**The Globalisation Effects on the Trade Flows: Czech Experience**

Marek Rojíček, Czech Statistical Office

Tereza Košťáková, Czech Statistical Office

Jaroslav Sixta, Czech Statistical Office

## INTRODUCTION

The surplus of the balance of trade according to the foreign trade statistics in the Czech Republic has been gradually increasing since joining the EU in 2004. This trend coincided to the effect of the rapid growth of the foreign direct investment to manufacturing sector in the preceding years. However, such a development was in contrast to the balance of payment. Moreover, there was observed a growing discrepancy between supply- and use-side of certain commodities during the compilation of the supply and use tables mainly due to exports and imports from the foreign trade statistics. Exports even exceeded production in some of these commodities. So it seemed that exports were overestimated and imports underestimated or both exports and imports in the foreign trade statistics far exceeded the real economic inputs and outputs of the domestic economy.

The alleged positive balance was actually caused by the value added generated by non-residents and so cannot be included in the value added of the domestic economy. For this reason there was defined a new national concept of foreign trade in the Czech Republic and was developed corresponding methodology of adjustment of traditional foreign trade data. This phenomenon can be associated with two different but complementary issues. First, the increasing influence of non-residents over the flows of goods across the borders of the Czech Republic and secondly, an increasing number of movements of goods across the national borders without changing the ownership (mainly due to the convenient location of the Czech Republic and sufficient storage facilities that encourage extensive flows of goods across the borders that can be considered only as re-export or quasi-transit trade).

This article describes the separation between foreign trade statistics and change of ownership principle within in the EU due to the VAT registered non-residents and introduces the Czech approach to follow the concept of change of ownership related to exports and imports in National Accounts and Balance of payment.

### Definition of foreign trade

There are two main approaches to capture commodity transactions in international trade. One is based on the principle of movement of goods across the borders, which is consistent with traditional Foreign Trade Statistics (FTS), the other is based on the change of ownership principle and is consistent with standards on Balance of Payment (BoP) and National Accounts (NA)[[1]](#footnote-1). The cross-border movements used to be considered as an acceptable proxy for the change of ownership. However, globalization in trade[[2]](#footnote-2) led to the separation of these concepts as it increased the variety of transactions when movements of good are not followed by the change of ownership.

So far, most European countries have considered this separation to be related solely to the trade with non-EU countries (so-called quasi-transit). However, this issue has to be extended also to the trade within the EU as the system of collecting data (Intrastat) instructs not only residents but also non-residents to report their transactions across the borders of domestic economy to its national statistics. This results in inclusion of non-resident transactions in exports and imports of any domestic economy according to the compilation rules of the FTS.

**Table 1 Definitions of certain transactions in foreign trade relations**

|  |  |
| --- | --- |
| Transactions | Description |
| **Simple transit trade** | Transactions in goods which cross the reporting economy on the way to their final destination. They are excluded from the FTS, BoP and NA of the reporting economy. |
| **Re-export**  | Transactions in goods which are imported into the reporting economy by a resident and then re-exported. Re-exports imply a change in ownership and are included in the FTS, BoP and NA of the reporting economy. |
| **Merchanting**  | Purchases of goods by a resident of the reporting economy from a non-resident and the subsequent resale of the same goods to another non-resident without the goods entering the reporting economy. |
| **Quasi-transit trade** | Transactions in goods which are imported into the reporting country by a non- resident entity, and then re-exported to a third country within the same economic union (a variant being the case in which they are imported into the country and later sold to a resident there, sometimes at a much higher price, without significant change to the goods and without the involvement of any resident to whom the value added reflecting the increase in price might be attributed). |

Source: UNECE, 2010

The international trade traditionally occurs when delivery of goods from country A to country B is associated with a change of ownership. However, there are also transactions that are associated either solely with movement of goods or only with the change of ownership that has to be treated differently and can have a different impact on macroeconomic statistics (see Table 1). Simple transit trade, quasi-transit trade and re-exports have a common element: in all three cases the domestic supply of goods in the compiling economy is not increased, even if the goods are physically present there. Merchanting is fundamentally different from transit and quasi-transit trade and re-exports, in that the merchanted goods are not physically present in the compiling economy. It is however relevant to this discussion because it is a possible cause of the increase in value of the goods between their import and their export or sale to a final user in the importing country.

