVITY ACROSS VAT, PIT AND CIT (T2)

This indicator measures whether countries are collecting as much tax as they should, to recognize the fact that despite having progressive tax structures on paper countries might fail to collect these taxes in practice. This indicator is also intrinsically important because countries have committed in the Addis Ababa Action Agenda for financing the SDGs to make tax collection the main financing source for all their spending.

To calculate tax 'productivity' in each country, the amount of revenue collected from VAT, CIT and PIT respectively is compared with the amount that is predicted to be collected, based on the actual tax rates for each individual tax (possibly adjusted as in the case of PIT) and the size of the economy as measured by GDP (or total value of private consumption in the case of VAT). The amount actually collected is expressed as a percentage of the amount predicted to be collected. In this approach, the choice of a country's GDP as a proxy for potential PIT and CIT tax bases leads to downward-biased CIT and PIT productivity measurements (though in this edition of the CRI Index we have reduced this bias by measuring the combined productivity of the two taxes compared to GDP). Ideally, CIT and PIT productivity would be measured against indicators such as corporate profits and individual income. However, unfortunately, only a few country estimates of actual CIT, PIT and VAT gaps are currently available, and these are not always comparable across countries.[54]

### DATA POINT T2: TAX PRODUCTIVITY

Tax productivity is calculated using tax rates and tax collection amounts compared with GDP or private consumption. Data on prevailing tax rates are the same as those used in indicator T1. Data on tax collected are from the OECD,[55] the IMF[56] or national sources, depending on the country. Data from the IMF World Economic Outlook (WEO) database[57] were used for GDP, and we used data from the World Bank's World Development Indicators (WDI)[58] for 'Household final consumption expenditure'.

# 3.3 IMPACT INDICATOR (T3): IMPACT OF TAX ON THE GINI COEFFICIENT

This indicator measures the impact or 'incidence' of government commitments to progressive taxation based on the revenue collected from different types of taxes. Specifically, it identifies the impact that tax revenues from PIT, CIT, VAT, social security contributions and customs and excise duties have collectively on reducing or increasing the Gini coefficient produced by the 'market' (i.e. before government spending and tax are taken into account).

The country with the largest decrease in the value of the Gini as a result of this tax revenue scores a maximum of 1, and the country that records the largest increase from regressive tax policies scores a 0.

## DATA POINTS T3A, T3B, T3C, T3D AND T3E: SHARE OF REVENUE FROM EACH TAX TYPE, AND TAX COEFFICIENTS

For 74 countries, this indicator is calculated by multiplying the total revenue collected from each form of taxation as a share of GDP by a standard global coefficient for each tax that predicts its impact on the Gini coefficient. The results for all taxes are then added together to measure the total predicted impact on the Gini. For these countries, the latest data (2021, 2020 or 2019) on tax revenues by tax type were collected by DFI, drawing from national budgets, revenue authorities and statistical documents, the OECD, and from IMF Board documents.

Data on social security contributions (SSCs) are less comprehensive. Data collected by the OECD and a few country budgets specify SSC collection amounts, but most IMF Board documents do not. Following an exhaustive search, DFI has been able to identify data for only 72 countries. These include 85% of the countries with significant contributory systems, but it means that a few countries (mainly Asian and African lower-income countries and smaller states) which do not publish SSC data are presented as having slightly more progressive tax systems than they actually do. This is less distortionary than excluding SSCs for all countries, which would give a false picture of UMIC/HIC/larger country systems as being much more progressive than they really are.

The standard global coefficients for the predicted impact of tax revenue from each type of taxation on the Gini have been extracted from a well-regarded global panel-based incidence study, Martinez-Vazquez, et al.[59] PIT is found to be progressive, reducing the Gini by 0.001; CIT is found to be progressive in closed economies, but broadly neutral once the degree of globalization is factored in; customs and excise duties are somewhat regressive; and VAT and SSCs have a more regressive effect. However, in line with the evidence that VAT can be made less regressive or neutral (see indicator T1), where we find evidence of both exemptions and low thresholds the predicted impact on the Gini is neutralized to 0.

