
THE COMMITMENT TO REDUCING INEQUALITY INDEX 2018

Methodology

The Commitment to Reducing Inequality Index 2018 ranks 157 countries for their policy performance on social spending, progressive taxation and labour rights – three areas found to be critical in reducing inequality. This second edition of the Index builds on the inputs and comments of experts from around the world on the first ‘beta’ version (2017).

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 which 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 or Max Lawson at Oxfam International.

1 INDEX CONSTRUCTION

The Commitment to Reducing Inequality (CRI) Index is a multidimensional index composed of nine different indicators organized into three pillars, each of which corresponds to a policy area. This note describes in detail the methodology used to construct the Index and the data sources used for each of the indicators.

1.1 Methodology development and data sources

The methodology for the Index was designed between June 2015 and April 2016, followed by a comprehensive data gathering exercise between May 2016 and April 2017. Based on this database, a beta version of the Index was published in July 2017. This was shared for feedback with experts around the world, leading to some significant refinements of the methodology, including a new indicator measuring harmful tax practices (T4), and new sub-indicators on laws against rape and sexual harassment (L2C and L2D). In early 2018, the CRI database was updated based on this revised methodology. In addition, between CRI 2017 and CRI 2018, Development Finance International (DFI) identified more reliable and recent data sources. As a result, major progress was made in making data more recent. In CRI 2018, virtually all tax and labour data are for 2017, compared with 2015 in CRI 2017. Education and health spending data have improved their average years from 2014 to 2016, and social protection from 2012 to 2015. The updated database can be found at www.inequalityindex.org and the new rankings are discussed in the report *The Commitment to Reducing Inequality Index 2018*.¹

Core to developing this index was a careful and detailed data collection exercise using a wide range of data sources to collect 29 different data points for each country. The current Index (CRI 2018) is calculated for **157** countries, up from 152 in CRI 2017. The new countries are Brazil, Belize, Chad, Kosovo and Uzbekistan. 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 interrogate outcomes and policies.

Each individual data point was triple-checked by DFI staff. Oxfam then carried out a systematic random checking process. Oxfam country offices also reviewed the data used for their country, in a few cases providing more up-to-date data. Despite this data validation process, we expect that in a database of more than 5,300 data points there may be a few errors. We encourage scrutiny and feedback on the database.

The CRI Index was reviewed by the Joint Research Centre of the European Commission in both 2017 and 2018. Following the 2017 review, several adjustments were made to match best practice in constructing composite indicators. A number of refinements along the 2018 review are in the pipeline for next year's version. Thereafter, both indexes were statistically audited. In 2018, the JRC concluded that the CRI is robust statistically and is 'paving the way towards a monitoring framework that can help identify weaknesses and best practices in governments' efforts to reduce the gap between rich and poor'. The 2017 audit is available at <https://oxfamilibrary.openrepository.com/bitstream/handle/10546/620316/tb-cri-index-statistical-audit-170717-en.pdf>;

The 2018 audit is available at: <http://policy-practice.oxfam.org.uk/publications/the-commitment-to-reducing-inequality-index-2018-a-global-ranking-of-government-620553>

1.2 Rescaling, weighting and aggregation

Each of the 29 data points is measured on a different scale. To make the resulting indicators aggregable, we rescaled all indicators to a 0–1 scale using the MIN/MAX standardization formula. After standardization, 0 is the lowest score for progressivity and 1 is the highest. The maximum and minimum values used were the highest and lowest scores achieved by the sample of countries in the Index, and therefore a score of 0 and 1 are awarded to the worst and best performers in the sample respectively.

Figure 1 presents the constituent data points for each of the pillars of the Index. Each pillar is derived from a different number of data points and as such, the contribution (or weight) that each data point makes to the overall score for the pillar varies. Based on the average of the indicators within each pillar, each country is given a score for each of the three pillars, which is then rescaled 0-1 so that each pillar carries approximately the same weight in the overall Index. This was following the recommendation from the EU JRC review of the Index and in line with the methodology used by other composite indices such as the Human Development Index.²

Figure 1: The constituent data points used to construct the CRI and their implicit weights

<p>Progressivity of spending [S] Average of indicators S1 and S2</p>	<p>Progressivity of tax [T] Average of indicators T1 to T4</p>	<p>Progressivity of labour policies [L] Average of indicators L.1 to L.3 <i>All indicators deflated by (L.i) share of informal jobs (L.ii) unemployment</i></p>
<p>S1: Social spending as % total spending: 50%</p> <p>S.1A education spending S.1B health spending S.1C social protection spending</p> <p>S2: 2 Incidence of spending on inequality (Gini coefficient): 50%</p> <p>S.2A Education spend % GDP*incidence coefficient S.2B Health spend % GDP*incidence coefficient S.2C Social protection % GDP*incidence coefficient</p>	<p>T1 Progressivity of tax structure: 25%</p> <p>T.1A PIT minimum and maximum rates + thresholds T.1B CIT rate T.1C VAT rate, exemptions and thresholds</p> <p>T2: Incidence of tax on inequality (Gini coefficient): 25%</p> <p>T.2A VAT revenue % GDP T.2B CIT revenue % GDP T.2C PIT revenue % GDP T.2D Excise revenue % GDP T.2E Customs revenue % GDP</p> <p>T3: Tax collection: 25%</p> <p>T.3A Tax productivity: VAT, PIT and CIT revenue compared to rates and GDP or consumption T.3B Tax effort compared with potential</p> <p>T4: Harmful tax practices: 25%</p> <p>T.4A Harmful tax practices T.4B Anti-tax avoidance rules T.4C Evidence of negative impact</p>	<p>L1: Workers and labour union rights: 33%</p> <p>Government efforts to protect workers in law and in practice</p> <p>L2: Women's legal rights at work: 33%</p> <p>L.2A Laws on equal pay for equal work L.2B Laws against gender discrimination L.2C Laws against rape L.2D Laws against sexual harassment L.2E Parental leave</p> <p>L3: Minimum wage: 33%</p> <p>L.3A Minimum wage in local currency L.3B Per capita GDP</p>

