Combining Administrative and Statistical Sources to Estimate Goods Sent Abroad for Processing in Italy

Ludovico Bracci, Carmela Pascucci
ISTAT, Central Directorate for National Accounts

Istat

Introduction

According to the new accounting standards imports and exports of goods have to be registered only when a change of ownership occurs

The value of the goods sent abroad for processing (without change of ownership) is not more recorded. Such flows are registered, on a net basis, as exports or imports of processing services

To implement the new definitions is necessary:

- ✓ An estimation of the value of the processing services
- ✓ An adjustment to International Merchandise Trade Statistics (IMTS) data to remove the flows of goods crossing the border without change of ownership

IMTS by Nature of Transaction (NoT) represent the logical starting point to perform the two operations, but usually the available information is not sufficient

Istat

Use of IMTS data

At one-digit level of NoT codes it is possible to distinguish between operations involving a transfer of ownership and operations related to processing activity

At two-digit level of NoT codes it is possible to further divide the flows of goods for processing between **"symmetric"** (when the good is sent from the owner to the processor and after processing is sent back to the owner) and **"asymmetric"** (when the good is not sent from the owner or is not sent back to the owner).

For each of these typologies a different adjustment is applied:
- Symmetric flows are removed
- Asymmetric flows are not removed but adjusted to approximate the value at which the good is exchanged (including or excluding the processing fee)
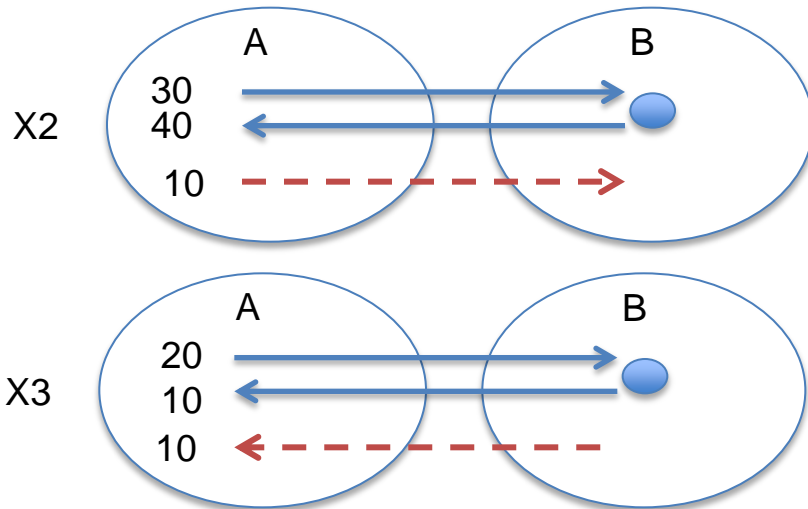
Istat

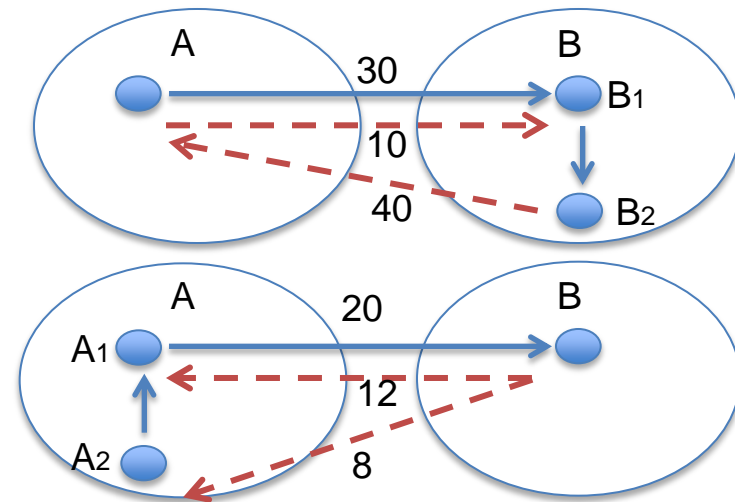# Use of IMTS data by NoT: an example for exports

1 digit NoT

		IMTS	SNA 93	SNA 08
X1	Involving a transfer of ownership	100	100	100
X2	In view of a processing activity	30	30	?
X3	Following a processing activity	20	20	?
XT	TOTAL exports	150	150	?

