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<u>Real or Mock Surplus? Uncertainties in Measuring Goods and Current Account</u> <u>Balance</u>

<u>Abstract</u>

Statistics are complied upon reports provided by data suppliers which are usually obliged to give their data by law. These laws include goals of these data reports and guidelines for providing them. Even in the case, however, when these data reports fulfil all requirements, we would not be sure that we have got the right picture of economic processes because, as a result of characteristics and possibilities of the reporting system, value added belonging to non resident economies may appear in resident statistics, mainly in foreign trade, balance of payments and national accounts. In other words, it is important to distinguish real value added from the mock one in these statistics. Eurostat and many national statistical institutes have already noticed and identified this problem and suggested different solutions considered adequate but it seems that there is no comprehensive description and analysis of this question yet. We will therefore examine this phenomenon and its proposed solutions together with their practical difficulties and consequences. It will be clear that this question of value added, although it is also usually in relation to multinational enterprises, is rather different from the one of SPEs and it may raise in any country where it is possible to receive data from non residents for resident statistics. Statisticians should be care since the already recorded mock value added may amount to significant order and it may cause considerable distortions and revisions in different statistics.

Introduction

In our world one of the most valuable things is information. It is needed for managing firms, controlling institutions or governing authorities at different levels. The problem is, however, that in many cases there is too much information for analysts or decision makers. If different alternatives may be presented at least partly in quantities, statistics may help this situation because by means of statistics it is possible to condense large sets of data and information into brief summaries.

Data compilers, however, should pay attention to difficulties concerning statistics they produce. If we are interested in measuring (global or local) imbalances (as it is the case now), we will surely look at points relevant to the existence or the measure of these imbalances. It is usually a high priority task since balance sheets of, say, budgetary statistics or current account, are often found in the focus of a government's economic policy.

We may list some points which may be problematic if we interpret data for imbalances and they should be taken into account in order to understand, at least partly, the background of these measured imbalances. First of all, some resident (financial) intermediaries may have transactions vis-à-vis only non resident partners. By their activities, they may have significant effects on balances of some instruments in financial account of balance of payments but economically this effect has no great importance from the point of view of the resident economy since these firms are do not form an integrant part of this economy. Data compilers, however, should present these effects if they seem important to be explained in aggregate statistics. Methodologically it is usually not a simple task, especially in international comparison.

Secondly, we can mention a problem of the internal trade statistics within European Union. Upon Maastricht Treaty, there is no internal customs border at all so after implementing this treaty the former customs based trade statistics should be finished and replaced by a VAT based one

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(Intrastat). Unfortunately, some criminal phenomena (acquisition and carousel fraud) which are originally organized for appropriating VAT payable to tax authorities, have become a source of distortions in trade statistics in European Union. They may affect mainly imports side so we should be cautious in analysing trade balances within European Union² (of course, there may be other factors distorting these balances and not only in European Union).

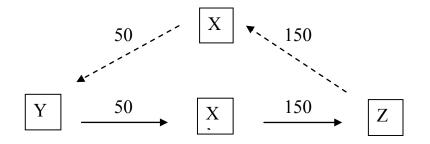
In this short paper we deal with a third interesting factor concerning imbalances. It is a wellknown phenomenon that triangular trade transactions may cause asymmetries in trade statistics of participating countries. There is nothing to do with this since normal record of these transactions is based upon international methodological standards. There is, however, a relatively new difficulty with these records if value added appearing in data collected in a country is belonging to another country. It may affect not only balances of trade and services but also national accounts and it may result in asymmetries and mock surplus both on national and international level.

The followings will be probably more relevant to European Union and its member states but maybe it will be interesting for any country where the possibility of this kind of mock surplus may arise.

Triangular trade

This type of goods transaction occurs when the seller and the buyer do not make a business directly with each other but there is a mediator between them who buys the goods from the original seller and then sells them to the final buyer³. The basic scheme of triangular trade can be seen in Figure 1.

Figure 1



Let Y be the original seller, Z the final buyer and X the mediator. In order to get triangular trade in the mean of international trade methodology, we have to assume that X, Y and Z are residents in different countries. If unbroken lines mean physical movements of goods and broken lines mean financial transactions then we can see that goods carried directly from Y to Z but financial transactions are made through X. In this figure X' means simply a "white box" where the value added arises and this notation X' shows that this value added belongs to X.