We have also allowed for the fact that while both tax and spending can be individually progressive, a greater commitment to and impact on reducing inequality is obtained when tax and spending act together. To capture this interaction, we multiply the spending score by the tax score. However, the CRI assumes that spending, tax and labour market policies are of equal importance to reducing inequality. To make each pillar count for one-third of the overall CRI score, we take the square root of the interaction term between tax and spending. The final CRI score is therefore made up of two-thirds the square root value of the interaction term and one-third the score for the labour pillar, as shown in the formula in the box below.

$$\text{Commitment to Reducing Inequality Index [CRI]} = \frac{(\sqrt{\text{Progressivity of spending} \times \text{progressivity of tax}} \times 2 + \text{Progressivity of labour})}{3}$$

1.3 Scores and ranks

A country's rank in each pillar is based on its average score across the indicators for that pillar. However, the overall rank for a country is calculated as an average of their scores under the three pillars, not of their rank under the three pillars. Their rank on each pillar is therefore irrelevant to the overall ranking. Table 1 shows an example of this for Denmark – the top scorer in the Index.

Table 1: Denmark's ranking per pillar, and overall

Country	Progressive spending	Progressive tax	Progressive labour policy	Total CRI rank
Denmark	5	2	2	1
Score	0.74	0.92	0.97	0.87

2 THE SPENDING PILLAR [S]

A wide body of work shows that social spending by governments on education, health and social protection has a strong impact on reducing inequality.³

The spending pillar seeks to measure a government's commitment to investing in these key progressive sectors and the effectiveness with which they are using this spending to reduce inequality. The pillar is comprised of two indicators: government spending on progressive sectors as a percentage of total government spending, and the incidence of this spending on the Gini coefficient. Each indicator contributes 50% of the score for this pillar.

2.1 Government spending on progressive sectors as % total spending [S1]

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 governments' own *commitment* to spending: it shows what share of the tax and aid funds which pass through government budgets is allocated to sectors which 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 (i.e. their higher budget revenue due to higher GDP).

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 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). 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 increases inequality.⁴ For all three sectors, data are available for all 157 countries.⁵

DATA POINTS S.1A, S.1B and S.1C: Education, health and social protection spending

The vast majority of data points for education (91%) and health (98%) are for 2015–17, but only 70% of social protection data are for this period. The countries with the oldest education data are Algeria (2008), Antigua and Barbuda and Botswana (2009) and Canada and Seychelles (2011); those with the oldest health data are Nigeria (2012), and Bolivia, Panama and Namibia (2014). Twenty-eight countries have social protection data for 2011 or older.

Data are drawn from a range of comparably calculated sources. The main source is the Government Spending Watch (GSW) database, which covers 84 countries for 2017 from budget documents for all low-income countries (LICs), almost all low- and middle-income countries (LMICs) and a few upper middle-income countries (UMICs). Data for the other countries is from secondary sources, which are in turn sourced from budgets or surveys (Asian Development Bank, CEPAL, Eurostat, ILO, 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 10 countries, and IMF data for Myanmar.

Some of these sources have been changed since the CRI 2017 database. In particular, we have moved away from using sector-specific OECD databases, to its multi-sector national accounts database using COFOG classifications.⁶ This database is more up to date, but had not been updated at the time of CRI 2017. In addition, WHO has made major changes to its health data, moving comprehensively to a new national health accounts system; CEPAL has vastly improved Latin American spending data with a new online database; and ILO has improved its data for some countries as governments have supplied new data on non-contributory pensions.⁷

For countries covered by the GSW database (LICs and LMICs), in all but two cases the data point measures 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 are actual spending. For virtually all HICs there is little difference between budgeted and actual spending, except in cases of major mid-year fiscal crises; also for other countries differences are generally small.⁸

Social protection spending data include all public social security/social protection schemes or programmes, corresponding to the nine classes of benefits included in the 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 the poor, including conditional cash transfers. In this version of the Index, housing benefits are included in social protection spending for all countries where they are specified, whereas they had to be deducted in the 2017 edition for lack of clarity in the data definition.^{9,10} Data also includes 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.¹¹

2.2 Incidence of spending on the Gini coefficient [S2]

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/increasing the Gini coefficient produced by the ‘market’ (i.e. before government spending and tax is taken into account). 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 achieves the smallest decrease scores 0.

DATA POINTS S.2A and S.2B: Data on spending and incidence

For 96 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 three sectors’ results are then summed to measure the total predicted impact of spending on the Gini. For the 96 countries, the data on spending on each sector as a % GDP (S.2A) is taken from the same data sources as for the data points used to construct S1.

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. (2011).¹² All the coefficients are negative, because an increase in spending would reduce the Gini. As shown in Table 2, the global panel data find that an increase in health spending is more powerful in reducing the Gini than an increase in education or social protection spending.

Table 2: Global coefficients for each sector

	Education	Health	Social protection
Coefficient	-0.0013	-0.0070	-0.0014

For 30 OECD countries, these 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,¹³ 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 the remaining 31 countries, instead of the global coefficients, we used the results of national studies conducted by the Commitment to Equity Institute (CEQ) at Tulane University (and for Brazil by the International Policy Centre for Inclusive Growth).¹⁴ 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 2016.

