



Integrating trade and business statistics

Overview

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Linking trade and business statistics

- A. Background
- B. Trade vs. Business statistics
- C. Potential benefits and costs
- D. Possibilities and examples
- E. Trade by Enterprise Characteristics (TEC)
- F. Institutional arrangements

Background

IMTS 2010:

- ***Need for linking trade and business statistics*** (Para. 11.5):
 - In data compilation and analytical purposes
 - Prerequisite: National (Centralized) Statistical Business Register
- ***Recommendation***: Countries are **encouraged** to integrate their trade register with their business register and to take steps towards establishing an **integrated system of economics statistics** for data compilation and analysis. (Para. 11.6)

Area of future development, moved from supplementary topic to main topic (TEC, Global Forum on Trade Statistics)

Background

Statistical Commission

- ***37th session of the Statistical Commission in 2006:***
 - Endorsed the **concept of an integrated approach to economic statistics** and recommended its operational use in national economic programmes.
- ***Statistical Commission report of 2008 – Conclusions (excerpts):***
 - The integration of economic statistics is about statistical reconciliation; [...] it involves dealing with **conceptual, statistical production and institutional issues**.
 - Institutional arrangements [...] are important for the management of integrated economic statistics and should be part of the corresponding reform programmes

Background

Global Forum on Trade Statistics in 2011

Organized by UNSD and Eurostat in cooperation with WTO and UNCTAD in February 2011 in Geneva, as a follow-up to the 2010 Statistical Commission decisions on trade statistics.

- ***Vision for the future of trade statistics***

Trade statisticians and policy makers agreed on a vision for the future of international trade statistics and called for the improvement of the relevance of international trade statistics by ***connecting trade information and integrating it with its economic, social, environmental and financial dimensions*** while ***minimizing the response burden, and to improve the statistical production process*** by better defining and organizing the co-operation among national stakeholders

Background

Global Forum on Trade Statistics in 2011 (cont.)

- **Background note “International Trade Information System in 2020”**
 - **(Informally)** Endorsed by major international organizations active in trade statistics, it formulated 20 **goals for trade statistics**, including:
 - ✓ Compilation: All transaction records (from customs or other sources) will contain an **identification number** of the importing or exporting enterprise that is linked with the national **statistical business register**;
 - ✓ Additional information on trade collected via **integrated business surveys**;
 - ✓ Dissemination: Joint release of statistics on trade in services and trade in goods, **trade by enterprise characteristics**, **micro-data** on trade in goods and services linked with other business information will be available in data warehouses to registered users.

Background

Trade in value added (lead by OECD and WTO)

- Economic globalization leads to
 - ✓ The needs of analyzing the **global value chains**
 - ✓ **Measure** their impact on employment and economic development
- Methodology is **converging to:**
 - ✓ Constructing and using **global Supply-Use table or global Input-Output table**
 - ✓ Requirements: **linking trade and SBR** for national Supply-Use table; **fully balanced bilateral trade matrix** at global level; **some characteristics of enterprises** (foreign ownership, size, export intensity)

Trade vs. Business statistics

- IMTS – International Merchandise Trade Statistics
 - Its goal is to describe **bilateral flows of goods across countries**
 - **Value and quantity data**, organized along well-defined dimensions (reporting country, partner country, commodity code, trade flow, reference period, mode of transport, *etc.*)
 - Main data source: **customs records** (with some exceptions)
 - There is no explicit **statistical unit** (other than the economic territories of the compiling/partner countries)
 - Highly standardized **concepts and definitions**
 - Consistency between customs and IMTS concepts and definitions
 - International comparability
 - Data collection at the **most detailed level including trader information**

Trade vs. Business statistics

- Business Statistics

- Its main goal is to provide information about the **performance** and the **structure** of businesses in an economy
- Very **broad** and **heterogeneous** data set
 - Many indicators (e.g., sales, inventories, value added, employee compensation, employment, ...)
 - Diversity of users
- Its basic **statistical units** are enterprises and establishments
- Derived from **multiple data sources** (**administrative records [such as business registers, tax records and social security records], business surveys, economic census**)
- Variety of **concepts, classifications and levels of detail**
 - Across different data sources
 - Across countries