Table 2: Global coefficients for each tax

| Sector | PIT | CIT | VAT | Customs | Excise | SSCs |
|---|---|---|---|---|---|---|
| Coefficient | −0.001 | 0.000 | 0.005 | 0.001 | 0.003 | 0.007 |

For 51 countries, instead of the global coefficients, we have used the results of national studies conducted by the CEQ Institute at Tulane University. For Brazil and Spain, we used national studies conducted by the International Policy Centre for Inclusive Growth (Brazil) and Fedea (Spain).[60] For another 34 countries we used similar studies carried out by the OECD, and by the EU for Malta and Cyprus. These studies are based on actual incidence on household income derived from analysis of the latest national household surveys, for which the dates vary between 2010 and 2021. We expect such studies to become available for more countries in the coming years, as the UN has recently adopted a new indicator for SDG 10.4: the Redistributive Impact of Fiscal Policy.[61]

# 4 THE LABOUR PILLAR

In most countries, most income inequality can be explained by differences in market inequality, i.e. the level of income inequality which is attributed to wages and other earnings before taxes and transfers. Governments can intervene in the labour market to manage labour market inequalities, particularly by protecting the rights and the wages of workers at the bottom of the earnings distribution. The labour rights and wage equality pillar therefore judges the efforts of governments to protect workers in their economies through legislation regarding workers' rights, gender equality in the workplace and minimum wages.

However, labour rights only protect employed people within the formal labour market, excluding unemployed people and those working in the informal sector. In some countries, these groups can constitute a large proportion of the workforce. To reflect this, we have added coverage indicators that show who is not covered by the legislation (i.e. who is left out by the 'on paper' policy commitments). To complete the labour pillar, our impact indicator measures wage inequality.

## 4.1 POLICY INDICATOR (L1): RESPECT FOR LABOUR AND UNION RIGHTS

There is strong evidence that the extent of the unionization of the workforce has a heavy influence on the level of inequality.[62] This is because unionization determines the extent to which workers are able to demand higher wages, and therefore the share of an economy's income which accrues to wages instead of to capital. The CRI Index aims to measure governments' commitment to reducing inequality and, as such, this indicator measures the extent to which they have legally authorized and then respected labour and union rights.

### DATA POINT L1A: LABOUR RIGHTS

The data for this indicator are based on the database of Labour Rights Indicators set up by the Center for Global Workers' Rights (CGWR) at Penn State University.[63] The database provides comprehensive numerical and textual information on country-level compliance with freedom of association and collective bargaining rights that is comparable between countries and over time, using 108 evaluation criteria.

These criteria are used to construct 'in law' and 'in practice' components of the indicator. The 'in law' component reduces country scores for any national law that is not in conformity with freedom of association and collective bargaining rights as defined by the ILO. The 'in practice' component reduces scores for any act which violates the existing national legislation (where this is in conformity with rights defined by the ILO). The overall score is the standardized score of the sum of performance in law and in practice.[64]

These data were originally chosen to measure labour rights because they had been agreed as the measurement system for SDG indicator 8.8.2 on labour rights,[65] and they

were more comprehensive in their country coverage than other options such as the ITUC Labour Rights Index. In addition, the lead authors at the CGWR have given permission to reproduce their data.

Data are available for all except two (Bhutan and Kosovo) of the 158 countries in the CRI Index. Unfortunately, due to funding and compilation delays, the latest data available for this indicator cover the period 2017. The data are currently being updated to cover 2018–20, and are expected to be published later in 2022. These scores will be reported in the next CRI Index.

## DATA POINT L1B: WOMEN'S RIGHTS IN THE WORKPLACE

Greater gender equality in the workplace can reduce overall inequality. This is because all over the world, women continue to be discriminated against in employment hiring, they are over-represented in part-time and precarious work, and they are often paid less than men for doing the same job. When at work, they are sometimes victims of rape or sexual harassment. In addition, the burden of unpaid parental care work is shouldered by women, undermining their ability to advance their careers. Strong labour regulations can help women to achieve equal rights in the workplace and reduce their exposure to abuse. They also need governments to legislate for paid maternity leave (and broader paternity and parental leave to encourage men to share the parental burden).

To reflect the complexity of this issue, we have included five sub-indicators capturing different aspects:

- the existence of legislation to require employers to pay women equally for work of equal value;
- legislation to protect women against discrimination in employment;
- adequate legislation on rape;
- adequate legislation on sexual harassment; and
- the extent (numbers of days and pay levels) of paid parental, maternity and paternity leave.

The five sub-indicators are scored with slightly different methodologies. Sub-indicators L2a and L2b on equal pay and non-discrimination are given a simple 'yes' or 'no' score which allows them to receive 0 or 1 points, for a maximum of 2 points if both types of legislation exist.