3 THE TAX PILLAR [T]

Governments have a variety of taxes they can use to raise the revenue needed to pay for public services and keep the government running. 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 a key and direct effect 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 is comprised of four indicators: progressivity of the tax structure, incidence of tax on the Gini coefficient, tax collection, and the extent of harmful tax practices (HTPs). Each indicator contributes 25% of the score for this pillar.

Other indicators which assess tax progressivity have not been included due to data limitations, but are further discussed in the main report. These include 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 Tax structure [T1]

This indicator measures the progressivity of the tax structure on paper, based on the rates and levels of different taxes in the country. Specifically, it assesses the progressivity of personal income tax (PIT),¹⁵ 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 exemptions for basic foods and high registration thresholds) as being those which are making more effort to set tax rules which are progressive. It also shows that many countries have room for improvement by increasing very low or zero corporate and/or personal income tax rates, and reducing relatively high basic VAT rates,¹⁶ as well as setting higher minimum tax thresholds for personal income tax to exclude the lowest income earners, or lower top tax rate thresholds to make sure the highest income earners are adequately taxed.¹⁷

Ideally it would be desirable to assess additional types of taxes, notably those on wealth, financial assets, capital gains and land/real estate, which can be highly progressive.¹⁸ It would also be desirable to assess the rates of social security contributions, which are generally regressive. The box on wealth taxes in the CRI 2017 report begins work on this analysis, pending future work to compile a global database on such taxes.

The progressivity of personal income taxes is calculated based on a simplified Kakwani index. The difference between the top and bottom tax rates is divided by the difference between the top and bottom tax thresholds (expressed as a share of per capita GDP), which tells us the level of increase in the tax rate as income increases between the lowest and highest tax thresholds.¹⁹ However, we also sought to capture the fact that higher maximum rates of PIT and higher lowest rate thresholds which exempt the poorest from paying PIT also make PIT more progressive. We do this by multiplying the simplified Kakwani formula by the maximum tax rate and the minimum threshold to assess overall progressivity

$$\left[\frac{(\text{Top tax rate} - \text{Bottom tax rate})}{(\text{Top threshold \% GDP} - \text{Bottom threshold \% GDP})} \right] * \text{max tax rate} * \text{min threshold}$$

Countries therefore score better on this indicator if the tax rate increases relatively quickly with income, as well as having high top tax rates and a high minimum threshold before incomes are subject to tax. Given the exponential pattern of scores, the log of scores has been taken before standardization. Countries with a flat PIT rate score 0.

Corporate income taxes 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).²⁰ 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 ten 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 the VAT.²¹ 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.²²

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.

DATA POINTS T.1A, T.1B, T.1C: PIT, CIT and VAT rates

To assemble these data, DFI has conducted a major data collection exercise, drawing on national tax code documents, national budgets, and accounting company tax guides (principally Ernst & Young and Deloitte).²³

As a result, it has been possible to collect 2017 data for all 157 countries, with 7 countries benefiting from improved sources since CRI 2017. Where necessary (and possible) we have aggregated central and decentralized rates; it should be noted that for Switzerland and the USA, some taxes are a sum of the federal rate, with the average of the rates applied across different decentralized areas, or with representative rates, as suggested by the OECD.

3.2 Tax incidence [T2]

This indicator measures the impact of government commitments to progressive taxation based on the revenue collected from different types of taxes. Specifically, it identifies the impact that tax revenue from personal income tax, corporate income tax, VAT, social security contributions and customs and excise duties 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 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 achieves the largest increase from regressive tax policy scores a zero.

DATA POINT T.2A, T.2B, T.2C, T.2D and T.2E: Share of revenue from each tax type, and tax coefficients

For 87 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. The results for all taxes are then summed to measure the total predicted impact on the Gini. For these countries, data on countries' tax revenue in 2017 by tax type was collected by DFI drawing from national budgets, revenue authorities and statistical documents, and IMF Board documents.

Data on social security contributions (SSC) 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 79 countries. This includes 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.²⁴ 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 social security contributions 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 3: Global coefficients for each tax

Tax	PIT	CIT	VAT	Customs*	Excise*	SSCs
Coefficient	-0.001	0.000	0.005	0.001	0.003	0.007

*The coefficients for excises and customs are not statistically significant.

For those countries (currently 70) with recent tax incidence studies conducted by the OECD (31), the CEQ (31),²⁵ the EU (6) or national sources (2), their findings on the impact of taxes on 'market' Ginis are used. The OECD and EU provide country-specific data on how direct taxes (PIT) reduce income inequality, as measured by a change in the Gini from market (pre-taxes and transfers) to disposable (post direct taxes and transfers) income inequality.²⁶ This is added to the impact of indirect and CIT taxes calculated using the MV global coefficients. The CEQ and country studies provide data for the impact of each tax except the CIT, for which the MV global coefficient is used. As with spending incidence, these studies are based on the latest national household income surveys, for which the dates vary between 2010 and 2015.²⁷

3.3 Tax collection [T3]

This indicator measures whether countries are collecting as much tax as they could, to recognize that despite having progressive tax structures on paper, countries may 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 making tax collection the main financing source for all their spending.

Many methods have been suggested for assessing whether the tax revenue collected by countries is 'enough'. The simplest includes targets for revenue as a share of GDP for countries grouped by income, as in the drafts of the Addis Ababa Action Agenda. However, this method is unsatisfactory because it doesn't take into account the widely different economic structures and revenue-raising potentials of countries within the same income group, and would therefore set some countries overambitious goals, while allowing others to make virtually no additional 'effort'.

We have used two different methods to assess tax collection effort more accurately.

- The first is a calculation of **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 the PIT), and the size of the economy (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 PIT and CIT potential tax bases leads to downward biased CIT and PIT productivity measurements. Unfortunately, only few CIT, PIT and VAT actual *gap* estimates are currently available, and these are not always comparable across countries.