Business register vs. Register of traders

- **Business register**
 - Identifies the population of **economically active enterprises** for statistical purposes and their relationship with **legal units** for administrative purposes
 - Establishes and maintains **links between different types of statistical units** (e.g., between enterprises and establishments)
- **Register of traders (subset of Business Register)**
 - Identifies enterprises **engaged in international trade**, mainly based on customs records or records from Ministry of Trade
 - Used mostly for **IMTS compilation purposes**, e.g.,:
 - Collection of trade data through surveys (i.e., price surveys of imports / exports)
 - Validation of customs records
 - Estimation of trade below statistical and customs thresholds

Matching and population identification methods

- In practice, matching exercise is **complex** and can yield **unexpected results**
 - **Conceptual differences:** Enterprises registered on customs documentation **are not necessarily relevant** for statistical purposes (e.g., agents used by large and complex enterprises or types of statistical units are not properly defined)
 - **Coverage:** The business register often does not **cover the whole population of importers and exporters**, and needs to be updated
 - **Coding errors:** Invalid IDs and classification errors

Potential benefits and costs

- **Potential benefits:**

- ✓ **Additional and better statistical information for users (dissemination side)**

- **About internationally active enterprises and their specific characteristics**, such as size, sector of economic activity, geographic location, and level of concentration
- **About specific trade transactions**, such goods for processing and intra-firm trade
- **For other statistical domains** such as transport and environmental statistics
- **Business micro-data** for analytical purposes, such as input-output analysis

- ✓ **Improved statistical production process (compilation side)**

- **Cost savings and efficiency gains**, e.g. through survey coordination and reduction of response burden
- **Improved data quality**, e.g., through consistency checks across different sources

Potential benefits and costs

- **Potential costs:**
 - ✓ Major investment in the development, implementation and maintenance of a national business register
 - ✓ Integrating different statistics may require significant efforts
 - ✓ Continuous updating requires significant efforts
 - ✓ Requires setting up adequate institutional arrangements and overcoming legal obstacles, especially data sharing and exchange provision

Possibilities and examples

- Example of Italy
 - **Idea:** Change from a product-based towards a business-oriented perspective in the compilation of trade statistics.
 - **Core is business register:** The link between the list of trade operators and the business register provides the gateway for developing an array of new outputs.
 - **Outputs:** depending on the level of integration achieved:
 1. Trade statistics based on the number of **trade operators by products and markets** by linking trade-flow micro data with the list of trade operators,
 2. Trade statistics based on the **business characteristics** of exporting and importing enterprises by linking and integrating the list of operators with the business register,
 3. **Integrated firm-level data warehouse** by integrating a number of national surveys, foreign trade in goods, outward and inward multinational enterprise data and international databases

Possibilities and examples

- OECD-Eurostat Trade By Enterprise Characteristics (TEC) database
 - Datasets are compiled by **linking micro data** (data at trader level) **with business registers**
 - Fixed set of enterprise-related indicators is generated and published at international level
 - At this time no flexible analysis or access to micro data.

Possibilities and examples

- Example of Zambia
 - Conventional trade statistics cannot answer relevant **policy questions** (i.e., which industries depend on imports, participation of woman in trade, etc.) and no enough resources for enterprise or household surveys
 - Linking trade and business statistics allows CSO Zambia to answer those questions with no or low cost
 - Variables from trade (i.e., products, trading partner, etc.) and business registers (i.e., size, employment, economic activity, etc.) are now linked
 - The next step is to link the dataset with FDI, FATS databases at Bank of Zambia → **analysis on impact of globalization**

Possibilities and examples (additional)

- Integrating trade information in business statistics
 - Business statistics usually contain **limited information on external trade**
- Special surveys on trading enterprises
 - **Conduct surveys** of specifically identified enterprises in order to obtain information on goods for processing, intra-firm trade, trade in services
- Trade statistics as part of a geospatial information system.
 - Analysis of trade patterns by region, e.g., IBGE of Brazil publishes **trade balance by state and municipality** using the address of enterprises
 - Supplementing trade information with localized employment or tax information (i.e., average wages, employment rate, enterprise and personal tax revenue) allows a detailed analysis of regional economic impact of trade