Sub-indicators L2c and L2d on rape and sexual harassment are based on the 'restricted physical integrity' indicators in the database of the Social Institutions and Gender Index (SIGI) produced by the OECD.[66] We restricted the sexual harassment indicator to assessing the existence of relevant legislation, excluding considerations on the quality or the implementation of the law. This is because the methodology adopted by the SIGI to assess the *adequacy* of sexual harassment laws was unclear. Similarly, we could not determine with certainty how the SIGI assesses the *implementation* of either rape or sexual harassment laws. Available information indicated that this might be limited to whether legal procedures were strictly followed when cases were brought. This was felt to be inadequate considering the high numbers of unreported or unprosecuted cases of rape and harassment in many countries. Future editions of the CRI Index could work with women's rights organizations across the world to establish a more reliable way of tracking whether laws are fully implemented and therefore having a positive impact on women's lives.

Countries are scored according to the SIGI criteria below: For laws to protect against rape these are:
- 0: There is specific legislation in place to address rape; marital rape is included and perpetrators cannot escape prosecution if they marry the victim.
- 0.33: There is specific legislation in place to address rape; marital rape is not included but perpetrators cannot escape prosecution if they marry the victim.
- 0.66: There is specific legislation in place to address rape; marital rape is not included and perpetrators can escape prosecution if they marry the victim.
- 1: There is no legislation in place to address rape.

For laws to protect against sexual harassment these are:
- 0: There is specific legislation in place to address sexual harassment.
- 0.5 There is no specific legislation to address sexual harassment, but there is evidence of legislation being planned or drafted.
- 1: There is no legislation in place to address sexual harassment.

For both of these indicators the scores are designed to match the SIGI assessment method. However, they are somewhat counterintuitive, in that the best performance receives a 0 score while the worst gets a 1. Therefore, in order to make these indicators comparable with others, the inverse of the score is used for standardization, so that countries with the best legislation receive a score of 1 and those with none get 0.

Sub-indicator L2e scores countries according to the days of maternity, paternity and parental leave established by the law, multiplied by the percentage of prior salary that is paid during leave, in line with ILO best practice analysis which says that the level of payment received is a powerful influence on whether recipients actually take the leave. This adjustment for pay shortfalls was introduced in the 2018 version of the CRI Index; compared with the 2017 edition it lowered the rankings of countries that provide a low share of salary during leave and raises those of countries which pay the full salary. The calculation now considers the full week rather than just the number of paid days (i.e. 10 paid days equates to two weeks or 14 days), which we have changed to better align with other methods used in the data field, for instance Leave Network or the World Bank.

## DATA POINTS: LAWS ON NON-DISCRIMINATION, EQUAL PAY, RAPE, SEXUAL HARASSMENT AND PARENTAL LEAVE

Data points for laws on non-discrimination and equal pay were obtained by searching primary sources of information on countries' laws on non-discrimination at work and on equal pay for equal value, Wage Indicator's country profiles,[67] and World Bank Women Business and the Law data for 2022.[68]

Data points for laws on rape and sexual harassment were taken from the SIGI 2019 index,[69] supplemented and updated for 2022 by the US State Department Human Rights Report 2019[70] and national laws/decrees.

Date points for parental leave were for 2022, and were obtained from a wide range of primary sources, as well as the Leave Network country profiles[71] and the World Bank Women Business and the Law country profiles and their sources.[72]

## L1C: MINIMUM WAGE AS A % OF GDP

There is strong evidence that higher minimum wages have a major impact on reducing inequality.[73] The purpose of this indicator is to assess the relative generosity of minimum wages set by governments.

In some countries, different minimum wages are set for different sectors or regions: in these cases, we used the lowest regional or sectoral rate. In the CRI Index 2022, we have refined the minimum wage level calculation slightly to penalize four countries which set lower 'youth' minimum wages. This change was made on advice from the ILO, because its conventions and 100 Years Declaration[74] reject such lower wages as being discriminatory and having no proven positive effect on youth employment.

There are multiple ways of measuring the generosity of minimum wages. To link the assessment with inequality, it would be desirable to compare minimum wages with the average income level of the top 10% of earners, using household surveys to capture the full distribution of wages within the economy. A second formulation would be to compare the minimum wage with median incomes (as is done for a range of countries by the ILO). A third would be to compare it with a proxy for average national income such as average per capita GDP. A fourth would be to compare it on the basis of purchasing power parity (PPP) with the international poverty line in terms of dollars a day, to assess the extent to which wages ensure that working people do not fall into income poverty. A fifth would be to compare it with 'living wages' which allow workers to fulfil their basic needs.

