Goal 10: Reduce Inequality within and among countries
Target 10.4: Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality
Indicator 10.4.2: Redistributive impact of fiscal policy

Institutional information

Organization(s):
The World Bank Group, Washington DC, USA

CONCEPTS AND DEFINITIONS

Definition:

The Redistributive Impact of Fiscal Policy indicator is defined as the Gini coefficient of prefiscal per capita (or equivalized) income less the Gini coefficient of postfiscal per capita (or equivalized) income.

Rationale:

The Redistributive Impact of Fiscal Policy indicator demonstrates in an accounting framework the total amount by which current inequality is reduced or increased by the current execution of fiscal policy (including direct and indirect taxes; social insurance and old-age pension contributions; direct cash or near-cash transfers; and subsidies). For example, if the Redistributive Impact of Fiscal Policy is positive, that indicates that the net effect of Fiscal Policy is to reduce the Gini Coefficient from what it otherwise would be without Fiscal Policy (in an accounting sense, not as an economic counterfactual).

Concepts:

-Redistributive Impact of Fiscal Policy: defined as the Gini coefficient of prefiscal per capita (or equivalized) income less the Gini coefficient of postfiscal per capita (or equivalized) income. The recommendation is to calculate the Redistributive Impact of Fiscal Policy indicator as the Gini coefficient of prefiscal per capita (or equivalized) income less the Gini coefficient of Consumable per capita (or equivalized) income.

There are two definitions of prefiscal income depending on assumptions regarding the nature of the public, contributory old-age pension system: 1) pensions as deferred income or 2) pensions as government transfers. Details are given below.

-Gini coefficient: a commonly used measure of inequality capturing the statistical dispersion in the distribution of income or wealth over a population. A Gini coefficient of zero expresses perfect equality: that is, every individual in the population has the same income. A Gini coefficient of 1 expresses maximum inequality: that is, all income accrues to a single individual, and all other individuals have zero income.

References: Gini, Corrado. (1936). "On the Measure of Concentration with Special Reference to Income and Statistics", Colorado College Publication, General Series No. 208, 73–79. Duclos, Jean-Yves and Abdelkrim Araar. (2006). *Poverty and Equity.* New York: Springer. Part II.

-Per capita income: household income divided by the number of household members.

-Equivalized income: household income divided by the square root of the number of household members. If a different definition is used, it should be noted in the reporting document.

-Prefiscal income: the cumulative income accruing to an individual (or a household) from market and private sources only. The Redistributive Impact of Fiscal Policy indicator can be estimated with reference to two different prefiscal income concepts depending on assumptions regarding the nature of the public, contributory old-age pension system:

1) Prefiscal income under the "pensions as deferred income" scenario: When incomes from public contributory old-age pension-system are counted as deferred market income and old-age pension-system contributions are counted as savings from current income (that is, the old-age pension system is treated as the equivalent of a mandatory savings program), prefiscal income is defined as an individual's earned and unearned incomes from market and other private sources: wages, interest and dividend income; imputed income from owner-occupied housing and from consumption of own production; remittances; private transfers; old-age pension income from the public contributory pension system; and, *less* any contributions to the public old-age contributory pension system. In this case, the prefiscal income concept is called *Market income plus pensions.*

2) Prefiscal income under the "pensions as government transfer" scenario: When incomes from current pension-system are counted as a government transfer and old age pension-system contributions are counted as a tax on current income, prefiscal income is defined as: wages, interest and dividend income; imputed income from owner-occupied housing and from consumption of own production; remittances; and private transfers only. In this case, the prefiscal income concept is called *Market income.*

Reference: Lustig, Nora (ed). 2018. *CEQ Handbook: Estimating the Impact of Fiscal Policy on Inequality and Poverty,* CEQ Institute at Tulane University and Brookings Institution Press, Chapters 1 and 6. (This publication is open source and can be downloaded free of charge).

-Postfiscal income: prefiscal income minus direct and indirect taxes plus transfers and indirect subsidies. The Redistributive Impact of Fiscal Policy indicator can be estimated with reference to two different postfiscal income concepts, Disposable Income and Consumable Income:

1) Postfiscal incomes under the "pensions as deferred income" scenario:
Disposable Income: prefiscal income less direct taxes paid and less social insurance contributions made to the public fiscal authority plus the monetary value of benefits received from public expenditures on direct cash or near-cash transfers.
Consumable Income: prefiscal income less direct *and indirect taxes* paid and less social insurance contributions other than for old-age pensions made to the public fiscal authority plus the monetary value of benefits received from public expenditures on direct cash or near-cash transfers *and subsidies*.