Let Y be resident in Country A, Z in Country C and X in Country D and at first we do not deal with X' explicitly. Depending upon which countries are affected by the transportation of goods we get the following cases:

• If Country A and Country C are neighbour countries and goods are dispatched

 $^{^{2}}$ See *Caplan et al (2003)* for the case of Great Britain where statistical experts made an estimation to offset the distortion effect of this phenomenon.

 $^{^{3}}$ Here and in the followings we assume that there is only one mediator – after all a triangle has only three vertexes. In sum, we do not deal with the case of more than one mediator, methodologically it does not mean great difference from the one we examine now.

directly from Y to Z then in balance of payments Country A records exports of 50 under goods and net increase of 50 in financial claims under financial accounts, Country C records imports of 150 under goods and net decrease of 150 in financial claims under financial accounts while Country D records merchanting of 100 under services and net increase of 100 in financial claims under financial accounts.

- If Country A and Country C are not neighbour countries, there is Country B between them and goods are dispatched directly from Y to Z (i.e. through Country B) then everything is the same since transporting of goods through Country B means transit trade and it should not be recorded at all.
- If Country A and Country C are not neighbour countries, there is Country D between them and goods are dispatched directly from Y to Z (i.e. through Country D) then Country D records reexports instead of merchanting under services.

These records in balance of payments can be summarized in Table 1 and in the followings we regard Country B as our resident country⁴.

	Country A (of Y)		Country B (resident)		Country	C (of Z)	Country D (of X)	
	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit
Goods	50					150		
Services							100	
Current account	50	1				150	100	
Financial account		50			150		50	150
Errors and								
omissions		0				0		0

Table 1

We can see that the phenomenon of triangular trade results in asymmetries in goods and services on international level even if every data supplier fulfils its requirements and reports its transactions on their adequate prices. This should be taken into account when we interpret international trade and services data but in sum we can find that value added arisen from this triangular trade is recorded in the appropriate country (i.e. Country D), the surplus is real in current account (and national accounts) of Country D and errors and omissions are not experienced in either country. In addition, according to BPM6 (whose implementation is expected to happen in 2014) merchanting (and reexports) transactions will be parts of goods so then upon BPM6 in Table 1 we can record surplus of 100 in Country D under goods and there will not be any asymmetry on international level⁵.

As a result, methodologically this seems a convenient case although in practice this may cause great difficulties if data suppliers do not know exactly what they have to report. We, however, deal with methodological problems here so we assume that data reports are filled according to methodology. Even in this case we have to face some problems of compiling balance of payments if it is possible for a firm to establish a fiscal representation or only a VAT registration in a country different from the one where it is resident. In the following chapter we discuss consequences of this possibility.

⁴ There is an extra "hidden" assumption in the background of these records: the sources of goods and services items are official international trade and services statistics while financial instruments and their income items are reported through other channels. It is a typical international practice and this pattern has a great importance as we can see below. ⁵ See *BPM6* (2009), 297. p.

Fiscal representations, VAT registrations

In existing economies firms make great efforts to get possibilities to optimalize their activities and multinational firms do that on international level. One of their possibilities is to establish entities in non resident countries but these entities do not form organic parts of those countries. Their goal is to serve as means for reduce tax burdens or expenses on enterprise group level. It is, of course, pure economic phenomenon but it may have serious statistical consequences.

In opening paragraphs we have already mentioned a special kind of these entities, usually called special purpose entities (SPEs), which are under intensive discussion in different statistics. Whatever problems, however, are under debate in different working groups and seminars concerning SPEs, these entities unquestionably should be considered as residents. As a result, if any value added arose from their activities, it should belong to the resident economy. The main point here, however, is that since by definition these SPEs are operating as intermediaries between non resident firms, i.e. they have transactions vis-à-vis only non resident partners (which includes that they are owned totally by non resident enterprises)⁶, they practically serve as channels through which different (financial) instruments are passed from one partner to another one. In other words, SPEs at most convert one instrument to another one upon decision by their owners but the balance of their financial and therefore current account is theoretically zero⁷.

Although it is in question yet whether which current account instruments (and so which parts of national accounts) may be affected by transactions of SPEs⁸, we can see below that the requirement of theoretically zero balance in current account is not fulfilled in the case of another set of entities which may be established by non resident firms in a resident economy without integrating them into this economy in economic sense (production, financing resident entities and so on). These latter entities may be fiscal representations or VAT registrations which may be established upon law by mainly multinational firms for "helping" them arranging their trade transactions in non resident economies from the point of view of these firms. Their main characteristic is that, as regards transactions of their founders and different from SPEs, they are not separate entities, i.e. they have not own receipts and expenses belonging to these transactions⁹. The basic schemes of transactions involving these entities can be seen below in Figure 2 and Figure 3.

