Facilitating trend analyses in TOSSD

TOSSD Task Force Issues Paper[1] - Agenda item 3
17th meeting of the International TOSSD Task Force
11-13 July 2022

I. Background

1. The first standard TOSSD data collection took place in 2020 and, at end 2022 or nearly after, data will thus be available in www.tossd.online for three consecutive years (2019-2021). The Secretariat plans to include in the online system data visualisations illustrating this nascent time series, and data users will also naturally be interested in examining the trends (e.g. increases or decreases of TOSSD flows over time towards certain countries and/or SDGs). However, flows reported in different years are not directly comparable. To facilitate the analyses of volumes of support expressed in monetary terms, and measure their true growth (or decline), it is standard practice to convert the data in current (or nominal) terms into constant (or real) terms, to adjust for the variation of inflation and exchange rates. The resulting data are all expressed in relation to a single base (or reference) year. **This paper presents a methodology for producing data on TOSSD flows in real terms (constant prices and constant exchange rates) for comment by the Task Force.**

II. Proposed methodology for producing TOSSD data in real terms

2. One standard example of a data series published in real terms is the Gross Domestic Product (GDP). The OECD produces GDP data series in "current prices, current exchange rates", but also in "constant prices, constant exchange rates"[2] to adjust for price and exchange rate variations. This allows for intertemporal comparisons by expressing GDP *in real terms*, that is, how much wealth has actually been produced in a given year relative to the wealth produced in the base year.

3. The OECD/DAC has adopted the same method to produce time series for ODA and other resource flows to developing countries in real terms.[3] It is proposed to apply the same method in the TOSSD context (see box below), for the sake of transparency and consistency as well as to

---

[1] Drafted by Utku Dagtekin utku.dagtekin@oecd.org, Valérie Gaveau valerie.gaveau@oecd.org and Julia Benn Julia.benn@oecd.org.

[2] Additional data series are also produced: "current prices, constant exchange rates", "constant prices, current exchange rates", "current prices, current PPPs", "current prices, constant PPPs", "constant prices, current PPPs", "constant prices, constant PPPs".

[3] See Information Note on the DAC Deflators - OECD.

facilitate the linkages between the TOSSD and ODA data where relevant (the Secretariat receives frequent questions on this issue).

Box. Proposed methodology for producing TOSSD data in real terms

See an illustration in the Annex

Starting from data expressed in nominal terms, i.e. in United States dollars, applying the annual average exchange rate prevailing at the time of the flow, conversion in real terms relative to a given base year requires two adjustments:

1. Replacing the exchange rate that prevailed at the time of the flow by the exchange rate in the (more recent) base year.

2. Accounting for inflation in the currency in which the flow occurred between the year of the flow and the base year.

To account for inflation under step 2, a GDP deflator is used. The GDP deflator reflects the price changes of all goods that contribute to a country's GDP. It is the most general measure of the overall price levels and, for a given period, reflects the average annual rate of inflation in the economy as a whole during that period.

TOSSD "deflators" would be calculated for each provider country as shown in the formula below and published on the TOSSD website. They would be used for switching from TOSSD flows presented in nominal terms to TOSSD flows presented in real terms (in the TOSSD online database, there would be an option for retrieving TOSSD amounts either in current prices or constant prices).

Formula to calculate a TOSSD deflator for provider A in year N

(USD exchange rate for currency of country A in base year *divided by* USD exchange rate for currency of country A in year N) *times*
(GDP deflator for country A in year N *divided by* GDP deflator for country A in base year)

This methodology necessitates access to data on GDP deflators and exchange rates, both available in the World Bank's online datasets.[4]

In the case of multilateral providers, no GDP deflator is calculated and there is no possibility to calculate a TOSSD deflator as proposed in the above formula. However, global inflation might still impact the interpretation of TOSSD trends in their case, and it would make sense to convert their nominal flows into flows in real terms. As a proxy, a weighted average of TOSSD deflators could be used, where weights would be determined by each provider's total TOSSD.[5]

---

[4] Official exchange rate (LCU per USD, period average) | Data (worldbank.org)

GDP deflator (base year varies by country) | Data (worldbank.org)

[5] In line with the weighted average method used in the ODA context.