2 digits NoT

«Symmetric flows»   «Asymmetric flows»

Goods movement
Money movement

4
Istat

Data sources

IMTS data in Italy:

✓ Intrastat (IG): NoT at 1-digit

✓ Extrastat (EG): NoT at 2-digits, but the quality of information at the second digit level is not good enough

Supplementary data sources:

✓ Administrative data collected by Custom Agency on EU trade in services (Intrastat services - IS)

    ✓ Available since 2010, following Directive 2008/8/EC

    ✓ Services reported according to CPA 2008 at 6-digit level

✓ Quantity of crude oil refined in Italy on behalf of foreign clients

Different estimation methods according to the available sources:

    ✓ Intra EU

    ✓ Extra EU

    ✓ Oil products

Istat

Methodology for Intra EU

Use of IS to estimate imports and exports of processing services

Micro-linking of IS and IG to validate NoT codes and to differentiate between symmetric and asymmetric flows.

Observations are divided in:

- CONSISTENT (joint signals of IS and temporary IG)
    - SYMMETRIC FLOWS
    - ASYMMETRIC FLOWS
- INCONSISTENT
    - ONLY IS
    - ONLY TEMPORARY IG

Istat

A comparison between IS and IG data

	MFP	MAP	XFP	XAP	XAP-MFP	MAP-XFP	ISX	ISM
Total flows	5820	3076	2457	6198	378	619	1199	1123
A. coherence between IS and IG								
A.1 symmetric flows	4664	2626	1998	4993	329	628	368	589
A.2 asymmetric flows, of which:	366	262	259	349	-17	3	165	163
only MFP	366	0	0	0			40	0
only MAP	0	262	0	0			0	45
only XFP	0	0	259	0			0	118
only XAP	0	0	0	349			125	0
B. incoherence between IS and IG								
B.1 only IG	790	188	200	856	66	-12	0	0
B.2 only IS	0	0	0	0	0	0	666	371

Values of "implicit processing services" (difference between the values of the goods after and before processing) close to IS data only for group A.1 (consistent and symmetric flows).

Values of IS in line with IG for group A.2 (asymmetric and consistent flows)

Large share of IS associated to non-temporary IG (group B.2)

Istat

Adjustment to IG data

Once the identification phase is completed, consistent flows are adjusted according to the international guidelines:

- SYMMETRIC FLOWS -> removed

- ASYMMETRIC FLOWS -> adjusted
    - Only MFP -> IMP = MFP + ISX
    - Only MAP -> IMP = MAP – ISM
    - Only XFP -> EXP = XFP + ISM
    - Only XAP -> EXP = XAP – ISX

Inconsistent flows:

- ONLY IS -> procedure to detect the share of non-temporary IG to be attributed to processing (compatibility between counterpart country, typology of processing service and goods traded)

- ONLY TEMPORARY IG -> reclassified as non-temporary

Methodology for Extra EU

- No supplementary data source available, fully based on IMTS (Extrastat, EG)

- Preliminary correction of NoT codes on the basis of a cross-analysis with the custom procedure codes

- Distinction between symmetric and asymmetric flows (by company) **only using EG data**

- For symmetric flows, processing fees approximated by the implicit processing services (IPS)

- Use of statistical techniques to correct unreliable IPS (negative values or positive values outside acceptance regions)

- EG data adjusted with the same approach used for intra-EU flows

Istat

Processing of oil products

- Very relevant in Italy (>20% of exports of processing services)…
- …but very difficult to represent
- From IMTS data we observe, at a company level, a flow of imports of crude oil for processing and a flow of exports of refined oil after processing; exports < imports because part of the refined oil remains in Italy for domestic sales on behalf of the foreign owner
- According to the new standards the IMTS flows have to be excluded, while the value of the refined oil that remains in Italy (not covered by IMTS) has to be recorded as imports of goods
- Correct registration only possible linking IMTS data with data from a survey conducted by the Ministry of Economic Development on the **quantity** of crude oil refined in Italy on behalf of foreign clients

Istat

Conclusions

- IMTS data represent one of the richest data source available for the compilation of NA and BP. Information on foreign trade by company, product and counterpart country are fundamental for NA (in the SUT framework: trade in goods by product, use table of imports, estimates with the commodity flow method) and for BP (trade by country)

- With the new accounting standards IMTS data have to be adjusted to record trade in goods only when a change of ownership occurs

- IMTS data by NoT at 2-digit level, when available, contain all the information needed for the adjustment

- In Italy this information is not available but the use of supplementary sources (Intrastat Services and a survey on oil refining) combined at a micro level with IMTS allow to identify the different typologies of transaction (symmetric/asymmetric flows) and to apply the correct adjustments

- When a supplementary information is not available (like for extra-EU flows), a wider use of statistical techniques is necessary to estimate processing from IMTS data

Istat

Thanks for your attention !

Contacts:

Ludovico Bracci braccite@istat.it

Carmela Pascucci pascucci@istat.it

Istat