2) Postfiscal incomes under the "pensions as government transfer" scenario:
Disposable Income: prefiscal income less direct taxes paid and less social insurance contributions and less contributory old-age pension contributions made to the public fiscal authority plus the monetary value of benefits received from public expenditures on direct cash or near-cash transfers including contributory pension system transfers.
Consumable Income: prefiscal income less direct *and indirect taxes* paid and less social insurance contributions and less contributory old-age pension contributions made to the public fiscal authority plus the monetary value of benefits received from public expenditures on direct

cash or near-cash transfers including contributory old-age pension system transfers *and subsidies*.

Reference: Lustig, Nora (ed). 2018. *CEQ Handbook: Estimating the Impact of Fiscal Policy on Inequality and Poverty,* CEQ Institute at Tulane University and Brookings Institution Press, Chapters 1 and 6. (This publication is open source and can be downloaded free of charge).

Comments and limitations:

Reporting on assumptions: The choice of whether to report the Redistributive Impact of Fiscal Policy indicator under the pensions as deferred income or pensions as transfers scenario must be clearly indicated in the reporting document. For countries for which the data exist, prefiscal and postfiscal inequality should be calculated for both pension scenarios. Some may choose to use equivalized income instead of per capita income as the welfare indicator. This too should be clearly indicated in the reporting document. Once this decision is taken it should be maintained in subsequent years in order to assure comparability.

Feasibility: The Redistributive Impact of Fiscal Policy indicator can be estimated for any country with a micro-data set detailing incomes or expenditures (or both) at the household or individual level and with a set of fiscal, administrative, or budgetary records detailing public expenditures at the program level and revenue collections at the revenue-collection instrument level.

Suitability/Relevance: The Redistributive Impact of Fiscal Policy indicator provides a direct estimate of the current impact of fiscal policy on redistribution (of incomes). It therefore provides a direct estimate of progress on SDG Target 10.4: "**Adopt policies, especially fiscal**, wage **and social protection policies**, **and progressively achieve greater equality**."

Limitations: The Redistributive Impact of Fiscal Policy indicator does not address wage policy. It does not include the benefits of public provision of in-kind benefits, such as health, education, sanitation and housing services, which may have both present-day and longer-term impacts on present-day and future inequality.

METHODOLOGY

Computation Method:

Prefiscal income can be derived from a nationally-representative micro-data set (an Income and Expenditure Survey, for example). Postfiscal income is estimated via the allocation of the tax burdens and the expenditure-based benefits that stem from fiscal policy (direct and indirect taxes, social contributions, direct cash and near-cash transfers, subsidies, *et cetera*). Procedures for constructing prefiscal and postfiscal income concepts and estimating their distribution from an underlying microdata set are detailed comprehensively in the CEQ Handbook, Lustig, op. cit.

The Gini coefficient is calculated according to standard formulas for a (generalized) Gini coefficient (see, for example, Donaldson and Weymark (1980, 1983) or Yitzhaki (1983)):

$$\mathrm{GINI}(X;\upsilon) = -\upsilon\ \mathrm{Cov}\left(\frac{X}{\mu(X)},\ (1-F(X))^{\upsilon-1}\right)$$

where X is a random variable of interest with mean μ(X), F(X) is its cumulative distribution function, υ is a parameter tuning the degree of 'aversion to inequality'. The standard Gini corresponds to υ = 2. Cov is a Covariance estimate.

Disaggregation:

The Redistributive Impact of Fiscal Policy indicator can be shown separately for as many different subgroups as are represented in the survey or micro-data from which it is drawn: income subgroups; by gender, age group, ethnic grouping; geographic location; disability status, household size; household dependency ratios, and so on.

Treatment of missing values:

- At country level: When a nationally representative micro-data set and/or country-level fiscal, budgetary, and administrative data are not available, the indicator cannot be generated. Budget and administrative data exists for every fiscal system but is not always public.
- At regional and global levels: Currently no regional or global aggregates exist for this indicator.

Regional aggregates:

Currently no regional or global aggregates exist for this indicator.

Sources of discrepancies:

Not applicable.

Methods and guidance available to countries for the compilation of the data at the national level:

A complete description of the methodology, recommendations, and guidelines behind the generation of the Redistributive Impact of Fiscal Policy indicator can be found in Lustig, Nora (ed). 2018. *CEQ Handbook: Estimating the Impact of Fiscal Policy on Inequality and Poverty,* CEQ Institute at Tulane University and Brookings Institution Press, Chapters 1 and 6. (This publication is open source and can be downloaded free of charge).

This indicator can be calculated based on the current state of household surveys micro-data and budget administrative data.

IMPLEMENTATION ARRANGEMENTS

Data providers:

Ultimately the data providers are national-level statistical agencies for the micro-data sets and national-level fiscal agencies and bodies for budgetary and administrative data.

For high-income countries in the OECD, national estimates and indicators provided to the OECD will take precedence over Commitment to Equity indicators produced by either the WBG or the Commitment to Equity Institute.

For all other countries, estimates and indicators produced by the World Bank Group and/or the Commitment to Equity Institute will be considered.

