

SOUTH-SOUTH TRADE INFORMATION SYSTEM

NOTE ON METHODOLOGY (the Final Version)

Variables to be estimated (for both exports and imports):

- Trade Value (by Partner / Product at HS 6-digit level)
- Trade Volume in Primary Quantity Units (by Partner / Product at HS 6-digit level)
- Trade Volume in Secondary Quantity Units (by Partner / Product at HS 6-digit level)

General approach to estimation:

1. Select appropriate trade flow estimation method (see below for the description of each method and see Annex 1 for methods proposed for each reporter/year to be estimated).
2. Apply selected estimation method at bilateral trade flows level, for all variables to be estimated, getting Estimated Bilateral Flows (**EBF**).
3. Use Trade Transformation (**TT**) Table (see Annex 2) to adjust corresponding EBFs, applying the following logic:

WHEN [Partner TT Rate] IS NOT NULL THEN **ABF** = **EBF** * [**Partner TT Rate**];
 APT = [Partner TT Rate]
WHEN [Product TT Rate] IS NOT NULL THEN **ABF** = **EBF** * [**Product TT Rate**];
 APT = [Product TT Rate];
WHEN [Reporter TT Rate] IS NOT NULL THEN **ABF** = **EBF** * [**Reporter TT Rate**];
 APT = [Reporter TT Rate];

Where: **ABF** = Adjusted Bilateral Flow Estimate
 APT = Applied TT Rate

4. Calculate the General Adjustment Rate (**GAR**) for all bilateral trade flows not covered by the TT Table, using the following formula:

$$\mathbf{GAR} = (\mathbf{TTB} - \mathbf{SUM}(\mathbf{ABF})) / (\mathbf{SUM}(\mathbf{EBF}) - \mathbf{SUM}(\mathbf{EBFT}))$$

Where: **TTB** = Total value of trade for estimated reporter/period in the benchmark database (**GlobStat**)
 EBFT - Estimated Bilateral Flows subject to adjustments driven by the TT Table (step 3)

5. Determine the Final Adjustment Rate (**FAR**) for all bilateral trade flows not covered by the TT Table, using the following logic (see Annex 3):

WHEN **TTB** = 0 THEN **FAR** = 1
WHEN **GAR** > 2 THEN **FAR** = 2
WHEN **GAR** < 0.5 THEN **FAR** = 0.5
OTHERWISE **FAR** = **GAR**

6. Calculate Final Bilateral Flows Estimates (**FFE**) for all bilateral trade flows not covered by the TT Table, using the following formula:

$$\mathbf{FFE} = \mathbf{EBF} * \mathbf{GAR}$$

7. Calculate Total Value of Trade Deviation (**TTD**), using the following formula:

$$\mathbf{TTD} = \mathbf{TTB} - (\mathbf{SUM}(\mathbf{ABF}) + \mathbf{SUM}(\mathbf{FFE}))$$

8. Determine products to be subject to new partner distribution, where all of the following criteria for a specific product are met (see Annex 4):

- $UNSp / TETp \geq 0.5$
- $UNSp \geq 5$
- $[Number\ of\ Mirror\ Partners] \geq [Number\ of\ Estimated\ Partners]$
- $TFEp / TMTp \geq 0.4$
- $TFEp / TMTp \leq 2.5$

Where:

$UNSp$ = Value of trade with unspecified partners for product p

$TETp$ = Total estimated value of trade for product p (= $SUM(ABF) + SUM(FFE)$)

$TMTp$ = Total value of mirror trade for product p

9. Substitute all bilateral trade flows for products determined in step 8 with corresponding mirror trade flows, using the following formula (see Annex 5):

$$FFEpr = MFVpr * TETp / TMTp$$

Where: $FFEpr$ = Estimated trade value for product p and a new partner r

$MFVpr$ = Mirror trade value for product p and a new partner r

Bilateral trade flows estimation methods:

1. Data replication (Code = R). Use the method when there is only a single observation (year) as a basis for estimation.

Replicate (copy) bilateral flows from the base year.

2. Data averaging (Code = A). Use the method when there are two observations (years) adjacent to the estimated reporter/year. It may be also applied in the case of two missing periods. Calculate simple arithmetic averages of values in adjacent years for all respective variables.

3. Data projection (Code = P). Use the method when at least two earlier observations (years) do exist. Use no more than three observations. Calculate annual growth rates for the reference years and respective variables, then calculate the Average Annual Growth **Volume (AAGV)** and finally calculate the estimated value of the variable (**EV**), using the formula:

$$EV = PV + AAGV$$

where PV is the previous (or most recent) year's value of the variable. If $EV < 0$ then $EV = 0$.

4. Backwards data projection (Code = B). Use the method when no earlier observations exist, however at least two later observations (years) do exist. Apply similar approach as in data projection. Use the formula:

$$EV = NV + AAGV$$

where NV is the next (or immediately succeeding) year's value of the variable. If $EV < 0$ then $EV = 0$.

5. Mirror trade flows (Code = M). Use the method where none of the other methods can be applied (the country does not report to COMTRADE). Estimate reporter's exports on the basis of mirror imports (i.e. imports from the reporter of all respective trade partners) and imports - on the basis of mirror exports.

Annexes:

Annex 1: Estimation methods proposed for each reporter/year/flow to be estimated.

Annex 2: Trade Transformations Table

Annex 3: GAR, FAR and TTD.

Annex 4: Unspecified partner redistribution – step 1.

Annex 5: Unspecified partner redistribution – step 2 for Bangladesh.