For future editions of the CRI we will consider refining our measurement of tax collection effectiveness by comparing *administrative* and *policy tax gaps* estimates using simplified *gap* models, national accounts and tax return information.²⁸

- The second method scrutinizes tax collection inefficiencies by estimating a country's relative **'tax effort'** defined as the ratio of the actual level of taxation to an *ad hoc* modelled tax potential. Based on the theoretical and empirical work of the Centre d'Etudes et de Recherches sur le Développement International (CERDI)²⁹ and the IMF,^{30 31} tax potential is implicitly modelled through identified determinants (economic variables and institutional factors) of the level of taxation. A country is assumed to have a higher tax potential if it has a higher GDP per capita. This potential is further adjusted for other variables which are found to impact a country's potential to collect taxes: trade/GDP (positively correlated with customs revenues); share of the agriculture sector in GDP (whose increase reduces revenue because much of it is small-scale or informal, and even larger scale formal agriculture is often largely

tax-exempt); education spending (found positively correlated with revenues collection); the Gini coefficient and inflation (more equality and lower inflation both improve tax collection); and corruption (higher perception of corruption reduces taxpaying). Consider two countries with a similar GDP. All other things being equal, one could have a lower tax potential than the other if it had a larger agricultural sector for example, which is more difficult to tax. We use the tax effort estimates to rank countries' relative tax collection performance.

To account for the two different approaches to tax collection efficiency, the tax collection score is obtained by multiplying a country's tax productivity for its estimated tax effort (relative to other countries in the sample). This score is then standardized, such that a country that has the highest combined score for collecting the most tax compared to its potential and the estimates for administrative capacity is given a maximum progressive score of 1.

DATA POINT T.3A: Tax productivity

Tax productivity is calculated using tax rates and tax collection amounts compared to GDP or private consumption. Data on amounts of tax collected by and on prevailing tax rates are the same as the ones used respectively for data points T2.A and T1 (see above). Data from the IMF World Economic Outlook (WEO) database were used for GDP, and from the World Bank's World Development Indicators (WDI) for 'Household Final consumption expenditure'. Private consumption data are not available for 11 countries (Antigua and Barbuda, Djibouti, Guinea, Jordan, Kiribati, Maldives, PNG, Samoa, São Tomé, Solomon Islands and St Vincent); so for these we have used GDP as a proxy.

Given that some activities included in GDP would not be subject to CIT or PIT, this is only appropriate as a proxy to compare tax administration performance between countries, as opposed to an absolute measure of performance. In future editions, we would seek to identify more appropriate estimates for the activity that would be subject to CIT and PIT, to improve the accuracy of this indicator.

DATA POINT T.3B: Tax effort compared to potential

Data for this indicator are taken directly from the source studies. The CERDI study is the most recent, covers 92 countries and uses tax data up to 2014; so where possible we have used its findings. The IMF studies cover a further 53 countries with slightly older data (using data from 2011 and 2012), but efforts are underway to update and improve the calculations. We could use these updates in future reports, or conduct similar independent analysis. Ten countries have not been analyzed by any study, and no data are available. For these countries, we used the global average score for tax potential of 0.69 and multiplied this by the country-specific score for tax productivity.

3.4 Harmful tax practices [T4]

One important measure of a government's commitment to fight inequality is the extent to which its tax system is undermining its own and other countries' capacity to generate and retain their tax revenues. The level of cross-border transactions (in goods and services) has increased dramatically in recent years, and has been accompanied by enhanced efforts by multinational companies to use inconsistencies among countries' tax systems to artificially allocate profits to lower-tax countries, rather than where the real activity and value is created. This has been accompanied by a proliferation of harmful tax practices and preferential regimes, which make a country more attractive to multinationals from a tax-reduction perspective, 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 multinationals in such countries is much lower than the statutory CIT rates.

To assess whether a jurisdiction is adopting such practices, thereby reducing tax collection and exacerbating inequality in its own and other countries, we have included an indicator for harmful tax practices in the tax pillar.

The indicator consists of three sets of sub-indicators:

T.4A: Harmful tax practices

This sub-indicator assesses practices that could be considered harmful under the criteria established by the OECD Forum on Harmful Tax Practices in 1998, and includes:

1. **Patent boxes:** (also called intellectual property boxes or innovation boxes). These allow a lower corporate tax rate for any profits linked to intellectual property like patents, licence fees or other related revenues.
2. **Excess profit rulings:** A tax ruling is a written interpretation of the law issued by a tax administration to a taxpayer. It is a binding agreement. While many of those are uncontroversial, more and more are becoming problematic because they could be used to avoid paying taxes. That is the case for excess profit rulings. An 'excess profits ruling' is in practice a tax discount agreed between a government and some companies based on a premise that multinational companies make excess profit as a result of being part of a multinational group, e.g. due to synergies, economies of scale, reputation, client and supplier networks, and access to new markets. For example, in Belgium, the actual profit of a multinational was compared with the hypothetical average profit a comparable non-multinational company would have made. The alleged difference in profit was deemed to be excess profit by the tax authorities, and the multinational's tax base was reduced proportionately. As a result of these rulings, the tax liability of the companies concerned was reduced by more than 50% and in some cases by 90%.
3. **Notional interest deductions:** Corporations are generally allowed to deduct interest expenses related to loan financing from their tax base, but no similar deduction exists for equity financing, resulting in a bias towards loans to finance investments. Some countries have sought to reduce this bias and favour large companies' practices by calculating the amount of interest which would be paid if equity was replaced by loan finance, and allowing companies to deduct this 'notional' or fictitious amount from their tax base. This bias could of course have been better corrected by removing tax incentives related to loans.
4. **Tax Holidays:** These are temporary reductions of or exemptions from corporate tax.