Quality assurance:

In its role as custodian agency of the proposed indicator for SDG10.4, the World Bank Group is responsible for quality control of and quality assurance over all data submitted to the SDG Indicators Database, as well as the underlying analysis and documentation.

In practice and taking advantage of the proposed partnership between the WBG, the *Commitment to Equity Institute* at Tulane University regarding the monitoring of the proposed indicator, the Institute will be responsible for quality control of and quality assurance over any Commitment to Equity Assessments generated according to the methodology described in Lustig, Nora (ed). 2018. *CEQ Handbook: Estimating the Impact of Fiscal Policy on Inequality and Poverty,* CEQ Institute at Tulane University and Brookings Institution Press) prepared by the Institute.

Reporting requirements:

The WBG will only submit information to the SDG Indicator Database on those Commitment to Equity Assessments meeting the following requirements:

- Information on both pre-fiscal and post-fiscal Gini is available
- Complete metadata is available
- WBG is able to replicate CEQ calculations and results

While initially, reporting requierements contemplate that the post-fiscal Gini is reported for either consumable or disposable income, countries are encouraged to report both whenever possible and when this is not feasible in the short term to work towards reporting both indicators over time.

WBG submissions to the SDG Indicator Database will indicate whether information has been prepared by the WBG, the Commitment to Equity Institute, or another agency (e.g. OECD for high-income countries).

Role of and coordination among data compilers

There will be three potential data compilers: the WBG, the Commitment to Equity Institutte and the OECD. Data compilers will be responsible for compiling the necessary information and documentation in ways that are compliant with the posting requirements described aboved as follows:

- The WBG will compile information all Commitment to Equity Assessments conducted by WBG teams and by (non-OECD) national participants working independently. The focus of this exercise will be on assessments conducted in or after 2015.
- The Commitment to Equity Institute will compile information on all Commitment to Equity Assessments conducted by the Institute. The Institute's submissions to the WBG will include information on pre-fiscal and post-fiscal Gini, information needed to complete the necessary metadata, and do-files needed for replication.
- The OECD will compile information on all fiscal assessments conducted by OECD high-income national participants.

The WBG and the Commitment to Equity Institute will meet twice a year to review the reporting and submission process, exchange information on (new) methodological changes, and coordinate on further methodological innovation regarding the Commitment to Equity Assessment as needed. Similarly, the WBG and the Commitment to Equity Institute will meet twice a year with the OECD to review the reporting and submission process and exchange information methods and technical approaches for distraibutional analysis of fiscal policy.

DATA SOURCES

Description:

The Redistributive Impact indicator requires a nationally representative micro-data set (a Household Budget Survey, for example, or and Income and Expenditure Survey) and fiscal or budgetary or administrative data on revenue collections, social expenditures, and subsidy expenditure.

Collection process:

Nationally representative micro-data sets are often collected and hosted by the national statistics agency. However, access to such data sets is frequently given by a different part of the administration (the Ministry of Finance, for example, or the Ministry of Development and Planning). Fiscal or budgetary or administrative data is occasionally available in unabridged summaries with enough detail at the program or policy level for the estimation of the indicator. More often, however, budgetary and administrative data is kept by the agency executing the program (so, for example, the Ministry of Education will keep data on its own fiscal-year expenditures).

The validation process requires consultation with each of the ministries and agencies responsible for executing programmatic expenditures or revenue collections.

DATA AVAILABILITY

Description:

Currently the Redistributive Impact indicator is available *for at least one year* in 82 countries across the following regions:

- East Asia and the Pacific: 9
- Europe and Central Asia: 17
- Latin America and the Caribbean: 18
- Middle East and North Africa: 6
- North America: 1
- South Asia: 5
- Sub-Saharan Africa: 26

Time series:

The Redistributive Impact indicator is currently *for the most part* available for single country/year pairs only. The earliest estimations of the Redistributive Impact indicator are for 2008-era data. The most recent estimations of the Redistributive Impact indicator are for 2015-era data. The only limitation to producing more frequent time series is the availability of more frequent household surveys. However, that is also a limitation faced by other SDG indicators.

CALENDAR

Data collection:

Source data collection follows the update cycle for country-specific micro-data sets as well as the audit cycle for fiscal year revenues and expenditures.

Data release:

There is not yet a regularized new data release or update schedule for this indicator. The WBG would be the custodian of any international agreement committing individual countries to an update schedule.

REFERENCES

Lustig, Nora (ed). 2018. *CEQ Handbook: Estimating the Impact of Fiscal Policy on Inequality and Poverty,* CEQ Institute at Tulane University and Brookings Institution Press. commitmentoequity.org/publications-ceq-handbook (open source; available online free of charge).

All existing country-specific CEQ Assessments listed here:
commitmentoequity.org/publications-ceqworkingpapers/

RELATED INDICATORS

Not applicable