We have chosen to use the third method, because the first two have highly incomplete and out-of-date datasets; the fourth compares 'downwards' with the poverty line (and would therefore be a good measure of minimum wages' potential impact on poverty); and the fifth has not yet been estimated for most poorer countries. The third method has good data availability and compares 'upwards' with average national income, making it a good indicator of potential impact on inequality. We use GDP per capita as the proxy for average national income. In making this choice, we have taken the advice of the ILO and other labour experts, who feel that this is a sound way to judge minimum wage rates. It is worth noting that, because the minimum wage is given as a proportion of GDP, some of the poorest countries receive 'high' scores because GDP is relatively low, and not necessarily because the minimum wage is relatively high.

We are aware that this denominator has potential limitations, notably that in some countries where much GDP is captured by the corporate sector as profits, dividends and earnings on capital, average GDP may not reflect median labour income very accurately. However, it could also be argued that, by measuring minimum wages against per capita GDP, this indicator has the advantage of considering the share of GDP which is not reflected in labour income, and therefore of including the growing bias towards channelling GDP to enhancing wealth as gains on capital and away from labour.

## DATA POINT: MINIMUM WAGE RATE

To ensure that figures are comparable for all countries and completely up to date, the CRI Index 2022 contains the minimum wages applied for 2022, We used mainly primary sources such as government gazette announcements, www.Wageindicator.org  and information from press announcements. In some cases, we also used US State Department assessments to cross-check rates, and a few Oxfam country offices provided up-to-date information on minimum wage levels. Labour experts and

representatives of the International Trade Union Confederation (ITUC) also provided information on the lowest rates paid under sector-by-sector collective bargaining agreements in countries which do not have a standardized national floor minimum wage.

## DATA POINT: GDP PER CAPITA

For GDP per capita in local currency in current prices, IMF data from the April 2022 WEO database (reporting forecast data for 2022) were used, to avoid distortions caused by inflation or devaluation/revaluation of currencies.

# 4.2 LABOUR RIGHTS COVERAGE INDICATORS (L2): VULNERABLE EMPLOYMENT AND UNEMPLOYMENT

This indicator tracks the proportion of the workforce which is legally entitled to the labour rights measured in indictor L1. Labour rights only protect employed people within the formal labour market, excluding unemployed people and those working in vulnerable or informal employment. In some countries, these groups can constitute a large proportion of the workforce, thereby dramatically reducing the impact of the laws on labour rights. In previous editions of the CRI Index, this proportion of the workforce was used as a factor to 'discount' the scores obtained by countries for their labour rights policies. To enhance transparency and in line with the update to the methodology showing implementation for all three pillars, they are presented as separate indicators since CRI 2020 Index

## DATA POINT L2A: UNEMPLOYMENT

Data on unemployment come from the ILO's modelled estimates for 2021 (updated as of November 2021).[75]

## DATA POINT L2B: VULNERABLE EMPLOYMENT

Data on workers who are not entitled to employment rights are difficult to access. Following consultation with labour rights experts to identify the best data sources, we opted for the ILO-modelled estimate of vulnerable employment (as a percentage of total employment) as a proxy for informal employment, based on the International Classification of Status in Employment (ICSE).[76] According to this classification and the ILO's definition, vulnerable jobs are those performed by own-account workers and contributing family workers and are likely to be subject to informal arrangements.[77] As with the unemployment data, the data apply to 2021 and were updated by the ILO as of November 2021.

# 4.3 IMPACT INDICATOR (L3): WAGES GINI

As an impact indicator for the Labour pillar, we use the Gini coefficient of labour income, based on estimates of the distribution of labour income by decile modelled by the ILO.[78] Note that contrary to indicators PS3 and T3, which measure the impact of government policies on the Gini coefficient of income, L3 measures the Gini coefficient of one source of income – labour income – which is impacted by labour policies but also driven by market forces. The data used are the ILO's latest modelled estimates from November 2021, which are for 2019.

# NOTES

1 Joint Research Centre, European Commission. (2022, forthcoming). *JRC Statistical Audit of the 2022 Commitment to Reducing Inequality index*.

2 Oxfam Colombia asked for Colombia to be excluded from the CRI given the rapidly changing political situation at the time the index was being finalized.