### Non-residents’ transactions in Intrastat

Intrastat is closely related to the system of value added tax (VAT) in the EU. All VAT registered entities in a country A (above the threshold) are obliged to report their transactions across the borders of the country A to Intrastat in the country A. However, VAT registered entities are not only residents of the country A.

According to the VAT legislation harmonized across the EU, non-resident traders are obliged to register for VAT in any country where they realized any taxable transactions. These taxable transactions include supply of goods (e.g. sales of goods on internal national market or dispatch of goods to other member states and also any transfer of own goods for business purposes across the borders to the country) or the intra-EU acquisition of goods (also any transfer of goods for business purposes across the borders from the country). In all these cases non-resident traders have to register for VAT and consequently they become respondents to Intrastat in the country where they are not seated and do not have even any physical representation (in tax terminology: ‘VAT-only”).

The reasons behind the business transactions carried out by non-residents are summarized in Table 2. Most of these transactions take place between related companies and the motivation can be of various natures. There can be also logistical reasons, when the country has a geographically strategic location and serves as an import/export gateway to other countries (mainly countries at the external frontier of the EU, but also Central European countries like the Czech Republic). But it may also involve processing operations and strategy of multinational firms in the distribution market. However, most of these transactions are motivated by the cost reduction and tax optimization.

**Table 2: Types of business activities and motivations for transactions carried out by non-resident units**

|  |  |
| --- | --- |
| Activities | Motivation |
| **Distribution activities** - rental of warehouses, logistics operations, purchasing, import / export, domestic sales  | Logistics  |
| **Sales Channels** - "Export/Import Gateway" (e.g. from the West to the East of Europe or vice versa)  | Internal / cost reduction Tax benefits  |
| **Inward processing** - import / export, purchase processing services at home  | Cost Reduction  |
| **Mediation between residents** - from residents to purchase the processing, sale to residents (no imports)  | Mastering the market / agreements between foreign companies  |

Source: Author’s elaboration

As for the Czech Republic, there can be identified two prevailing issues concerning non-resident activities that are essential for the FTS. Firstly, there are significant flows of goods imported to the Czech Republic by non-residents that are re-exported without any change of ownership to resident (Figure 1). The core of these transactions is the same as in case of quasi-transit (Table 1) even though they are related mostly to the trade within the EU. As they are not carried out by residents they must not be included in the exports and imports according to the change of ownership principle.

Secondly, there are significant flows of goods across the borders reported by non-residents that are related to their activities on the internal national market: their imports are sold to residents and their exports come from domestic production. In any case, the value of imports and exports via non-residents reported to the FTS can differ greatly from the value of transactions between them and residents (Figure 2).

In both cases, the balance of exports and imports declared by the FTS is influenced and thus must be adjusted for the value added generated by non-residents if it is to be corresponding to the change of ownership principle.

**Figure 1: Illustration of the impact of ‘internal’ quasi-transit carried out by non-residents on the trade balance**

****Source: Author’s elaboration

**Figure 1:** according to the FTS domestic economy imported goods for 100 from Hungary and exported it for 150 to Germany. It seems that the balance of exports and imports of the Czech economy shows surplus (50).Moreover, domestic country shows considerable volumes of imports and exports no matter the domestic production or domestic final uses. However, according to the change of ownership there is no import and export because the change of ownership between resident and non-resident did not occur. These transactions should not be recorded as imports and exports in BoP and NA. If the same transaction was carried out by residents of the country, it would be a classical re-export and the value of mediation services (50) will be the value added of domestic traders.

A typical example of quasi-transit is so-called “Rotterdam effect[[3]](#footnote-3)” as described e.g. by Netherlands or UK (see HM Revenue&Customs, 2005). Increasingly there can be observed quasi-transit operations also within European Union (as in the example above). This effect was described by Hungary (see UNECE, 2010) and independently this problem has been identified also in the Czech Republic. Unlike the “pure quasi-transit”, where the goods do not change its nature in the “transit” economy, the problem of valuation is wider and is related to all cases, where the goods is traded via non-residents (even if the commodities imported are further processed and new products are produced).

**Figure 2: Illustration of the impact of trading carried out by non-residents on the trade balance**

**** Source: Author’s elaboration

**Figure 2:**

‘Direct trade’ carried out by residents across the borders can be considered as exports and imports in both cross-border and change of ownership principles (first example at Figure 2). The balance of trade shows surplus of 20 which is entirely related to residents’ activities (Export = 100 minus Import 80).

