

## ***C Effective Applied Tariff Protection by MAcMap***

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#### **C.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 ITC (UNCTAD-WTO) its methodology is available at: <https://www.macmap.org/en/about/methodology>.

#### **C.2 What is reported in MAcMap?**

Market Access Map computes Ad Valorem Equivalent (AVE) of specific rates at the HS6 level.<sup>5</sup> 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, (2016-2017-2018 for 2017). For 2017, there are close to 200 reporters and over 200 partners for 5388 HS codes.

#### **C.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:

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

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<sup>5</sup>The 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 2017 we use H5, for 2014 we use H4, for 2011 and 2007 we use H3 and for 2004 we use H1.

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.