3 For a discussion of the evidence which underpins the CRI Index, see the first edition of the Index: Lawson, M. and Martin, M. (2017). *The Commitment to Reducing Inequality Index: A new global ranking of governments based on what they are doing to tackle the gap between rich and poor*. Development Finance International and Oxfam. DOI: 10.21201/2017.0131. https://policy-practice.oxfam.org/resources/the-commitment-to-reducing-inequality-index-a-new-global-ranking-of-governments-620316/

4 For variables where a high score is good (i.e. assumed to produce less inequality), the standardization formula is: Standardized country score = (Country score – Score of the country with lowest score) / (Score of the country with highest score – Score of the country with lowest score). For variables where a high score is bad (i.e., assumed to produce more inequality), the standardization formula is: Standardized country score = (Country score – Score of the country with the highest score) / (Score of the country with lowest score – Score of the country with highest score). This standardization resets all the scores to a range of 0 (worst score) to 1 (best score), such that scores of different indicators can be added even when they are originally expressed in different units.

5 UNDP. (2016). *Human Development Report: Technical notes*. https://hdr.undp.org/sites/default/files/hdr2016_technical_notes.pdf

6 However, it is worth noting that a few data points in the index series cover only central government spending (where no source has been able to aggregate different levels of government spending). More information on which countries this applies to is available from DFI: mail@dri.org.uk.

7 For education, 54% of the data was from 2021 and 35% was from 2020; the remaining data was mainly from 2019 (7%) with a few outliers from earlier years, the oldest data point being Yemen from 2013.

8 For health, 46% was from 2021 and 33% from 2020. Meanwhile, around 20% of data was from 2019 (mainly drawn from WHO data). Other countries all had data from 2018. Yemen had data from 2015 and was the oldest data in this series.

9 For social protection, 31% was from 2021, 40% was from 2020 and around 10% was from 2019. Another 13% was from 2017–18. Within this dataset are a few outliers with older data from ILO: Morocco and St Vincent (2010), and Djibouti (2007) are the oldest data in the public sector spending series.

10 GSW tests of spending shortfalls in LICs/LMICs indicate that (except for a few fragile states and during economic crises) shortfalls are less than 4%. See: Development Finance International and Oxfam. (2013). *Putting Progress at Risk? MDG Spending in Developing Countries*. Research Report. Figure 3.27. https://www.governmentspendingwatch.org/images/pdfs/GSW_Report_2013/GSW-Report-Progress-at-risk-MDG_160513.pdf

11 ILO website: *C102 - Social Security (Minimum Standards) Convention*, 1952 (No. 102). https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C102

12 See M. Lawson, et al. (2019). *Public Good or Private Wealth? Universal health, education and other public services reduce the gap between rich and poor, and between women and men. Fairer taxation of the wealthiest can help pay for them*. Oxfam. https://policy-practice.oxfam.org/resources/private-wealth-or-public-good-620599/. DOI: http://dx.doi.org/10.21201/2019.3651

13 A note of caution is required when interpreting upper secondary school completion rates and to account for country contexts that allow some youth to graduate from upper secondary programmes at different times. For the vast majority of countries, this is based on the indicator for the poorest quintile part of SDG 4 monitoring ('upper secondary completion, by poorest quintile', UNESCO Institute for Statistics (UIS) data).

14 Upper secondary completion in LICs is 18% on average, while in lower MICs it is 41%, in upper MICs, 60% and in HICs, 86%.

15 For a detailed discussion of how wealth intersects with educational opportunities, see J. Walker, C. Pearce, K. Boe and M. Lawson. (2019). *The Power of Education to Fight Inequality: How increasing educational equality and quality is crucial to fighting economic and gender inequality*. Oxfam. https://www.oxfam.org/en/research/power-education-fight-inequality

16 Correlations with upper secondary completion poorest quintile were: completion upper secondary education all students, 0.85; GGR 0.66.

17 The completion rate, which the Inter-agency and Expert Group on SDG Indicators approved as a new global indicator for target 4.1 in November 2019.

18 The DHS Program (Demographic and Health Surveys). DHS Overview. USAID. https://dhsprogram.com/what-we-do/survey-Types/dHs.cfm#:~:text=Standard%20DHS%20Surveys%20have%20large,to%20allow%20comparisons%20over%20time

19 Defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general population and the most disadvantaged population.

20 We decided against using OOP expenditures as a percentage of overall health budgets, as some systems have high OOP spending on health, but this is by the richest people, not the poorest. What matters is how much this is pushing people into poverty (i.e. it is 'catastrophic').

21 Square root of UHC x square root (100-OOP).

22 S. Chen, et al. (2019). *Current situation and progress toward the 2030 health-related Sustainable Development Goals in China: A systematic analysis*. Plos Medicine. https://doi.org/10.1371/journal.pmed.1002975

23 The DFI team would like to thank Nguyen Quang Thai, Researcher with Oxfam in Vietnam, for help and advice with this formula.

