

# **International Merchandise Trade Statistics – Is there a need for paradigmatic shift?**

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## **Abstract**

*International Merchandise Trade Statistics (IMTS) is a domain of official economic statistics with great tradition. The conventional data source of IMTS has been Customs documents, thus the basic recording principle the cross-border physical movement of goods. As long as national economies covered resident units only and units in different countries were unrelated to each other, border crossing provided a good estimation for the change of ownership between a resident and non-resident unit – the principle used in Balance of Payments and National Accounts. However, with the evolution of globalization, official ITGS statistics is facing challenges regarding its key conceptual and data collection aspects: Customs formalities are simplified and even abolished in the frame of a Customs union, non-resident units are acting as traders within the economy and a non negligible part of trade is done between related parties of multinational enterprise groups. Physical movements might become inflated and not reflecting the change of ownership due to internationally fragmented nature of global production processes. The paper is devoted to highlight some aspects of this existing methodological gap through the perspective and practice of an export oriented EU Member State.*

**Key Words:** physical movement, change of ownership, globalization

## **1. Introduction**

The recommendations on International Merchandise Statistics (IMTS) have recently been updated by IMTS 2010. The new revision has left the main principle of recording cross-border physical flows of goods intact. Indeed, the document had fully taken into account the fact that IMTS is a primary data source for Balance of Payments (BoP) and National Accounts (NA), which are on the other hand following the change of ownership between resident and non-resident principle.

This decision must have had strong conceptual motives, but very important practical considerations of data collection and element of tradition (no break in time-series) as well.

Nevertheless, the IMTS presumes that the two concepts are comparable, 'since most traded commodities are crossing the border as part of a normal buying and selling operation between an importer and an exporter, the change of ownership is largely approximated by the cross-border movement of goods.'<sup>1</sup>

Not questioning the above statement in general, this paper highlights some issues that compilers are facing more and more with the evolution of globalization, making the necessary reconciliation between IMTS and BoP/NA complex and resource demanding.

## **2. Data collection**

Traditionally, IMTS has been based on the administrative data source of Customs records. It provided good coverage and quality, without imposing (significant) additional burden on traders. According to the survey of the UNSD in 2006, 98% of

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<sup>1</sup> IMTS 2010, para. 0.18

developing and transitional countries, yet only 55% of developed countries use Customs declarations as the primary data source for IMTS<sup>2</sup>. Thus, it can be concluded, that countries tend to use Customs declarations, if available, and it is supplemented only when that becomes inevitable.

With the introduction of the Single Market in the European Union in 1993 and thereby the abolition of Customs borders between the Member States, the traditional Customs data source was lost for intra-EU trade. A direct data reporting survey for traders was designed and implemented called Intrastat, while Customs declarations were kept for trade with third countries (Extrastat).

The Intrastat system is closely linked to the Value Added Tax (VAT) system, a yet existing administrative obligation for trade between Member States.

Also, Extrastat is on the way of important systematic changes nowadays with Customs simplifications being introduced, such as Centralised Customs Clearance and self-assessment, which enable traders to centralize the administration of their EU-wide Customs activities to the Member State of residence and to maintain internal accounting of Customs data without actually lodging Customs declarations. The consequences for IMTS compilers are that statistical surveys shall be implemented for this part of Extrastat trade as well to supplement traditional Customs data sources.

### 3. Register and non-resident traders

It is also an implicit presumption of traditional IMTS statistics, that traders are residents in the importing/exporting economy. In the above described EU data collection framework there are important exceptions to this basic requirement.

Customs rules and procedures are applied in a harmonized way over the EU Member States. Traders are identified with a unique Customs registration number called EORI, and to a certain extent they are free to choose the Member State to carry out Customs formalities. That makes possible to import/export in a Member State without being resident there by using EORI registration. (It should be noted, that import transactions being taxable usually require also a VAT registration or the appointment of a tax representative).

Also, the VAT system is focusing on the chargeable events and do not necessarily require entities to be resident in the Member State where the taxable transaction occurs. In that manner, non-resident traders are liable to register for VAT in a Member State, if they purchase goods there, without the goods leaving that country instantly; or if they move goods to a Member State while retaining its ownership.

VAT residents are present in the Hungarian Foreign Trade Statistics in a growing number and share in total trade since EU accession in 2004. EORI traders outnumber VAT residents, but their share in total trade value is less important (less than 1%) and therefore not detailed here.

**Table 1**

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Number of VAT residents	109	179	231	272	326	347	354	447	489
% in Imports value	2,84%	5,20%	6,80%	7,22%	8,09%	8,61%	9,31%	9,66%	10,73%
% in Exports value	5,37%	7,25%	10,01%	11,68%	12,69%	15,60%	17,65%	18,96%	18,69%

In the specific area of trade in electricity and natural gas, VAT simplifications go even further, namely trade in a given EU Member State can be concluded unlike to other goods without VAT registration there, because VAT is charged in the Member State of residence instead. Being no entity available for statistical survey, many EU Member

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<sup>2</sup> IMTS 2010-CM, para. 3.2

States (including Hungary for electricity) have implemented an alternative data compilation method by using administrative sources. Trade in electricity represents ca. 1-1.6% of total trade of Hungary.