A simple Yes or No assessment was carried out on whether these HTPs exist, based on the EU Commission Scoreboard,³² OECD Peer Reviews³³ and PwC Worldwide Tax Summaries.³⁴

T.4B: Anti-tax avoidance rules

This sub-indicator considers four counter-measures which countries can use to reduce the impact of tax avoidance by corporations.

1. **Controlled foreign company (CFC) rules:** CFC rules require multinational companies to report on profits made in other jurisdictions where they 'control' another corporate structure. This allows the tax authority to assess whether a company might be shifting profits to other countries, and is one of the most effective mechanisms to counter tax avoidance.
2. **Interest limitation:** The objective of this rule is to limit tax deductibility of interest paid by a company and reduce the scope for companies to shift profits by making interest payments to other companies in the same group.
3. **General anti-avoidance rule (GAAR):** GAAR refers to a broad set of different rules aimed at limiting tax avoidance by multinationals in cases where abuse of tax rules has been detected. They give tax administrations more legal support by allowing them to interpret tax 'planning' by multinationals as tax avoidance, and therefore insisting that they pay more tax.

4. **Exit tax:** This is a tax paid on company assets when a company leaves the country or transfers a share of its assets to another country. It is designed to prevent avoidance of capital gains tax or registration of assets in countries with more preferential tax regimes.

T.4C: Evidence of negative impact

The list of HTPs and anti-tax avoidance measures above is not exhaustive, and countries may be implementing a wide range of other measures which 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.

1. **Disproportionate passive income:** Excessively high levels of royalties, interests and dividends indicate that jurisdictions may be acting as 'conduit tax havens', facilitating offshore economic activity. The threshold is set as net intra-group interest income above 1% of GDP,³⁵ net royalty income above 2.5% of GDP,³⁶ or net dividends income above 5% of GDP³⁷ for diversified economies. We have also set an absolute threshold of US\$100m for total net income for small island economies which are much less diversified and may be dependent on such flows.
2. **Levels of Foreign Direct Investment (FDI) stock:** Very high inward FDIs relative to a country's economy is usually related to offshore structures and conduit jurisdictions. The indicator is calculated as net FDI stock (stock of inward investment minus stock of outward investment) in excess of 250% GDP.³⁸
3. **Disproportionate levels of income from trade and services:** 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,³⁹ and total exports of goods to the rest of the world of 100% of GDP.⁴⁰ These high thresholds allow countries with legitimate large tourism or manufacturing exports to be excluded from the listing process.

Overall indicator calculation

To calculate a total score for a country performance on harmful tax practices, scores for these three sub-indicators were assigned in the following way.

- **The existence of harmful tax practice regimes (T.4A)** is given a score of 2 points for HICs and UMICs, and 1 point for LMICs and LICs. Countries with no HTP score 0. The reason for giving different scores to countries with different income levels is that evidence shows 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.⁴¹
- **The absence of each of the possible anti-tax avoidance measures (T.4B)** is given 0.5 points for HICs/UMICs and 0.25 points for LMICs/LICs, up to a maximum of 2 and 1 points respectively.
- **Countries that are assessed as having attracted profits over specific thresholds (T.4C)** receive an additional 5 points, made up of 2 points for excessive passive income, 1 point for excessive FDI/GDP, and 2 points for disproportionate income from trade and services.

These three sub-indicators are then combined, giving an overall value between 0 and 9 for HICs/UMICs and between 0 and 7 for LMICs/LICs, and the reverse of their score is used for the standardization.

4 THE LABOUR PILLAR [L]

In most countries, most income inequality can be explained by differences in market inequality; that is, 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 economy 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, all labour indicators are corrected for the level of unemployment and of informality (see details of sources below). They are discounted for the percentage of jobs which are informal (1-%informal workers) and for the unemployment rate (1-%unemployment rate). These discounted scores are then standardized using the MIN/MAX formula to fit them into a scale between 0 and 1 (with 1 highest – i.e. most inequality-reducing). Each indicator then contributes 33% of the overall labour score.

DATA POINT L.i: Informality

Data on informality are difficult to access (being hidden and uncounted by its very nature). Following consultation with labour rights experts to identify the best data sources,⁴² we opted for the ILO-modelled estimate of vulnerable employment (as a % on total employment) as a proxy for informal employment, based on the International Classification by Status in Employment (ICSE).⁴³ According to this classification and 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.⁴⁴

The previous version of the CRI used the World Bank's 'Shadow Economy' data, measuring the share of informal GDP. The difference with the ILO data can be substantial, as in all countries, and especially lower-income countries, the share of informal jobs is much higher than the share of informal GDP, because each informal job generally contributes much less to GDP.

All of the indicators in the labour pillar are discounted for informality, meaning that this change in data has had a substantial impact on many country's position in the labour pillar, pushing down the ranking of countries with the largest informal workforces.

DATA POINT L.ii: Unemployment rate

Data on unemployment also come from ILO's modelled estimates for 2017 (updated at July 2018).⁴⁵

4.1 Labour union rights [L1]

There is strong evidence that the extent of unionization of the workforce has a strong influence on the level of inequality.⁴⁶ 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 aims to measure government commitment to reducing inequality, and as such, this indicator measures the extent to which governments have legally authorized and then respected labour and union rights, combining measures of government efforts to protect workers in law and in practice.

DATAPOINT L.1A: Labour rights

The data for this indicator are based on the database of Labour Rights Indicators set up by the Global Labour University and the Centre for Global Workers' Rights at Penn State University.⁴⁷ 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 which 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 normalized score of the sum of performance in law and in practice.⁴⁸

Data are available for all except three (Bhutan, Kosovo and Tonga) of the 157 countries in the CRI Index.

