# Trade Processing with faoswsTrade

## Michael. C. J. Kao

Food and Agriculture Organization of the United Nations

#### **Abstract**

This manual provides the user with basic understanding of the functionality and the processing of trade data supported by the **faoswsTrade** package.

The trade procedure consists of three steps, preprocessing and mirroring, conslidation and validation.

Keywords: .

# 1. Introduction

# 2. Modules

# 2.1. Pre-processing and Mirroring

The initial step is to first clean any non-sensical data and perform completion via mirroring. The processing of mirroring ensures that un-reported trade are recorded whenever trading partner has reported them.

The specific steps are listed below, we begin with the unprocessed Comtrade raw data.

- 1. Remove Self-trade.
- 2. Remove inconsistent quantity, value pairs.
- 3. Add re-trade to trade.
- 4. Mirrored the data according to trading partner.
- 5. Calculate unit value.

### 2.2. Consolidation

After the data has been mirrored, we consolidated the data for the use of the Food Balance Sheet.

In response to the request of team B and C, the values are not balanced at this step.

- 1. Consolidated the data by aggregating according to reporting country and commodity by year.
- 2. The country code is translated from Comtrade speciic M49 system to the standard M49.

### 2.3. Validation

The values from the completed trade flow are validated according to the following rules. The rules are only applied to unit values, as no rules are deem acceptable for quantity and values.

- 1. Validation by mirrored value
- 2. Validation by range only for Primary commodities excluding livestock.

# 2.4. Balancing

After the data has been validated, we create the balanced trade flow for modelling purposes.

- 1. Compute trade quantity wherever possible.
- 2. Compute reliability index based solely on non-mirrored data.
- 3. Update trade quantity based on reliability index.
- 4. Update trade value based on quantity and unit value.

### **Affiliation:**

Michael. C. J. Kao

Economics and Social Statistics Division (ESS)

Economic and Social Development Department (ES)

Food and Agriculture Organization of the United Nations (FAO)

Viale delle Terme di Caracalla 00153 Rome, Italy

E-mail: michael.kao@fao.org

URL: https://github.com/mkao006/sws\_flag