#### **4. Examples for conflicting physical movement and change of ownership transactions**

Hereinafter, there is a set of simplified examples described, drawn from the country experience of Hungary. These transactions are connected to the activity of VAT and/or EORI registered non-resident traders.

The types of transactions can be divided into three main categories. In the first category, the non-resident IMTS trader has no or has only negligible connection to the resident economy. In the second type non-resident trader is connected to the resident economy, but trade recorded by IMTS needs to be adjusted from change of ownership point of view. Transactions in the third main category are not recognized as cross-border movements, yet change of ownership occurs between resident and non-resident units.

##### 4.1. Physical movement without change of ownership between resident and non-resident

###### 4.1.1 Quasi transit

This phenomenon has a broad literature in the EU methodological papers and its import version is also called 'Rotterdam effect'. Non-resident trader (or its resident representative) is declaring goods for import, but after the customs clearance goods leave to another Member State, no change of ownership occurs in the country of the declaration.

For exports, goods are normally declared in the initial dispatching country, and only the customs office of exit is in another EU Member State (no statistical controversy, as transit is not recorded by IMTS). However, traders might decide to transfer goods within the EU in free circulation and declare exports only at the Member State of exit. The latter case is recognized as quasi transit export version, and is resulting registering physical flows without change of ownership in the Member State of exit.

###### 4.1.2. Distribution centre

In case of multinational enterprises, production is organized to centralized locations, inter alia to benefit from the economies of scale. Mass produced goods are then distributed globally. For logistical reasons, distribution is often organized into regional distribution centres serving a group of countries belonging to each other on a geographical basis.

According to the Hungarian experience, distribution centres can be operated by a VAT registration. The physical in- and outflows of goods are registered by IMTS via VAT, without a change of ownership occurring by resident units involved. The connection to the resident economy is often limited to providing logistical services to the operation of the distribution centre. Nevertheless, as distribution centres might serve also the host country, it is quite challenging to determine the real connection of trade to resident units based on the physical flows.

##### 4.2 Physical movement with a need for adjustment from change of ownership point of view

###### 4.2.1. Global manufacturing via affiliated enterprise

The most significant biases are observed related to the production activities of multinational enterprises. Global manufacturing is formed in a very heterogeneous

organisational structure. For the purpose of this paper, only some aspects are highlighted. In a typical situation, the multinational group has a resident entity for production in Hungary through FDI, which is connected to one or more non-resident members of the group (usually parent company), which are present in the economy only through VAT and/or EORI registrations. Imports cover to a large extent raw material or semi-finished goods for production, while exports are manufactured goods distributed often by the parent company (VAT registration). Within the group, there is transfer pricing applied. VAT residents might be entering in the flow of goods either on the imports, exports or both sides. In the Hungarian experience, exports tend to be more affected by this phenomenon.

Also, it is possible that parent company (VAT registration) retains the ownership of the goods throughout the production process, so that the affiliated resident company provides processing services (manufacturing services on physical inputs owned by others, in BoP terms).

IMTS potentially captures physical flows reflecting transactions between the VAT resident and the rest of the world, while change of ownership between resident and non-residents occurs with the transaction between resident and VAT resident (if any), thereby causing a valuation problem as first highlighted by Hungarian Central Statistical Office at the UN CES meeting in 2008<sup>3</sup>.

#### 4.2.2 Global manufacturing via contract service provider

As a subset of global manufacturing, it is worth to separate those cases, where the resident production entity is not the affiliate of the VAT resident, but a contract service provider. Although, it should be noted, that this company itself might be the part of a multinational enterprise group providing global manufacturing services. A single VAT resident might have several manufacturing partners in the same time as well.

These transactions might be concluded either as processing services (ownership retained by VAT resident) or on own account by the service provider (finished products are sold to VAT resident) or a mix of the two approach (main parts provided by VAT residents, others by the service provider).

Even the transactions between the VAT resident and the service provider cannot be considered as intra-group trade, the valuation problem still exists, as transactions between VAT resident and the rest of the world reflect a different price niveau (for example contains profit element of the multinational enterprise bearing the VAT registration)

#### 4.3 Change of ownership without cross-border movement

The below transactions are out of the scope of scope of IMTS compiled on the cross-border physical movement basis, but should be taken into account on the change of ownership basis.

##### 4.3.1 Merchanting

In case of merchanting transactions the merchant is realizing profits by purchasing goods in one country and subsequently selling them abroad, so that goods do not enter the economic territory of the country of residence. In the lack of cross-border movements involving the country, IMTS cannot record these transactions (no Customs declarations, no VAT chargeable event).

##### 4.3.2 Intermediation within the economy

VAT residents may act as merchants in the resident economy, which means, that they

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<sup>3</sup> Csizmazia, 2008

purchase goods from a resident company and subsequently sell them to another resident company by realising profits.

