The new EU inter-country Supply, Use and IO Tables (FIGARO Project) with a focus on goods sent abroad for processing and merchanting

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Meeting of the Group of Experts on National accounts
Geneva, May 23-25 2018

Outline

1. **Background**

2. **Data sources** and **methodological** framework (FIGARO) for the Eurostat's **EU Inter-country Supply, Use and Input-Output Tables**

3. 10 reasons to use the FIGARO tables

4. Dissemination activities

5. Future plans: FIGARO Act I

1. Background

- Based on **National Accounts** framework

- Build up on available data from National Accounts dimension (**national SUIOTs**) and **trade statistics**

- **Standards**: ESA 2010, NACE Rev 2 (ISIC 4), CPC/CPA

- EU (**28 MS**) Inter-country SUIOTs + **United States**

- **Eurostat (C5, G2, G5, E2) regular production** with support from **DG JRC** + EU **part of OECD global ICIO** database

- Link to labour and capital productivity, environmental accounts and business statistics **extensions**

2. 1. Adjustments on trade data in goods

QDR approach
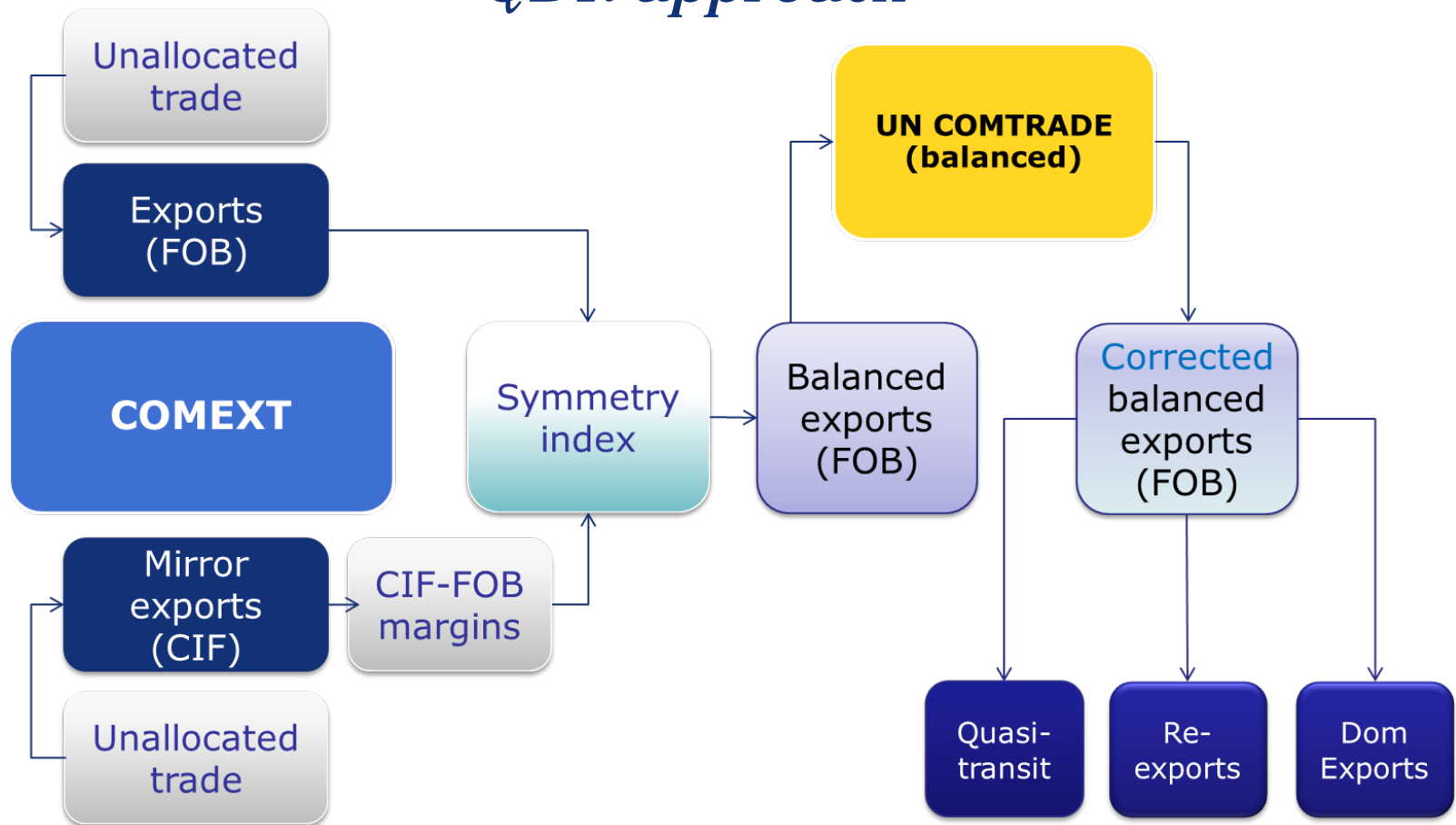
2.2 Goods sent abroad for processing – total