24 ILO. (2012). *R202 – Social Protection Floors Recommendation, 2012 (No. 202)*. https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:R202

25 Ibid.

26 ILO. (2017). *World Social Protection Report 2017–19. Universal social protection to achieve the Sustainable Development Goals*. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_604882.pdf

27 Ibid.

28 ITUC. (2017). *ITUC Economic and Social Policy Brief: Gender Gaps in Social Protection*. https://www.ituc-csi.org/IMG/pdf/policy_brief_gender_gaps_social_protection_en.pdf

29 See ILO. (2021). *World Social Protection Report 2020–2022: Social protection at the crossroads – in pursuit of a better future.* https://www.ilo.org/global/research/global-reports/world-social-security-report/2020-22/lang--en/index.htm

30 J. Martinez-Vazquez, V. Vulovic and B. Moreno Dodson. (2014). *The Impact of Tax and Expenditure Policies on Income Distribution: Evidence from a Large Panel of Countries*. Georgia State University, Economics Department Publications. https://scholarworks.gsu.edu/cgi/viewcontent.cgi?article=1036&context=econ_facpub. Nora Lustig (2015) finds that social spending has been 'a large equalizing force' in European countries and in the USA, Brazil, Colombia and Indonesia, but unequalizing in Chile, Mexico and Peru (because the contribution systems in these countries are more regressive). N. Lustig (2015). *The Redistributive Impact of Government Spending on Education and Health: Evidence from Thirteen Developing Countries in the Commitment to Equity Project*. CEQ Working Paper Series. Tulane University. https://commitmentoequity.org/publications_files/Comparative/CEQWPNo30%20RedisImpactGovntSpendEducHealth%20March%202015.pdf. A broader statistical analysis by the ILO finds a strong relationship between contributory spending and lower inequality. ILO. (2014). *World Social Protection Report 2014–15: Building economic recovery, inclusive development and social justice*. http://www.ilo.org/global/research/global-reports/world-social-security-report/2014/WCMS_245201/lang--de/index.htm

31 The incidence coefficients are from the CEQ Institute's Data Center on Fiscal Redistribution, based on the following CEQ Master Workbooks of Results. The CEQ data were supplied to DFI and Oxfam as part of a partnership between CEQ and Oxfam. The public version of the database can be accessed at http://www.commitmentoequity.org/data. For Spain, data come from Fedea. (2015). *Observatorio sobre el reparto de los impuestos y las prestaciones monetarias entre los hogares españoles*. http://documentos.fedea.net/pubs/eee/eee2018-14.pdf; and for Brazil, from International Policy Centre for Inclusive Growth (IPC-IG). (2011). *Equidade Fiscal: Impactos Distributivos da Tributação e do Gasto Social no Brasil*. https://ipcig.org/pub/port/OP221PT_Equidade_Fiscal_Impactos_Distributivos_da_Tributacao_e_do_G asto_Social_no_Brasil.pdf.

32 N. Lustig, C. Mariotti and C. Sánchez-Páramo. (2020, June 11). *The redistributive impact of fiscal policy indicator: A new global standard for assessing government effectiveness in tackling inequality within the SDG framework*. World Bank Blogs. https://blogs.worldbank.org/opendata/redistributive-impact-fiscal-policy-indicator-new-global-standard-assessing-government

33 One issue that the index does not cover is VAT rates for luxury goods (because very few countries have higher rates for luxury goods).

34 The purpose of lowering top thresholds is to bring the maximum number of people in the top 10% of incomes into the maximum tax rate. This differs from the more common – but less supported by evidence – justification that such change would increase compliance and revenue.

35 They are by no means always progressive, however: for example, many countries have 'flat' property or inheritance taxes regardless of the value of the asset being taxed.

36 C. Gerber, A. Klemm, L. Liu and V. Mylonas. (2018). *Personal Income Tax Progressivity Trends and Implications*. IMF WP/18/246. Available at https://www.imf.org/en/Publications/WP/Issues/2018/11/20/Personal-Income-Tax-Progressivity-Trends-and-Implications-46332

37 N.C. Kakwani. (1977). *Measurement of Tax Progressivity: An International Comparison. The Economic Journal.* 87 (345), pp. 71–80. https://doi.org/10.2307/2231833

38 A Lorenz curve depicts the distribution of income (or another variable, like tax) among a population. On the horizontal axis, the population is ranked by income (e.g., from first or poorest percentile to 100th or richest percentile). The vertical axis captures cumulative income. For example, if at an X value of 0.5 Y is equal to 0.2, it means that the poorest half of the population earns 20% of total income (or pays 20% of total taxes).