However, there is significant volume of trade in goods carried out ‘indirectly’ by non-residents across the borders (second example in Figure 2). Unlike the example at Figure 1 the goods traded by non-residents become either final use (in case of imports) or come from domestic production (in case of exports). Non-resident reports to the FTS export of 120 and import of 80 even though the change in ownership between resident and non-resident occurred within the borders for significantly different price (purchase by non-resident for 100 and sale by non-resident for 90).

The balance of trade of the Czech Republic according to the FTS shows alleged surplus of 60 (40 plus the surplus from the direct trade by residents for 20). However, according to the change of ownership principle the balance of trade of the Czech economy amount to 30 (10 for purchase minus sale by non-resident on internal market plus 20 for direct trade by residents).

The surplus according to the FTS includes also the value added generated by non-residents and thus for the purpose of BoP and NA it should be excluded from the value added of the Czech economy. Simultaneously, the value added achieved by residents trading with non-residents on the internal market should be included.

The impact of both examples (shown in Figure 1 and 2) on the trade balance in the FTS and the volume of trade in the FTS depends on its share of the transactions carried out and reported by non-residents in the domestic economy.

### IMPACT OF Non-residents’ TRADING ON STATISTICS

Generally, there is serious effect of the trading via non-residents on the consistency between supply and use side in the economy. For some commodity groups exports exceed the production or the imports exceed domestic uses. In this case commodity balancing process within supply- and use-tables is very difficult as the data sources are considerably inconsistent (see Eurostat, 2002).

Another problem arises regarding consistency of the current and financial account balance. The balance of payments is based on the monitoring of transactions between resident and non-resident entities, both in real terms (current account) and financial transactions (financial account). As for the trade carried out by residents the balance of real transactions (foreign trade) will be reflected in financial transactions, namely the balance of receivables and liabilities to non-residents. If the balance of foreign trade is carried out by non-resident units, residents' financial claims on non-residents do not arise and there is a disproportion between the current and financial account balance.

Consider the following very common situation where a Czech company (resident) sells to its parent company goods at a fixed price. The parent company (registered for VAT only in the CR) then exports goods and reports to statisticians an entirely different value (usually higher) at which goods are sold on Western markets. At the first look it seems that Czech economy gains high export prices, but subsidiary (resident) has significantly lower yields. At macro level there is a disproportion between the current and financial account balance, the (value of) movement of goods is higher than money transfers.

After the EU accession in 2004 the system of foreign trade statistics based on customs declarations was replaced for the transactions within the EU by the Intrastat. The structure of data and rules for their declarations are consistent with international manuals of merchandise statistics (IMTS) and are strictly regulated by EU Regulations (data reported to Eurostat). It is nonetheless allowed to adjust data according to national specifics (called ‘national concept’). One of them is “quasi-transit” trade, which was generally considered to be the problem related to the trade between non-EU and EU countries at the external EU border (above mentioned “Rotterdam effect”).

The first time when the problems with inconsistency of macroeconomic aggregates in the Czech economy appeared was during the balancing process of commodity flows for year 2007, carried out in 2009. Export of certain commodities many times exceeded their domestic production (see Table 3). This can be described by the following model example (names of the companies and data are fictional):

The company of „Global Toys“, registered in the Great Britain, is the owner of the Czech toy producer „Czech Toys“. This manufacturer produces toys for CZK 5 million and exports them (to the EU countries) through its parent company, which due to this transaction had to registered for VAT in the Czech Republic. Simultaneously, this parent company imports toys from Poland (at the value of CZK 7 million), which are only packed in the CR and are forwarded to the markets in the EU. The overall sales value of the toys exported from the Czech Republic is CZK 16 million.

Company „Global Toys“, VAT-only in the CR, reports imports of toy at the value of CZK 7 million to Intrastat. At the same time, it declares „dispatch of goods to other Member State“ (export) at the amount of CZK 16 million in Intrastat. In its VAT tax form the company states „received taxable transactions of goods in the CR“ at the amount of CZK 5 million (purchase from the company of „Czech Toys“). Therefore value added generated by this non-resident is equal to 16 – 7 – 5 = 4 million CZK (export minus import minus purchase in the CR). The balance of trade according to the cross-border FTS shows the surplus of CZK 9 million. However, 4 million of the surplus belongs to non-resident.

