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Trade-policy indicators for evaluating the potential impacts of an FTA

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Market access conditions

- Market access conditions are the tariff and Non-tariff measures (NTMs), set by countries for the entry of specific goods into their markets.
- In the WTO, tariff commitments for goods are agreed upon and set out in each member's schedules of concessions on goods. The schedules represent commitments not to apply tariffs above the listed rates — these rates are “bound”. Non-tariff measures are dealt with under specific WTO agreement.
- In an FTA, **preferential market access** is given to members of the FTA. It can be thought of as a discrimination across trading partners by providing some countries with a lower tariff.

Quantifying preferential market access

- Preference margin = MFN tariff - preferential tariff

Ex: Metal office furniture (HS-94031000),

- Viet Nam's MFN tariff = 32%
- Under the ASEAN Free Trade Area (AFTA) agreement, preferential tariff = 5%
- Preference margin = $32\% - 5\% = 27\%$

Tariffs

- Tariffs are taxes on imports or exports of goods, levied at the border
- A tariff raises the price of the imported (exported) product above its price on the world (domestic) market
- 2 types:
 1. *Ad valorem*. Expressed as a percentage of the value of the imported (exported) good (usually as a percentage of the CIF value)
 2. *Specific*. Stated as a fixed currency amount per unit of the good
 - Example: Australia's 2005 schedule includes a tariff of \$1.22/kg on certain types of cheeses and the United States charges \$0.68 per live goat
- Combinations of *ad valorem* and specific tariffs
- Mixed tariffs are expressed as either a specific or an *ad valorem* rate, depending on which generates the most (or sometimes least) revenue
 - For example, Indian duties on certain rayon fabrics are either 15 percent *ad valorem* or Rs. 87 per square meter, whichever is higher
- Compound tariffs include both *ad valorem* and a specific component
 - For example, Pakistan charges Rs. 0.88 per liter of some petroleum products plus 25 percent *ad valorem*

- Trade economists typically argue that these *non ad valorem* tariffs are less transparent and more distorting, i.e. that they drive a bigger wedge between domestic and international prices.
- In addition, their economic impact changes as world prices change

Ad valorem equivalent (AVE) of specific tariffs

$$\tau_{AVE} = 100 \frac{\tau_{specific}}{p}$$

Where p is the international price per unit of the good

- The challenge is to compute p . It can be calculated by dividing trade values by volumes (to get *unit values*), but the result often varies across time and countries.
- Market Access Maps (MACMAP) also calculates AVEs but uses unit values computed as the ratios of values to volumes for five specific reference groups

Other distinctions

1. Most Favored Nation (MFN) tariff rates vs. preferential tariff rates

- MFN tariffs are the ones that WTO Members commit to accord to imports from all other WTO Members with which they have not signed a preferential agreement
- Preferential tariffs are the ones accorded to imports from preferential partners in FTAs, customs unions or other preferential trade agreements, and are more likely than others to be at zero

2. Bound vs. applied tariff rates

- Bound MFN tariff levels, which are listed in a country's tariff schedule, indicate the upper limit at which the government is committed to set its applied MFN tariff
- For a given tariff line, the bound tariff must thus be higher or equal to the applied MFN tariff
- For developed countries, bound tariffs are typically identical or very close to applied tariffs. For developing countries, however, there is often "water" in the tariff (spread between bound and applied rate, "binding overhang")

Binding coverage

- The binding coverage is the share of tariff lines with WTO-bound rates
- Until the Uruguay Round of the GATT, which ended in 1994, countries agreed to bind tariffs only on manufactured goods
- Trade in agricultural products was excluded from the GATT when it was written in the late-1940s
- Even within manufactured products, countries were not obliged to bind all tariff lines
- Reflecting their relative lack of participation in previous trade rounds, developing countries tended to bind fewer tariff lines than industrial countries
- During the Uruguay Round, countries committed to bind tariffs on all agricultural products
- New members of the WTO have been asked to bind all manufactured tariff lines as well
- The binding coverage varies by region. In Latin America, practically all countries bind all tariff lines. In Asia, the binding coverage varies from less than 15 percent in Bangladesh to 100 percent in Mongolia