39 As outlined in OECD. (2013). *Taxing Wages 2013*. Available at https://www.oecd-ilibrary.org/taxation/taxing-wages-2013_tax_wages-2013-en

40 The main sources have been the EY Global Tax Guides 2019 and 2019–20, available at http://www.ey.com/gl/en/services/tax/tax-services_access-our-global-tax-guides; and Deloitte International Tax Guides 2019, available at https://dits.deloitte.com/ - TaxGuides

41 For EU countries, the source is the *Overview of EU Member States' preferential tax regimes examined since the creation of the COCG in March 1998* by the Code of Conduct Group from December 2021, available at: https://data.consilium.europa.eu/doc/document/ST-8602-2020-REV-2/en/pdf

   For non-EU countries the source is *Overview of the preferential tax regimes and other measures examined by the Code of Conduct Group (Business Taxation) under EU listing criteria 2.1 and 2.2* by the Code of Conduct Group from November 2021, available at: https://data.consilium.europa.eu/doc/document/ST-14343-2021-INIT/en/pdf

42 OECD Action 5 Harmful tax practices, information retrieved in May–June 2022 at: https://www.oecd.org/tax/beps/beps-actions/action5/.

43 Conseil de l'Union européenne. (2022). *Conclusions du Conseil relatives à la liste révisée de l'UE des pays et territoires non coopératifs à des fins fiscales* (in French). https://www.consilium.europa.eu/media/54471/council-conclusions-24-february-2022.pdf

44 E. Flamont, S. Godar and G. Richard. (2021). *New Forms of Tax Competition in the European Union: An Empirical Investigation*. EU Tax Observatory. https://www.taxobservatory.eu/wp-content/uploads/2022/05/EU-Tax-Observatory-Report-3-Tax-Competition-November-2021-2.pdf

45 European Commission. (2021). *Annual Report on Taxation 2021*. https://op.europa.eu/en/publication-detail/-/publication/db46de2a-b785-11eb-8aca-01aa75ed71a1/language-en

46 OECD. (2021). *OECD R&D tax incentives database, 2021 edition*. https://www.oecd.org/sti/rd-tax-stats-database.pdf

47 For example, the IMF's analysis shows that developing countries are likely to be losing a greater proportion of GDP to base erosion and profit shifting, including harmful tax practices. See E. Crivelli, R. de Mooij and M. Keen. (2015). *Base Erosion, Profit Shifting and Developing Countries*. IMF Working Paper. https://www.imf.org/external/pubs/ft/wp/2015/wp15118.pdf

48 Deloitte. *Tax guides and highlights*. Information retrieved in May/June 2022 at https://dits.deloitte.com/#TaxGuides

49 PWC. *Worldwide Tax summaries Online*. Information retrieved in May/June 2022 at https://taxsummaries.pwc.com/; and PWC. (2021). *ATAD I and II implementation overview July 2021*. https://www.pwc.nl/nl/dienstverlening/tax/documents/atad-1-and-2-overview-july-2021.pdf

50 IMF. Balance of Payments. Data retrieved in May/June 2022 at https://data.imf.org/?sk=7ca70a91-c8c2-450b-9a0f-7e55577cf66c&hide_uv=1

51 UNCTAD. Data retrieved in May/June 2022 at https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=96740

52 EUROSTAT. Data retrieved in May/June 2022 at https://ec.europa.eu/eurostat/databrowser/view/BOP_ITS6_DET__custom_2456129/default/table

53 UNSTAT. Data retrieved in May/June 2022 at http://data.un.org/Data.aspx?q=export+of+goods&d=ComTrade&f=_l1Code%3a1%3byr%3a2018%2c2019&c=2,3,5,7,8,9,11,12&s=_crEngNameOrderBy:asc,yr:desc,_l2Code:asc&v=1

54 In previous editions of the CRI Index, we also used for this indicator studies calculating country tax 'effort' compared with potential collection based on GDP level and other factors. For more details of these, please see the 2018 CRI Index methodology note available at www.inequalityindex.org. However, these have been dropped because they attracted many objections from experts that the effort estimates for OECD countries were much higher than estimates of tax shortfalls calculated at national level.

