



Introduction to Trade Data Analysis

Taku Fundira
Researcher
tralac (Stellenbosch)



trade law
centre for
southern africa

1. Importance of trade data analysis

- What is the role of trade data?
- And what can a developing country do with trade data?

2. Data Classification

- Brief Overview

3. Data Sources

- What are the main sources?
- What does the data cover?
- And how can one access the data?

4. Weaknesses of available trade data

- How reliable is the data?

5. Methods of Analysis

- 2 main ones
- But will concentrate mainly **on one**

6. Other Indicators

- Discussion on other relevant indicators

1. Revenue Pool

- Regionalism – (most aim to create a CU)
- Trade data becomes importance for revenue sharing
- The revenue sharing formula is to a great extent reliant on trade data

2. Government accounts

- The basic formula for calculating the GDP is:

$$Y = C + I + E + G$$

- Trade balance (**E**) (Exports-Imports) is a function of GDP

3. In negotiations whether bilateral / multilateral

- Trade data becomes crucial in formulating positions in any type of negotiations
- Each country/ REC has to prepare positions on:
 - its '**offensive**' agenda: what they seek from the partner;
 - its '**defensive**' position': how they should respond to a partner's requests.

4. Use in policy formulation

- Industrial policies (e.g. use of the tariff as an instrument of industrial policy)

2. Data Classification

- **Countries collect data on goods flowing across borders**
- **How to classify?**
 - Technology based (in terms of production or product?)
 - Factor content based
 - Activity based or commodity based?
 - Use based (home consumption, intermediate use, capital goods, etc.)
- **For negotiations and economic analysis we need to be able to compare data across countries**
 - UN Statistical Division maintain a set of internationally accepted classification systems

2. Data Classification

- **The Harmonised System (HS)** widely used as the basis for Customs tariffs and trade statistical nomenclatures all over the world
 - Introduced in 1988 and used in GATT Uruguay Round negotiations
 - Used to classify data in SACU
- **Product level classification system** for merchandise trade.
 - Used as building blocks for more aggregated product classifications such as the Standard International Trade Classification (SITC).
 - Revised in 1988/89, 1996 & 2002

2. Data Classification

- **The HS system** classifies goods at different levels of precision:
 - At the highest level of aggregation goods are divided into 96 categories (or 'chapters') that are given 2-digit codes (such as 08 – fruit and nuts).
 - Each of these is then split into more detailed categories given 4 digits (**e.g. 0805 – citrus fruit**), and 6 digits (**e.g. 080510 – oranges**).
 - There are currently **1,251** of the 4-digit categories and **5,705** 6-digit ones.

2. Data Classification

- **The first 6 digits (HS6)** are common to all countries under the HS:
 - so 080510 refers to oranges whether one is looking at the trade statistics of Kenya, Jamaica, USA or the EU.
 - In practice, though, many countries go further and have additional sub-divisions which are unique to their system.
- **The level of disaggregation** at which a country sets its tariffs is known as the ‘national tariff line’ (NTL) level.
 - The EU’s, which it terms the Combined Nomenclature, for example, is routinely 8 digits (e.g. 08051010 – sanguine oranges) and currently has 14,758 such categories; in many cases it uses even more precisely defined 10-digit codes when setting tariffs.

2. Data Classification

- **Because the codes at NTL level** may be unique to each country, it is not possible to compare trade policy at this level of disaggregation in different countries.
 - For example, EU code 48239010 covers paper gaskets, washers and seals for civil aircraft; but in Zimbabwe the same code covers cards for punched-card machines

2. Data Classification

HS	Description
52	
5210	Woven fabrics of cotton, containing less than 85 % by mass of cotton, mixed mainly or solely with man-made fibres, of a mass not exceeding 200 g/m ²
521021	Bleached plain weave
52102120	Crepe fabrics and seersucker fabrics
52102130	Other, of a mass not exceeding 70g/my
52102140	Other, of a mass exceeding 70g/my but not exceeding 90g/my
52102190	Other
521022	Bleached, 3 or 4 thread twill, incl. cross twill
5211	Woven fabrics of cotton, containing less than 85 % by mass of cotton, mixed mainly or solely with man-made fibres, of a mass exceeding 200 g/m ²

HS 2-digit, 99 Chapters

HS6 based on nature of material from which they are made, ± 6000 lines

HS8 of specific total

2. Data Classification

	Sections	Chapters
C01	Live animals, animal products	Ch 01 – 05
C02	Vegetable products	Ch 06 – 14
C03	Animal or vegetable fats & oils	Ch 15
C04	Food, beverages & tobacco	Ch 16 – 24
C05	Mineral products	Ch 25 – 27
C06	Chemical products	Ch 28 – 38
C07	Plastic products	Ch 39 – 40
C08	Raw hides	Ch 41 – 43
C09	Wood products	Ch 44 – 46
C10	Paper products	Ch 47 – 49
C11	Textiles & clothing	Ch 50 – 63
C12	Footwear, headgear, umbrellas...	Ch 64 – 67
C13	Non-metallic minerals	Ch 68 – 70
C14	Precious stones and metals	Ch 71
C15	Base metals (iron & steel, non-ferrous metals)	Ch 72 – 83
C16	Machinery	Ch 84 – 85
C17	Transport equipment	Ch 86 – 89
	Specialised equipment (optical, surgical, measuring equipment, etc.)	Ch 90 – 92
C18		
C19	Arms & ammunition	Ch 93
C20	Miscellaneous manufactured articles	Ch 94 – 96
C21	Collectors' pieces & antiques	Ch 97
C22	Other unclassified goods	Ch 98 – 99)
C23	Special class/parts for motor vehicles	