Tariff-rate quotas

- Tariff rate quotas are made up of a low tariff rate on an initial increment of imports (the within-quota quantity) and a very high tariff rate on imports above that initial amount

Indicators for analyzing market access

- Market access conditions: Overall tariff faced by exports
 - Tariff trade restriction index(TTRI)
- Relative market access: overall tariff faced by exports relative to that faced by competitors
 - Relative preference margin (RPM)

Kee, H. L., Nicita, A. and Olarreaga, M. (2009), “Estimating trade restrictiveness indices”, *Economic Journal* (2009) 119(534): 172–99.

Tariff trade restriction index

TTRI faced by country j in country k:

$$TTRI_{jk} = \frac{\sum_{hs} exp_{jk,hs} \epsilon_{k,hs} T_{k,hs}^j}{\sum_{hs} exp_{jk,hs} \epsilon_{k,hs}}$$

where

exp are exports by country j to country k,
 ϵ is the elasticity of the demand for imports,
 T is the applied tariff, and
hs are HS six-digit categories.

- The index capturing the restrictiveness of the tariffs faced by exports (based on the work of Kee et al. 2009).
- Less weight is given to 1) products with a less elastic import demand 2) products will a small export value because for those products a change in tariff would have less effect on the overall volume of trade.

Relative preferential margin

$$RPM_{jk} = \frac{\sum_{hs} exp_{jk,hs} \varepsilon_{k,hs} (T_{k,hs}^w - T_{k,hs}^j)}{\sum_{hs} exp_{jk,hs} \varepsilon_{k,hs}}$$

$$T_{k,hs}^w = \frac{\sum_v exp_{vk,hs} T_{k,hs}^v}{\sum_v exp_{vk,hs}}$$

where v are countries competing with country j in exporting to market k and where $T_{k,hs}^w$ is the average HS six-digit (trade weighted) tariff applied by country k to imports originating from each country v .

- The advantage that exporters of country j have when they export their goods to country k .

EMPIRICAL EXERCISES

To start

1) Running the directory definition

```
global input "D:\witada\ARTNeT\workshops\capacity building\2016-17 GIZ\Jan  
17\materials\Practical guide to TPA"
```

```
cd "$input"
```

2) Open a new do file

```
clear all
```

```
capture log close
```

```
set more off, perm
```

3) loading data

```
cd "$input/Chapter2/Datasets"
```

Exercise 4: A country is considering to form an FTA with Mexico. Let's Use data from [PMA_MEX.dta](#) to calculate TTRI and RPM for Mexico's trading partners when they export to Mexico.

1. Compute the TTRI for Mexico, i.e. the overall trade restrictiveness for Mexican tariffs vis-a-vis its trading partners .
2. Compute the RPM which corresponds to the average advantage (or disadvantage) of exporter (pcode) in entering the importer (ccode) Mexican market
3. Compute average and standard deviation of TTRI and RPM for MEX using the trade-weighted and simple average methods

$$TTRI_{jk} = \frac{\sum_{hs} exp_{jk,hs} \varepsilon_{k,hs} T_{k,hs}^j}{\sum_{hs} exp_{jk,hs} \varepsilon_{k,hs}} \quad RPM_{jk} = \frac{\sum_{hs} exp_{jk,hs} \varepsilon_{k,hs} (T_{k,hs}^w - T_{k,hs}^j)}{\sum_{hs} exp_{jk,hs} \varepsilon_{k,hs}}$$

```
TTRIjk = sum_k (exp * T * eps) / sum_k (exp*eps)
RPMjk = sum_k (exp*eps) (Twc-T) / sum_k (exp*eps)
```

exp = exports,

esp = import demand elasticity

T = tariff

Twc = the trade-weighted average tariff for competitors at the hs level

- Kee, H. L., Nicita, A. and Olarreaga, M. (2009),
“Estimating trade restrictiveness indices”,
Economic Journal (2009) 119(534): 172–99.