Trade by Enterprise Characteristics (TEC)

- **New statistical domain**
- Aims at describing trade flows from the view point of enterprises:
 - Characteristics of importing/exporting enterprises
 - Involvement of different industries in international trade / global value chains
 - Involvement of small and medium enterprises in international trade / global value chains
 - Impact of international trade on employment, growth and income
 - Effectiveness of export-promotion policies
 - *Etc...*

Compiling Trade by Enterprise Characteristics (TEC)

- Steps:
 1. Define a **common unit of analysis** (e.g., “enterprise”), and the **reference population** and reference time period
 2. Define a **level detail** for the analysis of linked data
 3. **Link** the value of imports / exports of each importer / exporter with data on its characteristics from the business register
 4. Compile and validate **TEC indicators**
 5. Apply **confidentiality** rules / policy

Compiling Trade by Enterprise Characteristics (TEC)

- The methodology must establish the **reference population** for the linked data, e.g.:
 - Value of linked imports / exports with respect to:
 - Total imports / exports
 - Total imports / exports above statistical threshold
 - Number of linked importers / exporters with respect to:
 - Total number of importers/exporters in the trade database
 - Total number of importers/exporters in the SBR
 - Total number of enterprises / establishments in the SBR

Compiling Trade by Enterprise Characteristics (TEC)

- Some TEC indicators:
 - Trade by activity sector and enterprise size class
 - Concentration of trade by activity
 - Trade by partner countries and activity
 - Trade by number of partner countries and activity
 - Trade by commodity and activity
 - ...

OECD-Eurostat TEC database

Dataset: I - TEC by sector and size class

Reporter country	Germany				
Flow	Imports				
Partner zone	Total				
Indicator	Trade Value (in millions of USD)				
Year	2011				
Size class	Total	0-9	10-49	50-249	250+
ISIC sector (revision 4)					
Total economy	1254600	103552	157928	20785	475557
Agriculture, forestry and fishing	1550	515	457	227	117
Mining and quarrying	1450	26	1057	241	116
Manufacturing	407392	6532	15454	71927	295604
Electricity, gas, steam and air conditioning	7194	554	299	79	6008
Water supply; sewerage, waste/remediation	1913	134	354	828	567
Construction	3003	880	806	484	293
Wholesale, retail trade and repair	311652	48615	70840	81734	94973
Transportation and storage	26407	1118	2786	7204	14526
Information and communication	4661	681	1029	898	1803
Financial and insurance activities	27689	9852	2026	2717	6487
Real estate activities	16825	2251	298	55	2
Professional, scientific and technical activities	195767	28720	59837	40703	49319
Administrative and support service activities	10987	3030	1371	410	4794
Accommodation and food services; non market services	4106	645	1314	343	948
Unspecified	234006