- ✓ **GNI inventories**: overall total GSA adjustments (DE, GR, ES, CY, LV, LU, NL – 2010; BE, CZ, DK, HR, IT, PL, SK – 2011/12)
  - ✓ Average share of GSA adjustment over exports (2011/12) applied to exports of 2010
- ✓ **Eurostat** (IGA TF document, April 4, 2017), remainder:
  - ✓ Use of gross flows connected to inward and outward processing for 2013 – use of average share for 2010
  - ✓ **Total GSA adjustment** equals to the sum of:
    - ✓ Exports after processing net of processing services (inward processing)
    - ✓ Exports before processing (outward processing)

TOTAL GSA ADJUSTMENT ON EXPORT:
+ export after inward processing
- inward processing services
+export before outward processing

INWARD PROCESSING

import before processing

A → B

+ export after processing

- processing services

OUTWARD PROCESSING

+export before processing

A → B

import after processing

processing services
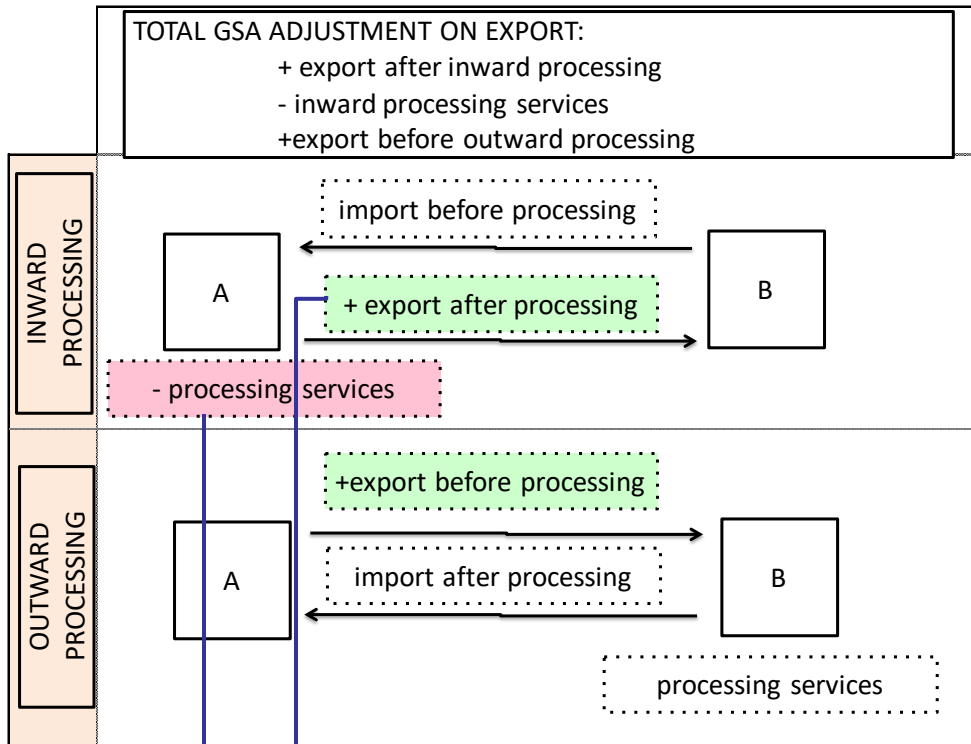
IGA TF Report April 4, 2017

processing margins (MS)