This methodology has recently been agreed as the measurement system for SDG indicator 8.8.2 on labour rights.⁴⁹ The lead authors from the Global Centre for Workers Rights have given permission to reproduce their data. In terms of replicability, depending on SDG indicator funding being forthcoming, the authors of the Index plan to update rankings and data annually, in line with the proposed annual SDGs progress reports.

4.2 Women's rights in the workplace [L2]

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 are often paid less than men for doing the same job. When at work, they are sometimes victims of sexual abuse or harassment. In addition, the burden of maternity absence and the majority of unpaid care work are shouldered by women. Strong labour regulations can help women to achieve equal rights in the workplace and reduce their exposure to abuse. They also need the government to legislate for paid maternity leave and to relieve the burden of unpaid care work to achieve equal rights and opportunities in the workplace.

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 (L.2A);
- **legislation to protect women against discrimination** in employment (L.2B);
- adequate **legislation on rape and sexual harassment** (L.2C and L.2D); and
- the extent (numbers of days and pay levels) of **paid parental, maternity and paternity leave** (L.2E).

The five sub-indicators are scored with slightly different methodologies. Sub-indicators L.2A and L.2B 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. For sub-indicators L.2C and L.2D, the inverse of the scores (1-score) obtained as described in Table 4 are used to compute the indicator (for a maximum of 2 points). For indicator L.2E, countries' scores in terms of days and pay rates for parental leave are normalized between 0 and 1. The five scores are then averaged to give an overall score between 0 and 1.

DATA POINTS L.2A and L.2B: Laws for gender non-discrimination at work and equal pay for equal value

Data points were obtained searching primary sources of information on countries' laws on non-discrimination at work, and equal pay for equal value, as well as Wage Indicator's country profiles.⁵⁰ This is a significant change from CRI 2017, which relied almost entirely on the World Bank data set Women, Business and the Law. As a result of this data collection exercise, 50 additional countries have been credited with laws on equal pay, and 60 on non-discrimination, resulting in major changes in the country classification. Only a small minority of countries (23 and 27 respectively) do not have such laws, as compared with well over half in CRI 2017. A large number of countries have therefore gone up in the labour rankings accordingly, and those without such laws are even further down the Index ranking.

DATA POINTS L.2C and L.2D: Legal provisions to protect women against rape and sexual harassment

This sub-indicator seeks to assess legislation on rape and sexual harassment. The basic design of the indicator and two-thirds of the data come from the 'restricted physical integrity' indicators in the database of the Social Institutions and Gender Index (SIGI) produced by the OECD.⁵¹ We complemented the database in three ways:

1. For 20 countries missing from the SIGI database, we searched for primary sources using the US State Department Human Rights Report 2017⁵² and national laws/decrees;
2. The SIGI indicators were last compiled in 2014, so we rechecked countries where, according to the SIGI, relevant legislation was either being planned or did not exist (32 across the two indicators);
3. 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 the sexual harassment laws was unclear. Similarly, we could not determine with certainty how 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 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 criteria described in Table 4 and the reverse of the score is used for standardization.

Table 4. Scoring system for countries' legal provisions to protect women against rape and sexual harassment

Laws on rape: Whether the legal framework offers women legal protection from rape
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 and 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.

Laws on sexual harassment: Whether the legal framework offers women legal protection from sexual harassment

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.

DATA POINT L.2E: Legal provisions for parental leave

This sub-indicator scores countries according to the days of maternity, paternity and parental leave established by the law, adjusted for the percentage of prior salary which is paid during leave. This adjustment for pay shortfalls has been introduced in the 2018 version of the CRI; compared with CRI 2017 it lowers the ranking of countries which provide a low share of salary during leave and raises those of countries which pay full salary. Information for these scores was obtained from sections 5 and 6 of Wage Indicator country profiles, as well as from a wide range of primary sources.

4.3 Minimum wage as a % GDP [L3]

There is strong evidence that higher minimum wages have a major impact on reducing inequality.⁵³ The purpose of this indicator is to assess the relative generosity of minimum wages set by governments.

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%, 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 a PPP basis 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 data sets; the fourth is comparing 'downwards' with the poverty line (and would therefore be a good measure of minimum wage 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 this is a sound and good measurement and way to judge the minimum wage rates, especially when the adjustment for informality is applied. It is worth noting that, despite this adjustment, 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 L.3A: Minimum wage rate

To ensure that figures are comparable for all countries, CRI 2018 contains the minimum wages applied for 2017, as 2018 rates were not available for most countries at the time of compilation. We used mainly primary sources such as government gazette announcements, www.Wage-indicator.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 minimum wage levels. Labour experts and ITUC representatives also provided information on the lowest rates paid under sector-by-sector collective bargaining agreements. In some countries, different minimum wages are set for different sectors or regions. In these cases, we used the lowest regional or sectoral rate.

DATA POINT L.3B: GDP per capita

For GDP per capita in local currency in current prices, IMF data from the April 2018 WEO database (reporting data for 2017) were used, to avoid distortions caused by inflation or devaluation/revaluation of currencies.