⁶ In practice it is possible that not only one firm but a group of firms can be considered as *one* SPE in an economy but it does not affect our argumentation.

⁷ Because of practical difficulties, account conventions and data misreports we may experience that these balances differ from zero but it is mainly a practical, not a theoretical question.

⁸ For example, an important problem is whether SPEs may be involved in goods and services transactions or only in transactions recorded under financial account instruments and their incomes. In other words, are SPEs considered strictly as financial intermediaries or as intermediaries in a more general way? Assume that an SPE formally operates oil drills in a non resident economy and the question is whether it may be considered an SPE at all (if it fulfils other criteria of SPEs – assume that they are determined) and, if yes, this operating should be recorded under income (i.e. a part of financial transaction) or under services (as in the case of non SPEs). Of course, it may be also a question whether SPEs should be treated separately from non SPEs at all since from the point of GDP, the first and the third case in the preceding example result in the same data (GNI is the same in all three cases). The discussion is going on.

⁹ These entities may be considered as services provided by special entrepreneurs to mainly multinational firms, similarly to agent activities. These providers may be inside or outside these firms but it does not matter from the point of view of transactions we detect here. The main point is, however, that they are used for accounting some surpluses in non resident economies from the point of view of organizers although they are not separate entities even formally in these trade transactions (it is a great difference from SPEs as we mentioned before). This is why we do not care now with transactions belonging to these services. Otherwise, if fiscal representations or VAT registrations are not accompanied by physical presence in resident economies where they are established (as it may happen), these services are hardly interpreted.



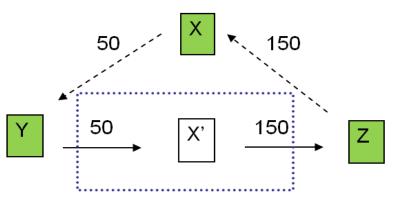
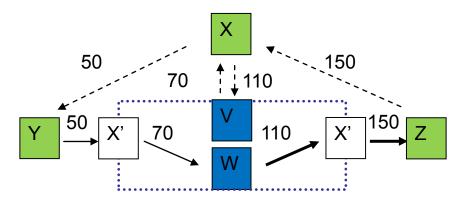


Figure 3



In these figures dotted line means resident economy so, as a result, green boxes mean non resident while blue boxes mean resident firms. White boxes mean fiscal representations and VAT registrations – they are the above mentioned "white boxes" here where value added arises. From administrative point of view they can be considered as residents since they have resident tax numbers and officially they "arrange" trade transactions vis-à-vis non resident partners, they pay and get back VAT attributable to these transactions, i.e. they can be viewed as "exporters" and "importers" and they are obliged by law to report on these transactions for trade statistics. On the other hand, however, from economic point of view they should be considered as non residents since they simply belong to non resident firms: as before, the notation of X' shows this situation. The position of X' (on the dotted line) also exhibits the paradox of its residency.

Here we consider two cases. In Figure 2 we assume that goods transacted by X simply pass through resident country (Country B in our notation). Theoretically, as we mentioned before, it is a transit trade but since X' is established in Country B, the value added between the purchasing price of 50 and the selling price if 150 is statistically reported in this (resident) country. There is, however, no financial transaction attributable to these goods transactions in Country B as in the case of normal transit trade, these are settled by and their value belongs to X, i.e. Country D¹⁰. In sum, it results in mock value added recorded in both balance of payments and national accounts in Country

¹⁰ It has no importance that we displayed two white boxes containing X' in Figure 2. It simply means that X' is both "importer" and "exporter", in this sense there is no asymmetry in the "activity" of X'. In addition, this notation makes it easier to compare Figure 2 with Figure 3. Similarly, it is also possible that there is not only one "white box" involved in a goods transaction but some of them and in different countries (Country E, F etc.). Methodologically this does not bring any new so we do not deal with this case.

 B^{11} .