Balanced view of trade in services

Manufacturing services on physical imputs owned by others
(EBOPS – item SA)

Exception: original data DE

GSA adj by trading partner
= processing services /
processing margins
+ GRAS to overall totals

2.2 Goods sent abroad for processing…by product

- ✓ **Original data by CPA** provided by: BE, CZ, DE, IT, NL
  - ✓ Exports/imports before processing (outward/inward) – BE, DE; processing fees by product – CZ; processing fees by industry – IT, NL
- ✓ Otherwise: **assumptions**
  - ✓ Average structures of these countries -> meaningless results; country-specific structures
  - ✓ **Balanced view of trade in goods** (selected) – although not all goods are susceptible of being sold abroad for processing
- ✓ Results used to map EBOPS item **SA to CPA** categories + small adjustments to remove potential negatives

2.2 Goods sent abroad for processing... limitations and main assumptions

- ✓ **Average processing margins per country**, without any distinction between type of goods processed

- ✓ **Processed goods are always assumed to come back to the same country** (*alternatively, use geographical distribution of item SA benchmarked to overall totals from GNI inventories and/or IGA TF Report and/or GSA adjustments provided by Member States*)

- ✓ **Product classification does not** change after the good has been processed

- ✓ Assuming **same geographical distribution** of processing fees as for gross flows, wherever available

Sensitivity analysis

Relevance of differences in employment effects (jobs)

	Difference	Embodied jobs	Share
Goods sent abroad for processing			
DE_CPA_C30	17,000	84,170	20.2%
NL_CPA_10T12	-1,700	31,870	-5.3%
EU_CPA_C30	18,400	365,395	5.0%
EU_CPA_C10T12	-1,800	608,800	-0.3%

CPA_C10-C12	Food products, beverages and tobacco products
CPA_C30	Other transport equipment

Note: 43% of the DE imports before inward processing were CPA_C30, of which 77% coming from France -> **Valuable info!!!**

2.3 Merchanting...

- ✓ **BOP and GNI inventories**: Net exports of goods under merchanting (2010) by Member State (item G2 in EBOPs).
  - ✓ AT, IE, PT, RO missing for 2010, based on 2011-2016
- ✓ **Geographical distribution (based on 2013-16 data)**
  - ✓ Original data provided by all MS with distribution for: **euro area**, **non-euro area** and **extra-EU** regions
  - ✓ Remainder: balanced view of trade in goods, constrained to the above info on regions
- ✓ **Product distribution**
  - ✓ Original data provided by AT, EE, FI, PL and NL
  - ✓ Remainder: balanced view of trade in goods (*instead of average of available MS and/or ITTM structures*)

Sensitivity analysis

Relevance of differences in employment effects (jobs)

Merchanting

	Difference	Embodied jobs	Share
NL_CPA_A01	1,045	46,990	2.2%
AT_CPA_D35	239	4,310	5.5%
EU_CPA_A01	774	1,343,283	0.1%
EU_CPA_D35	232	154,277	0.2%

CPA_A01   Products of agriculture, hunting and related services

CPA_D35   Electricity, gas, steam and air-conditioning

2.4 Concluding remarks on GSA and MCH

- ✓ The **absence of detailed information by trading partner and product** in the adjustments for goods sent abroad for processing and merchanting can **lead to important deviations** in terms of embodied employment in EU exports for specific products and certain countries

- ✓ As a result, it is important to **increase efforts** in providing the following info:

  - ✓ Imports/exports before and after inward processing
  - ✓ Imports/exports before and after outward processing
  - ✓ By trading partners (e.g. covering ca. 80%) and product
  - ✓ Net exports of goods under merchanting by trading partner (e.g. covering ca. 80%) and product

3. Ten reasons to use the FIGARO tables

- ✓ Experimental official statistics
- ✓ Missing SUTs estimated according to good practices
- ✓ Combination of COMEXT and COMTRADE
- ✓ Provision of estimated of GSA and MCH adjustments
- ✓ Use of non-publicly available information for GSA
- ✓ Use of non-publicly available information for MCH
- ✓ Transparent and modular approach (replicable)
- ✓ Use table with discrepancies provided
- ✓ Input-Output tables product by product and ind x ind
- ✓ Integration with the OECD ICIO (data and methods)

4. Dissemination activities

- The data include:
  - Inter-country <u>Supply</u> tables, with a transformation into purchaser's prices;
  - Inter-country <u>Use tables</u> (without discrepancy items);
  - <u>Statistical</u> inter-country <u>Use table</u> (including discrepancy items);
  - Inter-country input-output table <u>product by product</u>;
  - Inter-country input-output table <u>industry by industry</u>.