55 OECD Global Revenue Statistics Database. https://stats.oecd.org/Index.aspx?DataSetCode=RS_GBL

56 IMF World Revenue Longitudinal Data (WoRLD). http://data.imf.org/?sk=77413F1D-1525-450A-A23A-47AEED40FE78

57 IMF. (2020). *World Economic Outlook*. https://www.imf.org/en/publications/weo

58 The World Bank. World Development Indicators. https://datacatalog.worldbank.org/dataset/world-development-indicators

59 J. Martinez-Vazquez, V. Vulovic and B. Moreno Dodson. (2014). *The Impact of Tax and Expenditure Policies on Income Distribution*, op. cit.

60 The incidence coefficients are from the CEQ Institute's Data Center on Fiscal Redistribution, based on the following CEQ Master Workbooks of Results. The CEQ data were supplied to DFI and Oxfam as part of a partnership between CEQ and Oxfam. The public version of the database can be accessed at http://www.commitmentoequity.org/data. For Spain, data come from Fedea. (2015). *Observatorio sobre el reparto de los impuestos y las prestaciones monetarias entre los hogares españoles*. http://documentos.fedea.net/pubs/eee/eee2018-14.pdf; and for Brazil, from International Policy Centre for Inclusive Growth (IPC-IG). (2011). *Equidade Fiscal: Impactos Distributivos da Tributação e do Gasto Social no Brasil*. https://ipcig.org/pub/port/OP221PT_Equidade_Fiscal_Impactos_Distributivos_da_Tributacao_e_do_Gasto_Social_no_Brasil.pdf

61 N. Lustig, C. Mariotti and C. Sánchez-Páramo. (2020). *The redistributive impact of fiscal policy indicator*, op. cit.

62 See F. Jaumotte and C. Osario Bultron. (2015). *Power From The People*. IMF. *Finance & Development*. 52:1. https://www.imf.org/external/pubs/ft/fandd/2015/03/pdf/jaumotte.pdf; and G. Ciminelli, R.A. Duval and D. Furceri. (2018). *Employment Protection Deregulation and Labour Shares in Advanced Economies*. IMF Working Papers. http://www.imf.org/en/Publications/WP/Issues/2018/08/16/Employment-Protection-Deregulation-and-Labor-Shares-in-Advanced-Economies-46074

63 See *Labour rights in law and practice*. http://labour-rights-indicators.la.psu.edu

64 For more details of the methodology, see http://labour-rights-indicators.la.psu.edu/docs/Method Paper.pdf. The site also contains country summary documents which have proved useful for interpreting results.

65 Details of UN SDG Goal 8.8.2 at: UN. *Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all*, p.16: http://unstats.un.org/sdgs/files/metadata-compilation/Metadata-Goal-8.pdf

66 The SIGI is produced by the OECD Development Centre and is available at https://www.genderindex.org/data/

67 Available at WageIndicator Countries: https://wageindicator.org/Wageindicatorfoundation/wageindicatorcountries

68 Available at *Women, Business and the Law Data*. https://wbl.worldbank.org/en/wbl-data

69 See https://www.genderindex.org/data

70 See U.S. Department of State. *2019 Country Reports on Human Rights Practices*. https://www.state.gov/reports/2019-country-reports-on-human-rights-practices/

71 Available at International Network on Leave Policies & Research: Country Reports. https://www.leavenetwork.org/annual-review-reports/country-reports/

72 Available at *Women, Business and the Law Data*. https://wbl.worldbank.org/en/wbl-data

73 See, for example, F. Jaumotte and C. Osorio Buitron. (2015). *Power From The People*, op. cit.

74 ILO. (2019). *ILO Centenary Declaration for the Future of Work, 2019*. https://www.ilo.org/global/about-the-ilo/mission-and-objectives/centenary-declaration/lang--en/index.htm

75 Available at ILOSTAT. https://ilostat.ilo.org/?MBI_ID=2

76 This indicator is part of the ILO Estimates and Projections series, analysed in the ILO's World Employment and Social Outlook reports. See https://ilostat.ilo.org/resources/concepts-and-definitions/classification-status-at-work/icse18-manual/#:~:text=The%20International%20Classification%20of%20Status%20at%20Work%20(ICSaW%2D18),work%20from%20various%20sources%3B%20and

77 For the CRI Index 2020, we used the ILO-modelled estimates for 2019, updated as of July 2020.

78 Labour income distribution – ILO modelled estimates, July 2019 (%): https://www.ilo.org/shinyapps/bulkexplorer6/?lang=en&segment=indicator&id=LUU_2LU3_SEX_AGE_RT_A

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