In Figure 3 we can find a modified version of this process: V and W are resident firms which are involved in these transactions. One example: X buys goods from Y, carries them to Country B, has them processed there, exports them and finally sells these processed goods to Z. Assume that in the resident country the main partner of X is V and the latter charges W with processing goods bought from Y by X. Thick lines here mean that goods included in these transactions are *statistically different* on export and import sides. These steps illustrate global manufacturing processes which are usual in the modern economy. Methodologically Figure 3, however, displays *two connecting triangular trade transactions* appearing in Figure 2 (if Y and Z are in neighbouring countries) where X and V (and W) are common players and in the first case X buys from Y and sells to V while in the second case X buys from V and sells to Z via X'. Table 2 and Table 3 contain records of transactions shown by Figure 2 and Figure 3, respectively.

Table 1	2
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	Country A (of Y)		Country B (resident)		Country C (of Z)		Country D (of X)	
	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit
Goods	50		150	50		150		
Services							100	
Current account	50		100			150	100	
Financial account		50			150		50	150
Errors and								
omissions		0		100		0		0

Table 3

	Country A (of Y)		Country B (resident)		Country C (of Z)		Country D (of X)	
	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit
Goods	50		150	50		150		
Services							60	
Current account	50		100			150	60	
Financial account		50	70	110	150		160	220
Errors and omissions		0		60		0		0

In both cases the difference from Table 1 is that there are reported transactions in the resident country. Current account balances are equal with each other in two tables but it is only for illustration: as we can see the goods are statistically (and, in addition, physically) the same on export and import sides in Figure 2 but they are different in Figure 3. As a result, in the case of Figure 2, call it then *quasi transit*, the value added is formally trivial: there are purchase and subsequent sale and their difference is value added belonging to X. But in the case of Figure 3, call it then *trade including mock surplus*¹², we can see a purchase (or a sell) in current account and its financing in financial account – but on different prices. In other words, statistically we can say that

¹¹ Discussing Figure 1 we listed three cases and it seems that Figure 2 displays the second one of them (i.e. the transit trade) when a fiscal representation or a VAT registration is involved. Of course, all of these three cases can be discussed under this assumption and then we get some modified versions of Table 1 depending upon in which country X' is established. It is, however, not necessary to show all these tables since theoretically they have the same message about how the presence of X' distorts statistics. The most straightforward case appears if there is transit trade in Country B and X' is established also in the resident country because in this way we can separate elements of these transactions from each other well.

¹² Quasi trade would be a short and witty but misleading name here because under our assumptions there is real trade in Figure 3 despite it includes mock surplus from the point of view of the resident economy.

in the case of quasi transit there are two *linked* transactions under goods – an import and a subsequent export - but in the case of trade including mock surplus we cannot do this: statistically there are *separate* transactions on export and import sides¹³.

It is obvious then that in the case of trade with mock surplus value added belonging to non residents is not equal with the balance of goods i.e. it cannot arise in the same way as in the case of quasi transit. This value added is the consequence of different prices applied in goods and financial account but, as in the case of quasi transit, it also should be kept in books of non resident firms. In short, in both cases value added arising in "white boxes" should be recorded in the balance of payments of non resident economies as merchanting, but in the case of quasi transit it is explicit in goods item while in the case of trade including mock surplus goods balance resulted from transactions managed through "white boxes" should be adjusted by the balance of financial transactions linked to them. Balance of payments of Country B shows the measure of this mock surplus: it is equal with errors and omissions (and merchanting surplus in the balance of payments of Country D) and they are different in Table 2 and Table 3.

At the same time, these thoughts show the way to methodological solutions which we can find in the following tables.

	Country A (of Y)		Country B (resident)		Country	C (of Z)	Country D (of X)	
	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit
Goods	50)				150		
Services							100	
Current account	50)				150	100	
Financial account		50			150		50	150
Errors and								
omissions		0				0		0

Table 4

Table 5

	Country A (of Y)		Country B (resident)		Country C (of Z)		Country D (of X)	
	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit
Goods	50		110	70		150		
Services							60	
Current account	50		40			150	60	
Financial account		50	70	110	150		160	220
Errors and								
omissions		0		0		0		0

Since in the case of quasi transit export and import sides are linked to each other and there is no financial account record, the evident solution is to delete these transactions from resident balance of payments. In the case of trade including mock surplus, however, there are separate goods transactions on export and import sides and they have financing items in financial account, just on different prices, the evident solution is to equalize these prices and benchmark prices can be found

