Global Tariff Database (GTD)

Variable Documentation and User Guide

Feodora A. Teti

"Missing Tariffs"

CESifo Working Paper No. 11590

Version: v_beta1-2024-12

December 2024

Introduction

The Global Tariff Database (GTD) is a comprehensive dataset providing detailed information on **bilateral statutory tariff rates** across **200 importing and exporting** countries over a 34-year period **(1988–2021)**. The GTD is based on the **HS6-level** classification (HS88/92 Nomenclature) and includes both (applied) Most-Favored-Nation (MFN) and preferential tariff rates, resulting in a dataset with more than **6.9 billion observations**.

The GTD does **not include other types of tariffs beyond statutory tariff rates**, i.e., applied MFN and preferential tariffs. For example, safeguard measures, anti-dumping duties, and tariffs introduced during the US–China trade war are not part of this dataset.

This user guide focuses exclusively on the **aggregated version** of the GTD, which organizes the data at higher aggregation levels beyond the HS6 classification and is available on my website at https://feodorateti.github.io/. Specifically, it covers aggregated tariff data by **country pairs and sectors**. These aggregated versions provide a more accessible and practical perspective for researchers analyzing broad trends and patterns in international trade policy.

The guide offers a **detailed overview** of the variables included in the aggregated GTD, along with their definitions and descriptions. It also provides essential notes on data coverage and limitations, including practical advice on handling outliers and extreme values. Furthermore, it outlines proper citation practices for those using the GTD in academic or professional contexts.

Citation

If you **use the Global Tariff Database (GTD)** in your research, **please cite it as follows:**

"Feodora Teti's Global Tariff Database (v_beta1-2024-12) from Teti (2024)"

The corresponding reference is:
Teti, Feodora A. (2024), *Missing Tariffs*, CESifo Working Papers No. 11590.

Variable Description

This section provides a **detailed description** of the variables included in the aggregated version of the GTD. Trade-weighted tariffs are constructed using contemporaneous trade data from CEPII's BACI starting from 1995.[1] The dataset contains the following variables:

Variable	Description
iso1	Importer (ISO 3)
iso2	Exporter (ISO 3)
year	Year (1988–2021)
sector	Respective sector dimension (if applicable)
tariff	Unweighted average bilateral tariff, varies by i–j (or i–j–sector, if applicable)
mfn	Unweighted average MFN tariff, varies by i (or i–sector, if applicable)
tariff_w	Trade-weighted average bilateral tariff (BACI, contemporaneous trade values), varies by i–j (or i–j–sector)
mfn_w	Trade-weighted average MFN tariff (BACI, contemporaneous trade values), varies by i (or i–sector)
tariff95	Unweighted average bilateral tariff with winsorized outliers (replace tariff = p_{95} if tariff > p_{95}), varies by i–j (or i–j–sector)
mfn95	Unweighted average MFN tariff with winsorized outliers (replace MFN = p_{95} if MFN > p_{95}), varies by i (or i–sector)
tariff95_w	Trade-weighted average bilateral tariff with winsorized outliers (replace tariff = p_{95} if tariff > p_{95}; BACI, contemporaneous trade values), varies by i–j (or i–j–sector)
mfn95_w	Trade-weighted (BACI, contemporaneous trade values) average MFN with winsorized outliers (replace MFN = p_{95} if MFN > p_{95}; BACI, contemporaneous trade values), varies by i (or i–sector)

Available Aggregation Levels

The aggregated version of the Global Tariff Database (GTD) is available at **several levels of aggregation**. The available aggregation levels include:

---

[1]Gaulier, G. and Zignago, S. (2010) BACI: International Trade Database at the Product-Level. The 1994-2007 Version. CEPII Working Paper, N°2010-23.

1. **Country pairs:** Bilateral tariff data aggregated between importing and exporting countries.

2. **Agriculture vs. Non-Agriculture:** Aggregated data based on broad sectoral classifications. Agriculture: HS2 ≤ 24; Non-Agriculture: HS2 ≥ 25

3. **Section:** Aggregation based on the Harmonized System (HS) section classification, grouping products into broader industry categories.

4. **ISIC(2 digits):** Data aggregated according to the International Standard Industrial Classification, Revision 3.3.

5. **GTAP:** Aggregation based on the sectors used in the Global Trade Analysis Project (GTAP).

Algorithm

For a detailed description of the filling algorithm, see Teti (2024).[2] The main text and the online appendix provides a detailed explanation of the algorithm's steps and methodology.

Outliers

The tariff data provided in the Global Tariff Database (GTD) includes some **extreme outliers** at the HS6 level. For instance, in 2021, the maximum recorded tariff rate is 3000%, while the mean is 7.4% and the median is 5.0%. Such extreme values can significantly impact statistical analyses and are often the result of ad valorem equivalents of **non-ad valorem tariffs** (i.e., 5 USD/kg instead of 5%).

To address this issue, the aggregated version of the GTD includes **outlier-corrected** tariff variables. These variables have been **windsorized** by capping extreme values above the 95th percentile at the 95th percentile threshold. In my experience, using the windsorized variables yield more reliable results, making them the **preferred choice for most research applications**.

---

[2]Teti, Feodora A. (2024), Missing Tariffs, CESifo Working Papers No. 11590.

Covered Tariff Types

The dataset includes **applied MFN and preferential tariffs** but **does not** cover **other tariff instruments** such as anti-dumping duties, safeguards, or countervailing measures.