data extracted on 24 Jun 2014 21:58 UTC (GMT) from OECD.Stat

Institutional arrangements

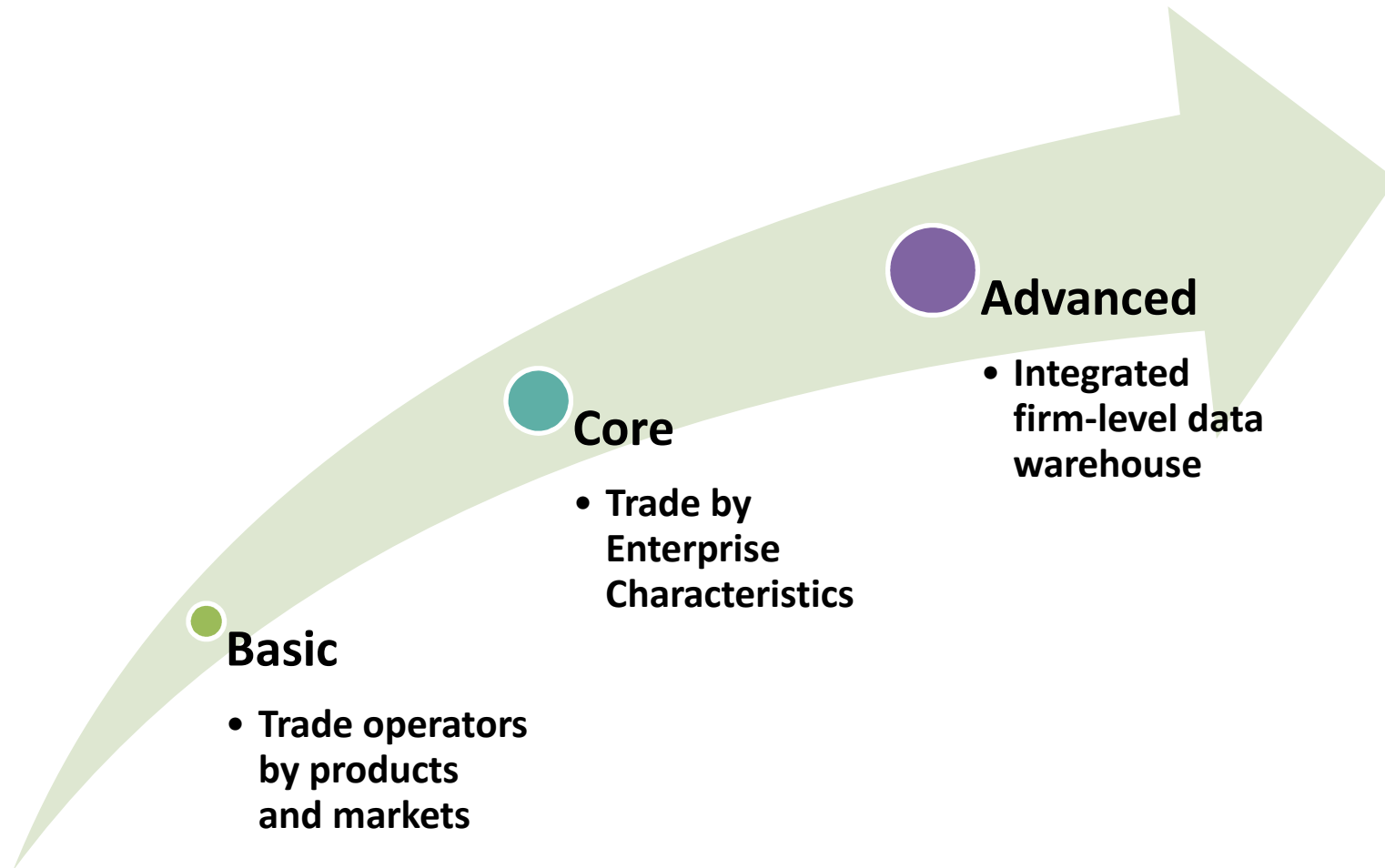
- ***Shared access business register and other data in compilation.*** In many countries more than one organization or agency is involved in trade and business statistics – information sharing needs to be allowed
- ***Shared vision and commitment to integrating trade and business statistics.*** Concerned agencies and departments within agencies need to agree on the goal and vision for an integrated system of business and economic statistics, whose development and implementation require the commitment of significant human resources and the willingness to accept changes in existing practices
- ***Clear policies on access to and use of confidential information.*** Business registers and data warehouses contain sensitive information about businesses. Issues of confidentiality and the protection of the highly sensitive business data need to be resolved.

Additional guidance in IMTS 2010 - CM

Chapter 11: Integrating trade and business statistics

- A. Integrated approach to economic statistics
- B. The benefits of integrating trade and business statistics
- C. Integrating trade and business statistics in data compilation – possibilities and examples
- D. Ensuring quality of the linked data sources and the quality of the linked/integrated data
- E. Generation and dissemination of additional information – possibilities and examples
- F. Required institutional and working arrangements

Gradual Implementation Plan (learning from Italy experience)



UNSD activities in SBRs

- UNSD **promotes** creation and maintenance of National Statistical Business Registers as a core element in the implementation of integrated economic statistics
- UNSD actively **participates** in various fora related to business register, such as Wiesbaden group or UNECE Task Force on SBR
- UNSD **supports** implementation of linking trade and business statistics in countries (i.e., Costa Rica, Zambia, etc.)
- UNSD **contributes** to other organizations' initiatives in regards to SBRs

Thank you - Merci

Please send your comments to
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