

Chapter 2

Adjustment of Inconsistent Bilateral Trade Data

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Trade matrices by industry sector are an effective tool for the analysis of changes in trade and industrial structures worldwide. To date, the IDE: International of Developing Economies has formulated this type of data through AID-XT which is a database system based mainly on UN and OECD international trade statistics. Trade statistics for bilateral trade derive from two independent sources: reported imports and reported exports. Both exporting and importing countries report bilateral trade data. Reported trade flows from these sources are often inconsistent. This chapter will examine adjustment of discrepancies in bilateral trade data.

The method of adjustment utilized relies on the reliability index developed for the construction of the GTAP: Global Trade Analysis Project trade database[4, 6]. This method does not require examination of the customs records of the reporting country or the provision of country-specific information on reporting practices which requires considerable time and cost. But the method relies solely on public available data and apply a general procedure to adjust all countries and commodities.

In this chapter, the reconciliation method is first explained with a simple example. Reliability indices are then formulated by applying the following procedure to the international trade statistics of UN PC-TAS that is a CD-ROM version of the UN

COMTRADE international trade statistics database:

(1)First, using "customs import value" (civ) trade data of the United States, the transportation margins of following SITC-R3 four-digit level of commodities from the machinery and transport equipment sectors are calculated:

- 7522 Digital computers
- 7523 Digtl proc,storage units
- 7526 Input or output units
- 7527 Storage units,data proc.
- 7528 Data proc equipment,nes
- 7812 Pass.transport vehicles
- 7821 Goods vehicles
- 7841 Motor vehicle chassis
- 7842 Motor vehicle bodies

(2) Next, reliability indices for exports (*RIX*) and reliability indices for imports (*RIM*) are calculated for the commodities above mentioned and 8 reporting countries: Canada, France, Germany, Japan, Korea Rep., Malaysia, the United States and the United Kingdom.

(3)Finally, the inconsistent data for each country and commodity are adjusted using the *RIX* and *RIM* obtained above: In the case of commodity P exported from country A to country B, for example, if *RIX* is larger than *RIM*, country A's reported data on exports to country B are used. If *RIM* is larger than *RIX*, country B's reported data on imports from country A

are used. Various samples of reliability index data are taken in order to explain the reasons high or low figures are obtained.

As for PC-TAS, the data used here, the following should be noted because it might have a serious effect on the result of the process:

- (1) It does not contain data less than US\$50,000 in value.
- (2) It does not include Taiwan as a reporter.
- (3) It has only domestic exports and not re-exports for Hong Kong exports.