**Table 3: Difference between exports and output in 2007 in the Czech Republic**

**(mil. CZK)**



Source: Czech Statistical Office

This problem began to be evident also on the quarterly national accounts and balance of payments data in 2009, because of the sharp increase in the year on year surplus in trade balance, without corresponding development in domestic value added and foreign claims. This imbalance, and a solution suggested by the Czech Statistical Office was reported simultaneously with the publication of GDP data in March 2010.

In the next twelve months in close cooperation between the Czech Statistical Office and the Czech National Bank there has been developed a new approach to the foreign trade transactions called ‘national concept’. It follows the change of ownership principle and allows more realistic look at the transactions with the rest of the world and the structure of the Czech economy (see Rojíček, Košťáková, Sixta, 2010 and 2011).

### POSSIBLE solutions of adjustment of FTS

There are two possible ways to solve capturing the inconsistency between the FTS and change of ownership principle within current statistical system: either to impute the difference to the import of services (item called ‘branding’[[4]](#footnote-4), see Figure 3) or to adjust data on trade in goods to follow the change of ownership principle. The former solution was applied temporarily to the Czech National Accounts and Balance of Payment at the beginning, when the range of inconsistency had not been thoroughly analyzed.

 The EU prefers the above-mentioned approach (branding), which ensures the consistency with the community concept of the FTS (FTS data remain unchanged), and the value adjustment is made in the balance of services. However, when the difference is caused not only by selling of imported goods in an internal market or exporting of purchased goods by non-residents but also by goods merely imported-exported by non-residents through the territory of a member state without a change of ownership to resident methodically more correct and for analytical purposes preferable would be the adjustment of the FTS data. Moreover, when the difference has a significant impact on the balance of trade and the value of goods traded as it has in the Czech Republic, the imputation of the difference to the services would deform the whole picture of foreign trade in services. For all these reasons the adjustment of data on trade in goods is preferred by the CZSO and CNB[[5]](#footnote-5).

**Figure 3: Branding and quasi-transit trade**



Source: Author’s elaboration

**Figure 3:**

As for the country D where non-resident is seated, the transaction is captured as ‘merchanting’ (as an export of trading services).

In March 2011, the CZSO published data on foreign trade for the years 2009 and 2010 according to the national concept for the first time. Data on exports and imports according to the FTS is from now on labelled as "cross-border statistics”. Since that data on foreign trade in national concept became an integrated part of monthly issued press releases alongside the cross-border statistics data. During the year 2011 foreign trade in national concept replaced formerly used FTS data in the National Accounts and the Balance of Payment in the Czech Republic.

As there was a parallel revision of the trade in services within the revision on National Accounts in the year 2011 (revision of years 1995-2009) more than half of the impact on the current account balance was offset. The change in trade in services consisted mainly of increasing the so-called direct trade costs associated with import and export of goods and removing the “branding” item from the balance of services (as the phenomenon was now treated in goods, not service balance). The total negative impact on the BoP current account balance was about 1.7% of GDP.

So far the national concept can provide data on export, import and the balance of trade yet with some breakdown limitations. This results from the nature of the methodology, because data are first calculated at the macro level and the structure is modelled using cross-border statistics. The largest relative differences between national concept and cross-borders statistics data occur in computers, electrical equipment and other machines, which is also the most involved in global production chains.

### National concept of the foreign trade in the Czech Republic - Methodology

The adjustment of FTS-exports and imports according to the national concept is divided into two stages. At the Stage 1 – balance of foreign trade in national concept is estimated (regarding the data of non-residents in FTS and using VAT declarations). At the Stage 2 – provided that the balance from Stage 1 remains unchanged, the total value of exports and imports is estimated, partly according to the adjusted exports and imports from Stage 1, partly (in commodities CPA 26, CPA 27, CPA 28) on the basis of the production statistics.

**Stage 1:**

The aim of this stage is to estimate the balance of trade in national concept, in other words to adjust the balance of trade of the FTS in relation to the change of ownership concept. The commodity balances are also estimated.

There are adjusted only exports and imports declared by non-residents at the Stage 1. Transactions reported by residents are not a subject matter of the adjustment. Non-residents in the FTS – Intrastat (trade within EU) are distinguished by their specific Tax ID number (beginning “CZ68” with nine digits). To be identified as a non-resident unit they have to meet also other necessary requirements: 1) do not have Czech ID number of economic unit, 2) do not have any affiliate in the Czech Republic and 3) do not pay income tax here. Non-residents in the FTS – Extrastat (trade with countries outside the EU) are distinguished by their specific EORI[[6]](#footnote-6) number which is unique for each entity within the EU, however, can take a various shape.