4. The proposed method is in line with the general approach of quantifying providers' support in TOSSD, i.e. expressing it in monetary terms. Making adjustments for the provider's level of inflation and the variation of the exchange rate of its currency will allow an intertemporal comparison of real monetary cost to the provider.

5. However, it could be argued that the methodology for calculating TOSSD figures in real terms will be less relevant from the point of measurement of Pillar I and mobilised private finance. Indeed, a recipient could be more interested in answering the following kind of question "How much a USD 2 million grant by a provider to Togo in 1987 would buy in Togo prices today?". In that case, a recipient (instead of provider) price level deflator would allow to compare and conclude whether or not a certain amount flowing to a developing country in 2022 would actually represent an increase in development support for the recipient with respect to any previous year. While this is a challenging metric to develop, it would add value by allowing for a time series of TOSSD flows, in terms of usability and interpretation by recipients of development finance.[6]

Issues for discussion

- Does the Task Force agree with the methodology proposed in the Box for producing TOSSD data in real terms?

- Can the proxy described be used for deflating flows from multilateral providers?

- Would a recipient perspective deflator offer added value to TOSSD? Is it conceptually and technically feasible?

---

[6] Such a "recipient perspective deflator" could refer either to the Consumer Price Index (i.e. to see what happened to consumer prices in Togo since 1987 and thus calculate the 2022 equivalent of the grant by Germany that would afford the same amount of goods in Togo) or to the Producer Price Index (i.e. to see what happened to producer prices in Togo since 1987 and thus calculate the 2022 equivalent of the grant by Germany that would produce the same amount of goods and services in Togo). Individual, country-specific price indices could be used to deflate the flows received by each developing country respectively or regional/global average price level metrics could be developed. While the choice of price level will necessarily entail trade-offs and imperfect outcomes, a proxy time series could be achieved, giving an idea of the trend in sustainable development financing from the recipient perspective.

Annex. Illustration of the proposed methodology for calculating TOSSD flows in real terms

Example: Let's assume a provider made a grant of 1.4 million in its own currency in 2019. The provider-currency-to-dollar exchange rate was at 1.4, and the grant would thus be displayed in TOSSD.online with an amount of **USD 1 million in 2019**.

How much would this grant be worth in 2021?

- If the inflation was 25% between 2019 and 2021, 1.4 milllion in provider currency in 2019 would approximately correspond to 1.75 million in the same currency in 2021.

- Applying the 2021 exchange rate, say 1.6, the grant would correspond to **USD 1.09 million in 2021**. This amount expresses the grant made in 2019 in constant 2021 prices.

The proposed method for deriving a TOSSD deflator combines the two adjustments.[7] First the exchange rate: in the above example, the *dollar* was worth 1.1429 times as many units of *provider currency* in 2021 as it was in 2019. Next, inflation: the provider currency only bought 0.8 times as much in 2021 as in 2019. The deflator is then 1.1429*0.8=0.914. To convert the 2019 flow expressed in 2019 dollars to 2021 dollars, divide them by this deflator, i.e. USD 1/0.914 = USD 1.09.

The deflators are then expressed in percentages rather than proportions (i.e. 91.4 in the example).

Using the proposed method, deflators can be calculated for all countries reporting TOSSD data as of today. Examples are shown below.

Examples of TOSSD deflators calculated following the proposed methodology

Reporting country	Calculated Deflator (2020 as base year, 2019 as current year)
United Arab Emirates	109.1266518
Azerbaijan	108.2041736
Cyprus	99.18591852
Croatia	100.0011097
Kazakhstan	103.5322929
Kuwait	117.3804713
Nigeria	108.3982341
Qatar	117.7862145
Romania	96.51919274
Saudi Arabia	108.6107101
Thailand	101.8788174

---

[7] In line with the DAC method explained here: Information Note on the DAC Deflators - OECD