NOTES

- 1 M. Lawson and M. Martin (2018). The Commitment to Reducing Inequality Index 2018: A global ranking of governments based on what they are doing to tackle the gap between rich and poor. DFI and Oxfam. DOI: 10.21201/2018.3415 <http://policy-practice.oxfam.org.uk/publications/the-commitment-to-reducing-inequality-index-2018-a-global-ranking-of-government-620553>
- 2 UNDP (2016). Human Development Report Technical note. http://dev-hdr.pantheonsite.io/sites/default/files/hdr2016_technical_notes_0.pdf
- 3 For example, see OECD (2015). In It Together: Why Less Inequality Benefits All. Paris: OECD Publishing. DOI: <http://dx.doi.org/10.1787/9789264235120-en>; or the global panel study by Martinez-Vazquez and Moreno-Dodson (2011) of incidence studies covering 150 countries over a 30-year period. They show that health spending reduces the Gini coefficient by 0.4–0.7, education by 0.13, and social protection by 0.12. See: J. Martinez-Vazquez; B. Moreno-Dodson and V. Vulovic (2011). The Impact of Tax and Expenditure Policies on Income Distribution. Georgia State University. Andrew Young School of Public Policy Studies.
- 4 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). More information on which countries this applies to is available from DFI: mail@dri.org.uk.
- 5 Countries for which only pre-2008 data were available were excluded from the index.
- 6 Classification of the Functions of Government (COFOG) was developed in its current version in 1999 by the Organisation for Economic Co-operation and Development and published by the United Nations Statistical Division as a standard classifying the purposes of government activities.
- 7 Following these changes, we made retrospective adjustments to the spending data in the CRI 2017 database (involving 64 data points out of 468), so as to obtain comparable datasets to analyse trends.
- 8 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. May 2013. Figure 3.27, available at www.governmentspendingwatch.org
- 9 Martinez-Vazquez, Moreno-Dodson and Vulovic (2011). op. cit. find strong impact of social housing and housing benefits on the Gini coefficient.
- 10 But note that public spending for housing and communities construction and maintenance are not included due to data unavailability in many countries, as also discussed in Box 5 of the CRI report 2018.
- 11 N. Lustig (2015) finds that they have been 'a large equalizing force' in European countries and the US, Brazil, Colombia, and Indonesia; but unequalizing in Chile, Mexico and Peru (because their contribution systems 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. ILO broader statistical analysis (ILO 2014) finds a strong relationship between contributory spending and lower inequality. Full reference: 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.
- 12 Martinez-Vazquez, Moreno-Dodson and Vulovic (2011). Op. cit.
- 13 OECD website: Income Distribution and Poverty by country. <https://stats.oecd.org/index.aspx?queryid=66670>

- 14 The Incidence coefficients are from the CEQ Institute's Data Center on Fiscal Redistribution based on the following CEQ Master Workbooks of Results: Argentina (Rossignolo, 2016); Armenia (Younger and Khachatryan, 2014); Bolivia (Paz-Arauco and others, 2014); Brazil (Higgins and Pereira, 2016); Chile (Martinez-Aguilar and Ortiz-Juarez, 2016); Colombia (Melendez and Martinez, 2015); Costa Rica (Sauma and Trejos, 2014); Dominican Republic (Aristy-Escuder and others, 2016); Ecuador (Llerena and others, 2014); El Salvador (Beneke, Lustig and Oliva, 2014); Ethiopia (Hill, Tsehaye and Woldehanna, 2014); Georgia (Cancho and Bondarenko, 2015); Ghana (Younger, Osei-Assibey and Oppong, 2016); Guatemala (Cabrera and Moran, 2015); Honduras (Castañeda and Espino, 2015); Indonesia (Jellema, Wai Poi and Afkar, 2015); Iran (Enami, Lustig and Taqdiri, 2016); Jordan (Abdel-Halim and others, 2016); Mexico (Scott, 2013); Nicaragua (Cabrera and Moran, 2015); Peru (Jaramillo, 2015); Russia (Malysin and Popova, 2016); South Africa (Inchauste and others, 2016); Sri Lanka (Arunatilake and others, 2016); Tanzania (Younger, Myamba and Mdadila, 2016); Tunisia (Shimeles and others, 2015); Uganda (Jellema and others, 2016), Uruguay (Bucheli and others, 2014), and Venezuela (Molina, 2016). Data for Spain come from Fedea - Observatorio sobre el reparto de los impuestos y las prestaciones monetarias entre los hogares españoles [http://documentos.fedea.net/pubs/eee/eee2018-14.pdf]. The CEQ data were supplied to DFI and Oxfam because of the partnership between CEQ and Oxfam. The public version of the database can be accessed at <http://www.commitmentoequity.org/data/>
- 15 It should be noted that for some countries it was not possible to consider all forms of personal income for the purposes of the PIT progressivity assessment, which therefore only captures earned income. Specifically, in countries where dividends and distributions received from investments, or rental receipts from real estate investments and profit-sharing from businesses are subject to separate (generally flat) tax regimes, these were excluded from the examination of multi-rate PIT regimes.
- 16 One issue which the index does not cover is VAT rates for luxury goods (because very few countries have higher rates for luxury goods).
- 17 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 evidence-supported, justification that such change would increase compliance and revenue.
- 18 They are by no means always progressive – for example, many countries have 'flat' property or inheritance taxes regardless of the value of the asset being taxed.
- 19 This methodology is based on a simplified version of the one developed in: D. Duncan and K.P. Sabirianova (2008). Tax Progressivity and Income Inequality. Georgia State University. Andrew Young School of Policy Studies. Working Paper 2008-6-5
- 20 Of course, there is a huge disparity between statutory CIT rates and effective CIT rates that MNCs are paying in every country, in part due to harmful tax practices applied by some countries, which are assessed in indicator T4.
- 21 C. Grown and I. Valodia (2010). Taxation and Gender Equity: A Comparative Analysis of Direct and Indirect Taxes in Developing and Developed Countries. London and New York: Routledge.
- 22 The evidence from country-specific incidence analysis shows that when these measures are taken, the incidence of VAT becomes neutral. There is not the same effect with the lower rates.
- 23 The main key sources have been Ernst and Young Global Tax Guides 2015 and 2015–16, available at http://www.ey.com/gl/en/services/tax/tax-services_access-our-global-tax-guides; and Deloitte International Tax Guides 2015, available at <https://dits.deloitte.com/#TaxGuides>
- 24 See Table 4 in: Martinez-Vazquez, Moreno-Dodson and Vulovic (2011). Op. cit.
- 25 The Incidence coefficients are from the CEQ Institute's Data Center on Fiscal Redistribution. See note 14 for details.
- 26 Data from the OECD Income Distribution and Poverty dataset at <https://stats.oecd.org/index.aspx?queryid=66670>
- 27 For details of sources and links see note 14 above.
- 28 For example, by the IMF – see <http://www.imf.org/en/publications/wp/issues/2017/04/04/tax-administration-reforms-in-the-caribbean-challenges-achievements-and-next-steps-44800> ; USAID – see http://pdf.usaid.gov/pdf_docs/PA00JNWF.pdf and CEPAL, see http://repositorio.cepal.org/bitstream/handle/11362/53501/S1200023_en.pdf
- 29 J. Brun and M. Diakite (2016). Tax Potential and Tax Effort: An Empirical Estimation for Non-resource Tax Revenue and VAT's Revenue. CEDI Working Paper. <https://econpapers.repec.org/paper/cdiwpaper/1814.htm>
- 30 R. Fenchietto and C. Pessino (2013). Understanding Countries' Tax Effort. IMF Working Papers. <https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Understanding-Countries-Tax-Effort-41132>
- 31 The IMF often refers to tax potential in its individual country analysis and regional economic outlooks. See for example, the Regional Economic Outlook for Africa in 2015. <https://www.imf.org/en/Publications/REO/SSA/Issues/2017/01/07/Regional-Economic-Outlook-Sub-Saharan-Africa2>