In general, the total value of exports (and imports) of non-residents is replaced by the total value of purchases (or sales) of non-residents in the Czech Republic according to their VAT declarations, which are identified as well as in FTS – Intrastat (specific VAT number).

Unfortunately, as each unit identifies itself differently in each data source (Intrastat and VAT-declarations vs. Extrastat) so far it has not been possible to interlink each non-resident individually in all data sources. As a consequence, the computation of foreign trade in national concept is computed in total (for all non-residents together) instead of approaching each non-resident individually (see Figure 5).

However, there is one exception of inclusion of all non-residents’ transactions from the VAT declarations to the adjustment of trade in goods. The sales and purchases of those non-residents that do not carry out any (or almost any) export and import according to their VAT declarations (See Figure 5, Purchases and Sales – WEI) are taken aside and the difference between their sales and their purchases in the Czech Republic is considered as import of intermediation services and is therefore added negatively to export of services (as it is similar to the concept of merchanting).

**Figure 5 Estimation of the trade balance in national concept (Stage 1)**



As for the computation of import in national concept, the value of goods flowing into the Czech Republic across the borders declared by non-residents (imports according to the FTS) is substituted by the value of sales in the Czech Republic by non-residents that take part in foreign trade (these sales are imports according to the national concept as a change of ownership from non-resident to resident occurs). The value of domestic sales is based on realized taxable supplies by non-residents with a place of supply in the Czech Republic. These sales in VAT declarations, however, could include not only goods but also some services provided by non-residents. However, it is impossible to identify these services directly in VAT declarations so they are estimated and excluded subsequently. The estimation of the services provided by non-residents in the Czech Republic that can be declared in their VAT statements is based on the statistical survey of import and export of services held by the Czech Statistical Office (ZO 1-04). These services are related mainly to real estate in the Czech Republic or to cultural, sporting or educational gatherings. The impact of the adjustment for the services is about 1% of the total value of sales.

As for the computation of export in national concept, the value of goods flowing out of the Czech Republic across the borders declared by non-residents (exports according to the FTS) is substituted by the value of purchases of non-residents in the Czech Republic that take part in foreign trade (the purchases are exports according to the national concept as a change of ownership from resident to non-resident occurs). The value of domestic purchases is based on received taxable supplies by non-residents with a place of supply in the Czech Republic. The value of domestic purchases of non-residents does not include the goods sent for inward processing by VAT registered non-residents in the Czech Republic (and ordered services). In order to follow the methodology that demands inclusion of these transactions into the foreign trade aggregates (ESA95) the difference between goods exported after inward processing (declared by non-residents in the FTS) and goods imported for inward processing in the Czech Republic (declared by non-residents in the FTS) is added to the value of purchases of non-residents. The impact of the adjustment of the goods sent for inward processing by VAT-registered non-residents is less than 0.3% of the total value of purchases.

The commodity breakdown of adjusted imports of non-residents that are the basis for the estimation of commodity balances is identical to the commodity breakdown of imports of non-residents according to the FTS. The commodity breakdown of adjusted exports of non-residents that are the basis for the estimation of commodity balances is slightly different from the breakdown according to the FTS due to the commodity balance of the inward processing ordered by VAT-registered non-residents.

The adjusted exports and imports of non-residents (in fact, exports and imports of residents carried out across the borders by non-residents) are added to the exports and imports of residents according to the FTS and these aggregates are the basis for the estimation of the total balance and commodity balances of foreign trade in national concept.

**Stage 2**

Regarding the long-term observed inconsistency between the value of exports and the output of certain commodities due to quasi-transit the estimation of the total value of transactions between residents and non-residents according to the national concept in the Czech Republic is as important as the estimation of the balance and must be made in relation to the output performance of the domestic economy. As the inconsistency was observed at the commodity level it is necessary to make the estimation also at the commodity level, especially for those commodities that are most influenced by non-resident transactions across the borders (computers, electronic devices, its parts, other machines etc). The correspondence between the output and estimated export is provided by the balancing process of supply- and use-tables.

For the commodity groups CPA 26, CPA 27 and CPA 28 the estimation is based on the residents’ production and the share of direct and indirect export in the domestic production. Additionally, also the import for inward processing in these commodities must be added to such estimated export in order to obtain the total value of exports of the commodities (as it is also imputed to the output). The total value of imports in these commodity groups are subsequently computed according to the total value of exports provided unchanged balances of these commodities (obtained at the Stage 1). In other words, the adjustment is done on both sides equally so the total balance of trade and commodity balances remain unchanged (from Stage 1).

