

B Disaggregation of Input-Output Tables

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B.1 Overview

The disaggregation of the input output tables (IOTs) is a major step undertaken in our in-house processing of the tables. While we use a 65-sector classification since GTAP version 10, many countries' input-output tables do not support such detail. In particular, few I-O sources match the relatively ambitious requirements for agriculture and food processing, where GTAP distinguishes 20 sectors, while some sources distinguish as few as two (agriculture and food processing separately). Accordingly, we accept contributed IOTs using any reasonable aggregation of this classification, (Huff et al. 2000). Where the contributed table uses an aggregated classification, we must disaggregate it to the standard GTAP sectors in-house.

B.2 Food and Agriculture

The detailed sectoral classification of agricultural and food products is one of the main features of the GTAP Data Base. Twelve sectors within agriculture and eight sectors within the area of food, beverages, and tobacco are identified. This, however, creates a problem in data collection since not all countries' IOTs provide such fine sectoral detail.

To address this problem, the I-O data contributors for some countries undertook the agricultural and food disaggregation themselves. Table 9.5 lists the 49 countries/regions for which IOTs are available at the full GTAP sectoral classifications and 96 regions that require sectoral disaggregation. To support this disaggregation process, we rely on the work of Peterson 2016 who developed a multi-country agriculture and food products dataset.

Table 9.5: Regions With and Without Full Agricultural and Food Sectoral I-O Data

Regions fully disaggregated	Regions requiring Sector disaggregation	
Afghanistan	Australia	Kazakhstan
Argentina	New Zealand	Kyrgyzstan
Panama	China	Tajikistan
Haiti	Hong Kong	Armenia
Austria	Japan	Azerbaijan
Belgium	Korea	Georgia
Bulgaria	Mongolia	Bahrain
Croatia	Taiwan	Iran
Cyprus	Brunei	Jordan
Czech Republic	Cambodia	Kuwait
Denmark	Indonesia	Lebanon

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Regions fully disaggregated	Regions requiring Sector disaggregation	
Estonia	Laos	Oman
Finland	Malaysia	State of Palestine
France	Philippines	Qatar
Germany	Singapore	Saudi Arabia
Greece	Thailand	Syria
Hungary	Viet Nam	Turkey
Ireland	Bangladesh	United Arab Emirates
Italy	India	Egypt
Latvia	Nepal	Morocco
Lithuania	Pakistan	Tunisia
Luxembourg	Sri Lanka	Benin
Malta	Canada	Burkina Faso
Netherlands	United States	Cameroon
Poland	Mexico	Ghana
Portugal	Bolivia	Guinea
Romania	Brazil	Nigeria
Slovakia	Chile	Senegal
Slovenia	Colombia	Togo
Spain	Ecuador	Angola
Sweden	Paraguay	São Tomé and Príncipe
Serbia	Peru	Burundi
Uzbekistan	Uruguay	Ethiopia
Iraq	Venezuela	Kenya
Israel	Costa Rica	Madagascar
Algeria	Guatemala	Malawi
Côte d'Ivoire	Honduras	Mauritius
Mali	Nicaragua	Mozambique
Mauritania	El Salvador	Rwanda
Niger	Dominican Republic	Tanzania
Central African Republic	Jamaica	Uganda
Chad	Puerto Rico	Zambia
Congo	Trinidad & Tobago	Botswana
Equatorial Guinea	United Kingdom	Namibia
Gabon	Switzerland	Eswatini
Comoros	Norway	South Africa
Sudan	Albania	Ukraine
Zimbabwe	Belarus	
Eswatini	Russia	

The agricultural and food products dataset consists of two components. The first component consists of information on the quantities produced, imported, and exported, plus information on producer prices for a broad set of agricultural commodities for a variety of countries from the

FAO. This information is then used to determine the value of production and trade, at producer prices, for as many GTAP agricultural and food commodities as possible. The second component uses the above information, along with IOTs supplied for earlier GTAP data releases to develop an initial I-O table focused on the GTAP agricultural and food commodities for each country/region listed in table 9.5 that lack this detail.

B.3 Non-Agricultural Disaggregation

The previous section explains that for each country in GTAP, we have developed Agricultural IO data, which contains little detail on sectors outside of food and agriculture. The additional detail that we require is obtained by using the representative table.

The representative table provides a kind of average of the IO structures for the countries where we have fully disaggregated contributed IOTs (see Section 9D). This is less than ideal, but to the extent that industry structures reflect patterns of consumption and technology common across countries, we may hope that it generates reasonable results.

References

- Huff, Karen et al. (2000). *Contributing Input-Output Tables to the GTAP Data Base*. GTAP Technical Paper 01. 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=304.
- Peterson, Everett (2016). "Food and Agricultural Data Base". In: *Global Trade, Assistance, and Production: The GTAP 9 Data Base*. Ed. by Badri Narayanan G., Angel Aguiar, and Robert McDougall. Department of Agricultural Economics, Purdue University, West Lafayette, IN. Chap. 8.A. URL: https://www.gtap.agecon.purdue.edu/resources/res_display.asp?RecordID=4877.