

B Effective Applied Tariff Protection by MAcMap

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B.1 Background

The Market Access Map (MAcMap) is a database that provides a disaggregated, exhaustive and bilateral measurement of applied tariff duties. It takes regional agreements and trade preferences exhaustively into account. The source data is from UN ITC based on data from UNCTAD and WTO, which methodology is available at: <https://www.macmap.org/en/about/methodology>.

B.2 What is reported in MAcMap?

Market Access Map computes Ad Valorem Equivalent (AVE) of specific rates at the HS6 level.² Ad valorem rates are generally more transparent and easier to understand than specific ones. MAcMap will list Ad Valorem tariffs (adv), AVE of non-Ad Valorem duties (spe), Total AVE (sum of adv and spe), and Total AVE including tariff rate quotas (ave_qot).

While governments impose customs tariffs at the level of ‘National Tariff Lines’ (NTL), which is more detailed than the six-digit level of the Harmonized System. At this very detailed level, comparisons across countries are not always possible as NTL codes used to define products may differ. Therefore, aggregation from the NTL to the HS6 or upper levels are necessary.

The aggregation technique used to obtain tariffs at the HS6 level is a simple average of all best NTL tariff rates comprised in this HS6 code. For a given NTL, the best tariff rate or the effectively applied tariff is the minimal tariff among the MFN, the general (if applicable) and all preferential tariffs (if any).

MAcMap also reports bilateral imports, that is the 3-year average imports, (2022-2023-2024 for 2023). For 2023, there are 203 reporters and 239 partners for 5613 HS codes.³

B.3 Aggregation to GTAP level

To aggregate tariffs from the HS6 level to the GTAP level we use a trade-weighted average based on the 3-year average imports and a concordance between HS6 level and GTAP, which is expressed as following:

²The Harmonized System was introduced in 1988 and has been adopted by most countries worldwide. It has undergone several changes in the classification of products. These changes are called revisions and entered into force in 1996 (H1), 2002(H2), 2007(H3), 2012(H4), 2017(H5), and 2022(H6). For reference year 2023 we use H6, for 2019 and 2017 we use H5, for 2014 we use H4, for 2011 and 2007 we use H3 and for 2004 we use H1.

³Information for Iraq and Turkmenistan is not available in MAcMap.

$$Tariff_{GTAP} = \sum_{i=1}^n w_i * T_i$$

where i are the HS6 elements in a GTAP sector, T_i is the HS6 tariff, w_i are the trade weights, and $Tariff_{GTAP}$ is the trade-weighted tariff at the GTAP level.

B.4 Limitations

MAcMap tariffs used in GTAP consider statutory tariffs, these do not include trade remedies, which are trade policy measures that allow governments to impose remedial action against imports that cause material injury to a domestic industry. Typically, trade remedies can be of 3 types:

- anti-dumping measures, when imports are being sold domestically at an unfairly low price
- countervailing measures, when a imports benefit from subsidies to compete abroad
- safeguard measures, when there are unforeseen increased imports

Trade remedies target specific trade partners, products, and even specific companies. As such, other remedial actions exist that are outside of the scope of the afore mentioned 3 types. While the US is the country that imposes the highest number of trade remedies, there are 77 other countries making use of these measures. For those interested in modeling trade remedies, we suggest the use of well balance model like the GTAP model, to adjust tariffs so they represent existing trade remedies and the resulting updated data base is used for subsequent policy experiments (Malcolm 1998).

References

Malcolm, Gerard (1998). *Adjusting Tax Rates in the GTAP Data Base*. GTAP Technical Paper 12. Department of Agricultural Economics, Purdue University, West Lafayette, IN: Global Trade Analysis Project (GTAP). URL: https://www.gtap.agecon.purdue.edu/resources/res_display.asp?RecordID=315.