This calculation is processed at the 2-digit CPA level because data at more detailed CPA levels shows significant inconsistency between classification used in the FTS (KN8), production and industry statistics (PRODCOM).

The difference between the value of exports according to the national concept (based on output performance) and the value of exports according to the movements across the borders (FTS) in these commodity groups have increased significantly in recent years (see Table 4). This indicates the growing separation of transactions according to the FTS and the real output performance of the domestic economy.

**Table 4: Ratio between the value of exports in national concept and exports in FTS in commodity groups CPA26, CPA27, CPA28**



Source: Czech Statistical Office

The ratio shown in Table 4 is used for the estimation of exports in the year following the balancing of supply and use tables. That means that the ratio computed during the balancing process of preliminary supply and use tables for year T is used for monthly computed exports in year T+1 and T+2 until the balancing of preliminary supply and use for year T+1 occurs.

The total value of export and import of commodities other than CPA 26‑28 are estimated at Stage 1 (adjusted value by sales and purchases in internal market) as these commodity groups do not indicates significant imbalance caused by quasi-transit through the storage and logistics centres in the Czech Republic. The total value of exports (imports) in national concept is given as a sum of all commodity exports (imports).

### Impact of adjustment of FTS to national concept in the Czech republic

The difference between the two methodologies has been increasing since 2005 when data is available. In the year 2010 the difference amounted to 14.1% of the exports of goods and 9.0% on the import side (see figures 5 and 6). The impact on the balance was CZK ‑142 billion resulting in balance of CZK -21 billion according to the national concept (instead of surplus CZK 121 billion in the FTS) – see figure 7.

**Figure 6 Export in national concept and FTS in the Czech Republic (FOB)**



**Figure 7 Import in national concept and FTS in the Czech Republic (CIF)**



Source: Czech Statistical Office

In 2011, the relative adjustment in exports and imports was alike, however, the adjustment of the balance increased to CZK -174 billion which was more than 90% of the surplus according to the FTS (CZK 192 billion).

**Figure 8 Balance of trade in national concept and FTS in the Czech Republic (CIF/FOB)**



Source: Czech Statistical Office

Although the share of non-residents on the total exports was 23% in 2011 (19% on imports), in fact they are creating the whole trade surplus (see figures 8 and 9). On the other hand, resident’s trading resulted in deficit (with exception of the year 2009, when the oil prices sharply decreased).

 **Figure 9 Balance of trade in FTS: non-residents and direct trade by residents (FOB/CIF)**



Source: Czech Statistical Office

**Figure 10 Balance of trade in national concept: non-residents’ transactions in internal trade and direct trade by residents (FOB/CIF)**



Source: Czech Statistical Office

The table 3 (see Annex) illustrates that almost two thirds of the difference of trade balance between cross-border statistics and national concept are in commodity groups CPA 26 – 28. These are the commodities that represent most of the trade across the borders by non-residents in the Czech Republic and are influenced in the FTS greatly in by quasi-transit transactions related to the storage facilities in the country. The differences in all other commodity groups are related only to the transactions in the internal market. Commodities that are not traded by non-residents across the borders are not adjusted (e.g. coal, crude petroleum and natural gas).

### CONCLUSION

The Czech Republic is a small open economy, which is vitally dependent on its export performance. In the period after EU accession the intensity of international cooperation grew rapidly in all the Central European countries, which is mostly the result of the huge FDI inflow at the beginning of the decade. In this context one significant problem for the Czech Republic and some other countries of the region appeared: the valuation of the trade flows based on the cross-border measuring overestimates the country’s trade balance in comparison with its value added created. This is the case of trade declared by non-resident units, which is more and more common within the European Union. This phenomenon is even enhanced by the strategic geographical location of the Czech Republic, which is important factor why a lot of this “quasi-transit” trade is being operated. The overvaluation of the trade balance is concentrated in several commodity groups, among them especially computers and electric equipment are significant. The revision of the foreign trade data, whose aim was to follow more consistently the ownership approach, significantly changed the picture of the Czech economy, specifically the role of external demand to the economic growth. It had also an impact on the structure of the input-output tables, especially the division of the domestic and foreign part of the supply and use matrices.