In case of this intermediation type of activity, there are no cross-border movements recorded, as goods physically do not leave the economic territory of the country, but change of ownership between residents and non-residents occurs two times generating a trade balance.

## 5. Effects of the activity of non-resident traders on trade statistics

The effects of the described methodological gap between the cross-border physical movements (and its practical application concerning data collection framework) and the change of ownership between resident and non-residents approach are far reaching.

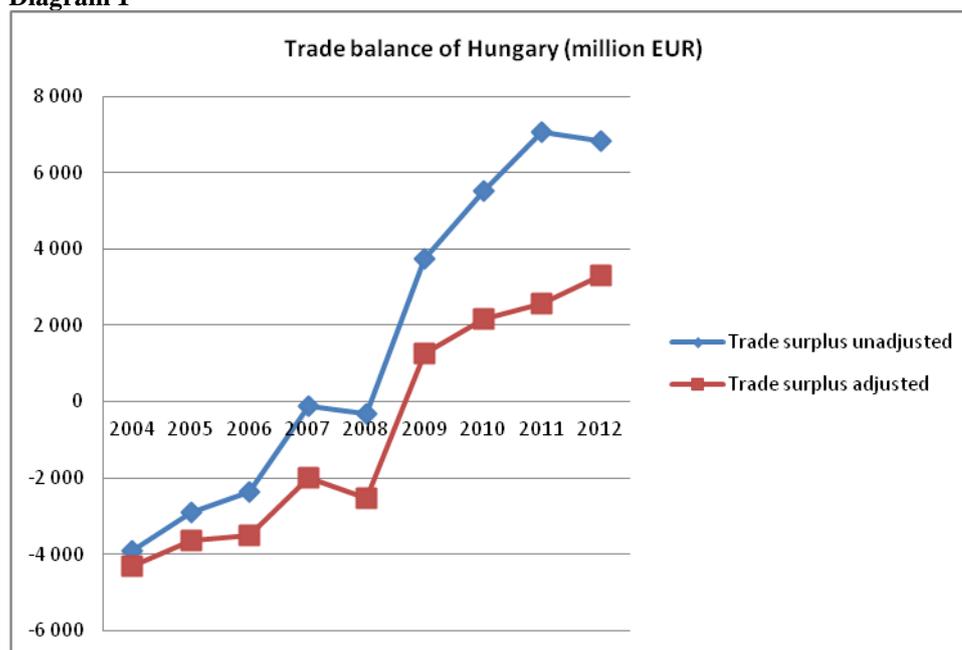
On the one hand, the presence of non-resident traders in IMTS – which might not be included in General Business Register depending on country practice – has a negative impact on cross-cutting data linking exercises, like the Trade in Enterprise Characteristics statistics (trade broken down by size and activity of trader) or its feasible extension to ownership, employment etc. It will mean a serious obstacle also in integrating trade and business statistics as initiated by the European Commission by the FRIBS project to be implemented in medium terms.

On the other hand, this methodological gap is causing also valuation problems of trade statistics by using for BoP and NA purposes. Also, for the analysis of the value added effect of trade, performed by linking micro-data of IMTS and Structural Business Statistics via the business register, data on a change of ownership principle are more suitable.

In the Hungarian country practice the activity of VAT/EORI registrations is reflected in an underestimation of imports and overestimation of exports compared to the concept of cross-border physical flows to the change of ownership between residents and non-residents approach. Hungarian Central Statistical Office, being responsible to prepare IMTS data for BoP/NA purposes has designed and implemented an adjustment method for macro-statistics from 2008 onwards. Since then, the estimation method has been gradually fine-tuned, by going more and more into enterprise level details in cooperation with the National Bank of Hungary.

The current situation of macro-adjustment is shown concerning the trade balance in the below diagram.

**Diagram 1**



## **6. Conclusions**

As IMTS is a primary data source for Balance of Payments and National Accounts, data have to be bridged from the cross-border movements to a change of ownership approach even today. With the evolution of IMTS, a growing demand is expected also from other user groups for trade data being compiled on a change of ownership basis for economic analysis purposes by going into micro-data level details. Therefore, the need for a paradigmatic conceptual shift has to be deliberated, the change of ownership approach in IMTS has to be emphasised and the bridging at micro data level further elaborated.

Nevertheless, the complexity of transactions in the globalised economy and the imperfections of the data collection frameworks make this reconciliation a difficult and resource demanding activity.

## **References**

1. UN International Merchandise Trade Statistics: Concepts and Definitions 2010, ST/ESA/STAT/SER.M/52/Rev.3, New York, 2011 (IMTS 2010)
2. UN International Merchandise Trade Statistics: Compilers Manual, Revision 1, Draft Version, ST/ESA/STAT/SER.F/87/Rev.1, New York, 2012 (IMTS 2010-CM)
3. UN The Impact of Globalization on National Accounts, ECE/CES/14, New York and Geneva, 2011 (GGNA)
4. Csizmazia, About a Valuation Problem of Transactions with the Rest of the World in Hungary, ECE/CES/2008/37, Conference of European Statisticians, 2008