Why do we need FIGARO tables?

experimental

The FIGARO tables are a tool for analysing the economic and environmental **effects of globalisation** in the European Union (EU) – through studies on competitiveness, growth, productivity, employment, environmental footprint and international trade (e.g. global value chains). They are produced under the FIGARO (full international and global accounts for research in input-output analysis) project. The full name of the tables is **EU-inter country supply, use and input-output tables (EU-IC-SUIOTs).**

< Less

The FIGARO project aims to produce experimental tables for the reference year 2010 in the European System of Accounts (ESA 2010) methodology. The tables are used to evaluate EU policies and assess the position of the EU/euro area in the world.

Future plans

By 2020 the Commission aims to produce FIGARO tables every year, as well as a time series of tables from 2010 to 2018 (input-output tables — IOTs — 2010-18 and supply and use tables — SUTs — 2010 and 2015), based on the FIGARO project's experience.

Project background

The FIGARO tables are part of a collaborative PDF project between Eurostat and the European Commission's Joint Research Centre. They are recognised by EU national statistical institutes and international organisations (OECD, WTO, UN), all of which worked on the FIGARO project.

They will contribute to the OECD's global inter-country input-output tables published by the OECD under the TiVA initiative, which considers the value added by each country in the production of goods and services that are consumed worldwide.

http://ec.europa.eu/eurostat/web/experimental-statistics/figaro

Access the statistics

Data can be downloaded in CSV as well as Rdata format. Users are kindly asked to read the information files beforehand.

+ CSV format

+ Rdata format

+ Application: Employment effects of EU exports to the rest of the world

[XLS] Employment effects of EU exports to the rest of the world
[PDF] Methodological note

Feedback

To help us improve these experimental statistics, users and researchers are invited to participate in the dedicated discussion on the European Statistics User Forum, focusing on the following questions:

- What do you use the EU-Inter Country Supply, Use and Input-Output tables (EU-IC-SUIOTs) for?
- Do you have any comments to the methodology and timeliness of their publication?
- The FIGARO tables are disseminated as flat files and R Datasets. Are you satisfied with these dissemination channels and formats? Do you have other suggestions?

Eurostat's Statistical Working Paper

- **Preface**
- **Part I: Intro**
- **Part II: Data available**
- **Part III: Estimation methods for national input data**
- **Part IV: Alignment with national accounts**
- **Part V: Construction method of IC-SUIOTs**
- **Part VI: Quality assessment**
- **Part VII: Applications**
    - Air emissions
    - Employment in extra-EU exports
    - Employment by modes of supply
- **Part VIII: Lessons learnt and future**
    - Limitations and improvements
    - Integration with the OECD
    - FIGARO Act I

eurostat

Communication of statistics in post-truth society: the good, the bad and the ugly

EMANUELE BALDACCI AND FELICIA PELAGALLI | 2017 edition
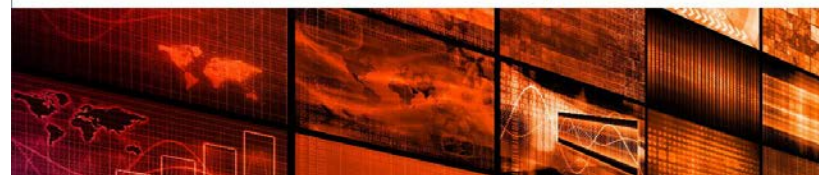
5. Future plans: FIGARO Act I

- **Integration with OECD ICIO (2018-2020) Schedule and next steps**
  - 2018-19: Construction of anual time series (2011-15) current prices
  - 2020: Construction of time series (2010-18) + projections and in PYP
  - National accounting matrices and SAMs

Thank you !!

FIGARO team

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Geneva, May 23-25 2018

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