Researchers interested in the **recent trade war**, including the Trump-Biden tariff escalations and corresponding retaliatory measures affecting multiple countries, should consult alternative sources for the latest developments. Excellent resources include **Chad Bown's work** at the Peterson Institute, as well as the replication packages of Fajgelbaum et al. (2020) and Fajgelbaum et al. (2024). **Amit Khandelwal** provides data covering developments through the end of 2019 on his website.[3]

Update Frequency and Availability

The most recent year available in the dataset is **2021**. I will update the data in the future; however, as it relies on a large number of **primary sources** that are often **reported with a lag**, it will always have some delay.

That said, tariff rates tend to be **relatively stable over time**. Researchers seeking data for subsequent years should first assess whether **major policy changes**, such as the implementation of a new trade agreement, have occurred. In the absence of substantial modifications, the **2021 data** can serve as a **reasonable approximation** for more recent periods.

Download Instructions WITS

If researchers are only interested in a single country, they can download the most recent data themselves through WITS as outlined below. However, it is absolutely necessary to check if the relevant tariffs are reported.

For example, if one would like to get the most recent tariffs imposed by Canada on the United States in 2023 (the latest available year in WITS) one should log in at `https://wits.worldbank.org/` and navigate to *Quick Search*. Select *Tariff - View and Export Raw Data*, and then specify the following options:

---

[3]`https://akhandelwal8.github.io/`

- Data Source: *Trains-Total (Incl. AVE),*

- Market: Canada

- Year: 2023

- Duty Code: *All Duty Codes* (will contain all reported tariff schedules by Canada)

- Estimation Method: *UNCTAD Method.*

Save the query and download the results in CSV format. Note that results must be downloaded separately for each importer–year combination.

The downloaded tariffs will contain all reported tariff schedules. To get the applied tariff that Canada imposes on the United States one will need the *MFN duty rate (applied)* as well as *Canada United States Free Trade Agreement.* The statutory tariff rate is the minimum between the applied MFN tariff and the preferential tariff rate under NAFTA/USMCA that are available through the tariff schedule that WITS refers to as "*MFN duty rate (applied)*" and "*Canada United States Free Trade Agreement*", respectively.

If Canada would not report the preferential tariff, i.e., if "*Canada United States Free Trade Agreement*" was not in the list "Duty Code" this means that Canada did not report this particular tariff schedule for this year.

Because of the in parts scarce reporting, researchers should only use this download option, if they know which tariff schedule they are looking for.

Download Instructions for WITS

Researchers interested in tariff data for a single country can **download** the most recent data directly from **WITS** by following the steps outlined below. However, it is **essential to verify whether the relevant tariffs have been reported**.

Step-by-Step Guide for Downloading Tariffs   For example, to obtain the most recent tariffs imposed by **Canada on the United States in 2023** (the latest available year in WITS), follow these steps:

1. Log in at `https://wits.worldbank.org/` and navigate to *Quick Search.*

2. Select *Tariff - View and Export Raw Data.*

3. Choose the following options:

- **Data Source:** *Trains-Total (Incl. AVE)*

- **Market:** Canada

- **Year:** 2023

- **Duty Code:** *All Duty Codes* (includes all reported tariff schedules by Canada)

- **Estimation Method:** *UNCTAD Method*

4. Save the query and download the results in CSV format.

Identifying the Correct Tariff   The downloaded dataset includes all reported tariff schedules. To determine the applied tariff that Canada imposes on the United States, researchers should refer to the following tariff categories in WITS:

- *MFN duty rate (applied)* — corresponds to the applied MFN tariff.

- *Canada United States Free Trade Agreement* — corresponds to the preferential tariff rate under NAFTA/USMCA.

The statutory tariff rate is the **minimum** between the *MFN duty rate (applied)* and the preferential tariff rate under NAFTA/USMCA.
If Canada has not reported the preferential tariff for a given year, i.e., if "*Canada United States Free Trade Agreement*" is missing from the list of Duty Codes, this indicates that Canada did not report this particular tariff schedule for that year.

Limitations   Due to incomplete reporting, researchers should only use this download option if they have sufficient background knowledge to verify and interpret the tariff schedules independently. **Under no circumstances should they assume that the data is complete.**

Feedback

The Global Tariff Database (GTD) is currently in its **beta version** (v_beta1-2024-12). While every effort has been made to ensure accuracy, errors or inconsistencies may still be present.

I kindly ask users to **report any issues** they encounter while working with the data. Your feedback is invaluable in improving the dataset and refining the algorithm used to compile it. Additionally, I welcome **suggestions** for new features or enhancements

that could make the GTD more useful for your research.

If you would like to share **your feedback** or have any questions, please feel free to reach out.

Feodora Teti
Email: `teti@ifo.de`

References

Fajgelbaum, Pablo, Pinelopi (Penny) Goldberg, Patrick Kennedy, Amit Kumar Khandelwal, and Daria Taglioni (2024), "The US-China Trade War and Global Reallocations". *American Economic Review: Insights* 6.2, pp. 295–312.

Fajgelbaum, Pablo D., Pinelopi K. Goldberg, Patrick J. Kennedy, and Amit K. Khandelwal (2020), "The Return to Protectionism". *The Quarterly Journal of Economics* 135.1, pp. 1–55.

Teti, Feodora A. (2024), "Missing Tariffs". *CESifo Working Paper No. 11590.*