- 32 European Commission. (2015). Study on Structures of Aggressive Tax Planning and Indicators. Taxation papers – working paper 61-2015.
http://ec.europa.eu/taxation_customs/sites/taxation/files/resources/documents/taxation/gen_info/economic_analysis/tax_papers/taxation_paper_61.pdf
- 33 OECD. (1998). Harmful tax competition: An emerging global issue. And OECD review of harmful tax practices. Progress report on preferential regimes 2017. <https://www.oecd-ilibrary.org/docserver/9789264283954-en.pdf?expires=1531172937&id=id&accname=guest&checksum=F3E1C49B294F91A491CAECB17BA6523E>
- 34 PWC Worldwide tax summaries, Corporate taxes 2017–2018. <https://www.pwc.com/gx/en/tax/corporate-tax/worldwide-tax-summaries/pwc-worldwide-tax-summaries-corporate-taxes-2017-18-europe.pdf>
- 35 IMF data: <http://cds.imf.org>
- 36 IMF data: <http://data.imf.org/regular.aspx?key=60979251>
- 37 IMF data: <http://data.imf.org/regular.aspx?key=60979251>
- 38 UN Stats, <http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx>
- 39 Eurostat, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=bop_its6_det&lang=en
- 40 UN Stats, [http://unstats.un.org/unsd/trade/imts/UNSDAnnualTotalsTable\(ATT\)2000-2015.xlsx](http://unstats.un.org/unsd/trade/imts/UNSDAnnualTotalsTable(ATT)2000-2015.xlsx) as of 20 Jan 2017.
- 41 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). Available at: <https://www.imf.org/external/pubs/ft/wp/2015/wp15118.pdf>
- 42 For the CRI 2017, we received support from Ergon Associates, which advised on possible data sources.
- 43 This indicator is part of the ILO Estimates and Projections series, analysed in the ILO's World Employment and Social Outlook reports. See http://www.ilo.org/ilostat/faces/oracle/webcenter/portalapp/pagehierarchy/Page3.jspx?MBI_ID=32&_adf.ctrl-state=d937yoiad_62&_afLoop=1055968093979633&_afWindowMode=0&_afWindowId=null#!%40%40%3F_afWindowId%3Dnull%26_afLoop%3D1055968093979633%26MBI_ID%3D32%26_afWindowMode%3D0%26_adf.ctrl-state%3Dqcn1cczg2_38
- 44 For CRI 2018, we used the ILO-modelled estimates for 2017, updated at November 2016.
- 45 Available at http://www.ilo.org/ilostat/faces/oracle/webcenter/portalapp/pagehierarchy/Page3.jspx?MBI_ID=2
- 46 See IMF: <https://www.imf.org/external/pubs/ft/fandd/2015/03/pdf/jaumotte.pdf>; and <http://www.imf.org/en/Publications/WP/Issues/2018/08/16/Employment-Protection-Deregulation-and-Labor-Shares-in-Advanced-Economies-46074>
- 47 See <http://labour-rights-indicators.la.psu.edu>
- 48 For more details of the methodology, see <http://labour-rights-indicators.la.psu.edu/docs/Method%20Paper.pdf>. The site also contains country summary documents which have proved useful for interpreting results.
- 49 UN SDGs Goal 8 details, page 16: <http://unstats.un.org/sdgs/files/metadata-compilation/Metadata-Goal-8.pdf>
- 50 Available at <https://wageindicator.org/main>
- 51 The SIGI is produced by the OECD Development Centre and is available at <https://www.genderindex.org/data/>
- 52 Available at US Department of State website: <https://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm#wrapper>
- 53 See for example F. Jaumotte and C. Osorio Buitron (2015). *Finance and Development*. Retrieved from <https://www.imf.org/external/pubs/ft/fandd/2015/03/pdf/jaumotte.pdf>

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For further information on the issues raised in this paper, or if you have any comments or questions on the methodology or data, please e-mail matthew.martin@dri.org.uk or max.lawson@oxfam.org

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