The national concept of foreign trade based on the change of ownership principle is consistent with the methodology of Balance of Payments and National accounting. While in the global context most attention is devoted to the problem of recording “processing” operations, for countries within the EU the problem of quasi-transit trade and the role of non-resident units seems to be very topical. We expect that in the next years this issue has to be seriously discussed. Supply and use tables serve as an important tool in this process. The next efforts will focus on the improvements of linkage between Custom declarations and Intrastat and, moreover, the knowledge of connection between resident enterprises and VAT-registered non-residents. . One of the tools for improving quality and detail of foreign trade data is comparison to industrial statistics (surveys on production and direct and indirect exports).

**ANNEX:**

**Table 1 Commodity structure of export of goods in FTS (residents and non-residents) and national concept in 2010 (CZK million)**

**residents**

**non-**

**residents**

**residents**

**non-**

**residents**

**2 532 797**

**1 980 347**

**552 449**

**100**

**100**

**-357 954**

**2 174 842**

01

Products of agriculture

**23 382**

22 775

607

1,2

0,1

-48

**23 335**

05

Coal and lignite

**20 889**

20 889

0

1,1

0,0

0

**20 889**

06

Crude petroleum, natural gas

**12 929**

12 929

0

0,7

0,0

0

**12 929**

10

Food products

**62 278**

59 096

3 182

3,0

0,6

-256

**62 024**

12

Tobacco products

**7 762**

3 389

4 373

0,2

0,8

-321

**7 441**

13

Textiles

**42 655**

36 456

6 199

1,8

1,1

-468

**42 187**

14

Wearing apparel

**24 397**

13 629

10 768

0,7

1,9

-934

**23 463**

15

Leather and related products

**12 991**

7 110

5 881

0,4

1,1

-524

**12 467**

17

Paper and paper products

**39 465**

33 213

6 252

1,7

1,1

-727

**38 739**

19

Coke and refined petroleum

**30 107**

29 909

198

1,5

0,0

-16

**30 090**

20

Chemicals, chemical products

**117 177**

96 213

20 964

4,9

3,8

-2 120

**115 059**

21

Basic pharmaceutical products

**32 889**

25 798

7 091

1,3

1,3

-550

**32 340**

22

Rubber and plastics products

**118 430**

107 502

10 928

5,4

2,0

-769

**117 661**

23

Other non-metallic mineral pr.

**54 401**

49 779

4 622

2,5

0,8

-339

**54 060**

24

Basic metals

**113 876**

108 809

5 067

5,5

0,9

-458

**113 419**

25

Fabricated metal products

**139 355**

130 148

9 207

6,6

1,7

-1 754

**137 603**

26

Computer, electronic, optical pr.

**427 915**

165 667

262 248

8,4

47,5

-173 437

**254 478**

27

Electrical equipment

**215 262**

165 591

49 671

8,4

9,0

-65 505

**149 757**

28

Machinery and equipment n.e.c.

**281 622**

223 666

57 956

11,3

10,5

-103 237

**178 385**

29

Motor vehicles, trailers

**463 767**

430 020

33 747

21,7

6,1

-2 487

**461 281**

30

Other transport equipment

**31 359**

29 876

1 483

1,5

0,3

-204

**31 155**

32

Other manufactured goods

**67 030**

35 461

31 569

1,8

5,7

-2 766

**64 263**

35

Electricity, gas, steam, air cond.

**27 756**

27 756

0

1,4

0,0

0

**27 756**

58

Publishing services

**33 610**

18 533

15 077

0,9

2,7

-632

**32 978**

Figures can differ from the published data due to different rounding.

**National concept**

**Total**

including

**Commodity**

**stucture (%)**

**Adjust-**

**ment**

**Total**

**Total**

**including**

**Co-**

**de**

**Commodity group**

**Cross-border statistics**

Source: Czech Statistical Office

**Table 2 Commodity structure of import of goods in FTS (residents and non-residents) and national concept in 2010 (CZK million)**

Source: Czech Statistical Office

**Table 3 Commodity structure of balance of trade in FTS (residents and non-residents) and national concept in 2010 (CZK million)**

Source: Czech Statistical Office

## References

CNB: Balance of Payments report 2010. Praha: CNB 2010. http://www.cnb.cz/miranda2/export/sites/www.cnb.cz/en/statistics/bop\_stat/bop\_publications/bop\_reports/bop\_2010\_en.pdf.

EUROSTAT: The ESA 95 Input-Output Manual. Luxembourg, EUROSTAT 2002.

