



ARTNeT WORKSHOP 1

Trade indicators

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Trade indicators

- Indices and/or ratios that are used to describe, assess and monitor trade flows (patterns) of and between countries, and with or without indicators on production and prices can serve as the basis for policy making at national and international levels

Questions most often answered using trade indicators

- Which are the most dynamic markets for our exports?
 - Which are the most dynamic products (sectors) of our exports?
 - Is our regional orientation switching?
 - What is our dependence on international trade?
 - How much of the increase in intra-regional trade could be attributed to a few countries in a region?
 - How intense is trade with X partner(s)?
 - Are regional trading partners becoming more competitive?
 - Which of our sectors are most competitive?
 - Is purchasing power of our exports in(de)creasing over time?
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- ⇒ ex-post exercise but can be used as ex-ante analysis (e.g. what rate of export growth to market Z to maintain constant market share, ceteris paribus?)

Evidence-based policy making

- In the area of trade policy and trade facilitation, directly or indirectly
 - Consider current case of rush to PTA : many Gs have little evidence that FTAs are working in terms of
 - Increased trade volumes (cum FDI)
 - Reduction in AC due to larger utilization of EOS (dynamic effects)
 - Reduction of prices due to more (and tougher) competition
 - Diversification in production and trade due to increase in size of market
 - And finally trade creation, diversion, deflection etc...
 - If some forms of FTAs are working better than the others, why?
- ⇒ Indicators to measure and monitor RTAs
- ⇒ Development of national /international statistics ...

Reliability and availability

- Trade statistics not very reliable (cf. ITC one-page handout) due to
 - Not complete (smuggling, non-reporting, mistakes)
 - Imports for re-exports and re-exports included
 - Value of export (international conventions for reporting trade stats not adhered to)
 - No coverage for services
 - Problems of classification
 - Exchange rates
 - Measurements
 - Errors...
- Availability – this morning sessions covered this topic

...availability of indicators

- Many “off the shelf” (“over the counter”)
- To properly use them it is useful to know how are they constructed, what influences their values, what data to use, where to find data ...
- Get inspiration on constructing new indicators!

Openness (trade dependence)

$$O_j = \frac{\sum M + \sum X}{GDP}$$

Where M denotes imports, X exports and GDP is gross domestic product of country *j*

Relative growth rates

$$G_i = \left[\left(\frac{T_{t2}}{T_{t1}} \right)^{(1/n)} - 1 \right] \bullet 100$$

where T_{t1} and T_{t2} are the trade values of product i (or all products) in the beginning period ($t1$) and at end period ($t2$), and n is number of years (time periods)

Major export category

$$MX_i = \frac{x_{ij}}{\sum_{i=1}^n X_{ij}} \bullet 100$$

X_{ij} is value of product i exports of country j

$\sum_i X_{ij}$ value of total exports of country j

Export diversification

$$DX_j = \frac{\sum_i |h_{ij} - h_i|}{2}$$

h_{ij}

is the share of product i in total exports of country j

h_i

is share of product i in total world exports.

Hirschman index

$$H_j = \sqrt{\left(\sum \left(\frac{x_i}{X} \right)^2 \right)}$$

x_i = value of product i's exports (defined at four-digit SITC level)

X = value of total exports of country

Trade intensity

$$T_{ij} = \left(\frac{x_{ij}}{X_{it}} \right) / \left(\frac{x_{wj}}{X_{wt}} \right)$$

x_{ij} and x_{wj} are the values of country i 's exports and the world exports to country j
 X_{it} and X_{wt} are country i 's total exports and total world exports.



Terms of trade indices

Please refer to notes

RCA

$$RCA_{ij} = \frac{X_{ij} / X_j}{X_{wj} / X_w} \bullet 100$$

X_{ij} X_{wj} values of country i 's and world exports of product j

X_j X_w values of total world trade in j and world total trade

Export specialization ratio

$$RCA_{ij} = \frac{x_{ij} / X_{it}}{m_{kj} / M_{kt}}$$

x_{ij} X_{it} are export values of country i 's and world exports of product j

m_{kj} M_{kt} import values of product j in market k and total imports of market k

IIT

$$IIT = 1 - \frac{\sum_{i=1}^n |X_{ij} - M_{ij}|}{\sum_{i=1}^n (X_{ij} + M_{ij})}$$

X_{ij} = value of country i's exports of product j to the world

M_{ij} = value of country i's imports of product j from the world

Trade overlap

$$TO = 2 \sum_{i=1}^n \min(X_i, M_i) / \sum_{i=1}^n (X_i + M_i)$$

Complementarity

$$K = 100 - \frac{\sum_{i=1}^n |X_{ij} - M_{jk}|}{2}$$

X_{ij} = value of country i's exports of product j

M_{jk} = value of country k's imports of product j

Export similarity

$$XS(j, k) = \sum [\min(X_{ij}, X_{ik}) \cdot 100]$$

X_{ij} and X_{ik} are product i 's export shares in country j 's and country k 's exports

Real effective exchange rate

$$q = E \cdot \frac{P}{P^*}$$

E is nominal effective exchange rate
 P, P^* are indices of domestic and foreign prices

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