- **International Standard Industrial Classification (ISIC)**
 - Classification of economic activities arranged so that entities can be classified according to the activity they carry out.
 - Widely used to classify data according to kind of economic activity in fields of population, production, employment, GDP.
 - Up to 4-digit (“Classes”). There are 298 “Classes”, 161 “Groups” (3-digit), 62 “Divisions (2-digit) and 17 “Tabulation categories” (1-digit)
 - Subclassifications can vary across countries (SIC in SA)

2. Data Classification

■ International Standard Industrial Classification (ISIC)

A (0-02)	Agriculture, hunting and forestry
B (05)	Fishing
C (10-14)	Mining and quarrying
D (15-37)	Manufacturing
E (40-41)	Electricity, gas and water supply
F (45)	Construction
G (50-52)	Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods
H (55)	Hotels and restaurants
I (60-64)	Transport, storage and communications
J (65-67)	Financial intermediation
K (70-74)	Real estate, renting and business activities
L (75)	Public administration and defence; compulsory social security
M (80)	Education
N (85)	Health and social work
O (90-93)	Other community, social and personal service activities Activities of private households as employers and undifferentiated production
P (95-97)	activities of private households
Q (99)	Extraterritorial organizations and bodies

3. Data Sources

- **Country statistical agencies**
 - First stop – country authorities responsible for collection
 - Other data sources rely on these for their data
 - But usually difficult to access data from these in Africa
- **Trade and Industry Policy Strategies (TIPS)**
 - HS based trade data for SADC region
 - Currently covers 11 countries
 - www.tips.org.za

- **WITS data base**
 - Multi-country database
 - Based on UN data submitted by each country
 - Includes tariff data
 - Presents results according to SITC, HS, ISIC and other classification systems

- **FAO**
 - Agricultural products only
 - Database dates back to the 1960s

3. Data Sources

- **International Trade Centre (ITC)/ WTO Trade Maps, Market Access Maps (MacMaps)**
 - Requires registration
 - Databases can be free or require subscription
 - But mostly free access to LDCs
- **Brasher Data (World Trade Atlas)**
 - Commercial source
 - Subscribers access only
 - Subscription per dataset/ full access options available

4. Weaknesses of trade data

- **Users should factor in the following weak points of foreign trade statistics:**
 - **Trade data are never complete:** Smuggling and non-reporting represent a serious problem in a number of countries. In addition, trade statistics, like any source of information, are not free of mistakes and omissions.
 - **Re-exports:** Most countries include imports for re-exports and re-exports in their trade statistics. A low-income country may show up as an exporter of airplanes simply because its national airline has sold second-hand planes.

4. Weaknesses of trade data

- **Merchandise vs. services trade:** Detailed trade statistics are available only for merchandise trade and not for services, although the latter may account for a sizeable share of national exports.
- **Misleading product groupings:** Even at the lowest level of disaggregation, product groups in the trade nomenclatures do not necessarily reflect trade names and often contain a wide range of different products.
- **Exchange rate fluctuations:** Exchange rate fluctuations are not always properly recorded in international trade statistics. Values are normally aggregated over the period of one year in local currency and converted into US dollars.

4. Weaknesses of trade data

- **Mirror statistics:** For countries that do not report trade data to the United Nations, partner country data is normally used, an approach referred to as mirror statistics.

Mirror statistics are a second-best solution rather than having no data at all. But, they have a number of shortcomings when compared to the first-best solution of nationally reported data.

- i. First and foremost, they do not cover trade with other non-reporting countries. As a result, mirror statistics hardly cover South-South trade and would not be a suitable source for an assessment of intra-African trade.
- ii. there is the problem of transshipments, which may hide the actual source of supply.
- iii. mirror statistics invert the reporting standards by valuing exports in c.i.f. terms (i.e. including transport cost and insurance) and imports in f.o.b. terms (excluding these items).

5. Methods of Analysis

- **Two main ones**
 - Use of Spreadsheets
 - CGE modelling
- **But will focus on spreadsheets**
 - Trade data presented in Excel format
 - This fills a need for a widely usable tool which can facilitate discussions within and between countries.
 - Such discussions can contribute to the definition of the very limited number of scenarios that it will be possible to simulate rigorously through general equilibrium modelling.

■ **What can be done with spreadsheets?**

- One can be able to identify various combinations of products that your country will either need to liberalise under, e.g. an FTA or can exclude from liberalisation.
- One is able to identify market shares and changes in shares for a specific product or a country's performance over time
- One can also determine the revenue implications of liberalisation especially for small developing or LDCs that depend on revenue from customs duty
- The list is not exhaustive,

■ **Examples**

- **tralac** has prepared several papers involving trade statistics for different countries and scenarios
- The papers available on the tralac website (www.tralac.org) include:
 - i. How can South Africa exploit new opportunities in agricultural export markets? (WP)
 - ii. Trade Creation and Trade Diversion resulting from SACU trading agreements (WP)
 - iii. Southern Africa and the trading relationship with the European Union (EU) (TB)

- SADC MRI Annexes
- Exercise
 - i. Refer to annexes on Trade flows provided
 - ii. Analyse and interpret the data (Exports & Imports) by:
 - Market (share/ value)
 - Product (HS4) (share/ value)
 - Destination (share/ value)
- Discussion