HM Revenue&Customs: Analysis of Asymmetries in intra-community trade statistics with particular regard to the impact of the Rotterdam and Antwerp effects. Edicom Report. HM Revenue&Customs, December 2005.

Hronová, S., Fischer, J., Hindls, R., Sixta, J.: Národní účetnictví (Nástroj popisu globální ekonomiky). 1. vyd. Praha : Nakladatelství C.H.Beck, 2009.

IMF: Balance of Payments Manual (5th edition). IMF: Washington, 1993.

Fischer, J.: Globalization (its impact on statistical measurements). 93rd DGINS Conference Discussion Paper, Budapest, 2007.

NBB: Statistique du commerce extérieur Bulletin mensuel. Bank Nationale de Belgique, 2009 – 2011. http://www.nbb.be.

OECD: Measuring Globalization: Handbook on Economic Globalization Indicators. Paris: OECD 2005. ISBN 92-64-10808-4.

OECD: Staying Competitive in the Global Economy. Compendium of Studies on Global Value Chains. Paris: OECD 2008.

Rojíček, M.: Globalisation Effects on the Trade Flows: Czech Experience. 19th International Input-Output Conference, Alexandria, 2011.

Rojíček, M.: Globalizační aspekty zahraničního obchodu v ČR. Working Paper, CVKS 2011.

Rojíček, M., Košťáková, T., Sixta, J.: Zahraniční obchod v pojetí platební bilance a národních účtů. Metodické změny v roce 2011. Presentation, Workshop ČSÚ and ČNB, 18.10.2010.

Rojíček, M., Košťáková, T., Sixta, J.: Zahraniční obchod v národním pojetí. Metodické změny a údaje za roky 2009 – 2010. Presentation, Workshop ČSÚ, 7.3.2011.

Sixta, J., Fischer, J.: Perspectives of the Measurement of Growth. Poprad 30.08.2007 – 31.08.2007. In: AMSE 2007 [CD-ROM]. Banská Bystrica : Universita Mateje Bela, 2007, s. 190–193.

UNECE: Impact of Globalisation on National Accounts: Practical Guidance (draft). UNECE, 2010.

## Abstract:

The Czech Republic is a small open economy, which is vitally dependent on its export performance. In the period after EU accession the intensity of international cooperation grew rapidly in all the Central European countries, which is mostly the result of the huge FDI inflow at the beginning of the decade. In this context one significant problem for the Czech Republic and some other countries of the region appeared: the valuation of the trade flows based on the cross-border measuring overestimates the country’s trade balance in comparison with its value added created. This is the case of trade declared by non-resident units, which is more and more common within the European Union. This phenomenon is even enhanced by the strategic geographical location of the Czech Republic, which is important factor why a lot of this “quasi-transit” trade is being operated. The revision of the foreign trade data, which aim is to follow more consistently the ownership approach, significantly changes the picture of the Czech economy, specifically the role of external demand to the economic growth.

## Keywords:

Globalisation, Foreign trade statistics, Balance of Payments, Quasi-transit, Commodity flows

## JEL classification:

F10, F15, F23,

1. More information can be found in Hronová, Hindls, Fischer, Sixta, 2009. See also IMF, 1993. [↑](#footnote-ref-1)
2. Discussion about the statistical impacts of globalisation can be found in Fischer, 2007. [↑](#footnote-ref-2)
3. The 'Rotterdam effect' means that a foreign trade transaction is reported for EU statistics first as the imports from a non-EU country to the EU Member State where the goods crossed the EU border and were released to free circulation. This statistical record is part of Extrastat. The following movement of the goods from this EU Member State to the EU Member State which is the final real importing country is then recorded as a dispatch (export) and arrival (import) between these two EU Member States within Intrastat. The 'Rotterdam effect' exists as well for Community exports, but to a lesser extent. The 'Rotterdam effect' inflates the exports and imports of the EU Member States which are exposed to this phenomenon (see HM Revenue&Customs, 2005). [↑](#footnote-ref-3)
4. Item reflects price differences in the turnover of foreign trade caused by internal cross-border transactions of multinational companies registered as VAT payer in the exporting country (see CNB, 2010). [↑](#footnote-ref-4)
5. This approach is preferred also by Belgium, where FTS data for non-residents are adjusted using information from VAT files (see NBB, 2009 – 2011). [↑](#footnote-ref-5)
6. EORI = Economic Operator Registration and Identification [↑](#footnote-ref-6)