¹³ Alternatively, we may have another interpretation: in financial account we do not find the financing items of goods transactions, just on different prices, but we may speak about different *transactions* in current and financial account: under goods there are transactions between non residents (i.e. between a fiscal representation or a VAT registration and its "owner") and under financial account we can find the *real* resident-non resident transactions (between a fiscal representation or a VAT registration and a resident firm). It would explains immediately that there is something wrong in the compilation of balance of payments and exactly in current account but theoretically it shows fiscal representations and VAT registrations as separate entities.

in financial account since these price are reported by resident data suppliers and these prices are which resident firms face. We can see that in the case of quasi transit the methodological solution corresponds to records in Table 1 (under our assumptions¹⁴) while in the case of trade including mock surplus transactions linked to V and W should be recorded in balance of payments of Country B. But in both cases, as we noted discussing Table 1, after 2014 asymmetries between goods and services will come to an end by implementing BPM6.

Community concept

Preceding methodological remarks were made without any constraints on the relationship among these countries. Balance of payments of Country B was adjusted independently of other countries. In other words, Table 4 and Table 5 are based upon the *national concept* of the compilation of statistics. If, however, there is a community with several member states and it has own statistical system based upon a *community concept*, its requirements may differ from those of national concept.

Assume that Country B, Country C and Country D can be found in the same community while Country A is outside this community. In this case it is obvious that in Figure 2 and Figure 3 the *community* represented by X buys goods from outside the community represented by Y at the price of 50. Goods enter the territory of the community at the borders of Country B so upon community concept Country B should record import of 50 from Country A under goods¹⁵. In the case of quasi transit X sells these goods to Z through X' at the price of 150 so upon community concept Country B should record of 150 under goods while in the case of trade including mock surplus X sells these goods to V through X' at the price of 70 so resident data suppliers will report this transaction in Country B and it should be recorded in financial account in the resident economy.

We can see that in the case of quasi transit there is a value added of 100 and in the case of trade including mock surplus there is a value added of 20 which belongs to X in Country D. The question arises whether what should be done with this value added if we do not want to leave it as errors and omissions. So far there is one suggestion by Eurostat: introducing a new category of services called *branding* which would represent a fee after linking Country B by X to the global trading and manufacturing chain¹⁶. Table 6 and Table 7 show this version of records in balance of payments.

Table	6
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	Country A (of Y)		Country B (resident)		Country C (of Z)		Country D (of X)	
	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit
Goods	50		150	50		150		
Services (merchantin	lg)						100	
Services (branding)				100				
Current account	50		0			150	100	
Financial account		50			150		50	150
Errors and								
omissions		0		0		0		0

¹⁴ See footnote 11.

¹⁵ There is again a "hidden" assumption behind the compilation of community statistics: it is built upon reports of member states so they have to produce their balance of payments upon community concept.

¹⁶ See *Vademecum* (2010), 21-22. pp.

Table 7

	Country A (of Y)		Country B (resident)		Country C (of Z)		Country D (of X)	
	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit
Goods	4	0	110	50		150		
Services (merchanti	ng)						60	
Services (branding)				20				
Current account	4	0	40			150	60	
Financial account		50	70	110	150		160	220
Errors and								
omissions		0		0		0		0

First, we can see that records under branding eliminate errors and omissions but, in sum, it cannot produce symmetry on international level. If Country B records branding in connection with imports from Country A, methodologically there will be a balancing item in Country D because of X' established by X in Country B. But since this transaction is economically merchanting, the introduction of branding probably yields asymmetry in services on international level. As a matter of fact, merchanting usually has real balancing items under goods in other countries and if it is not possible there will be no a really good solution (it will be economically unexplainable to impute merchanting on debit side in Country B since merchanting usually should result in value added).

Second, after the implementation of BPM6 overall asymmetries in goods and services will arise again in the cases of Table 6 and Table 7 because merchanting will be the part of goods. Country B will impute purchase of services under branding upon community concept but on international level there will be no balancing services item at all. On the other side, Country D will record merchanting under goods but it really means a duplication there in the case of quasi transit (see Table 6) and asymmetry in goods in the case of trade including mock surplus (see Table 7). It seems that on community level before aggregating data, branding which is recorded on debit side should be netted of merchanting which is recorded usually on credit side in order to get methodologically coherent data upon both BPM5 and BPM6¹⁷.

In sum, the introduction of branding has some difficulties but something should be recorded as a balance item if goods imported from Country A were recorded at the price of 50 upon community concept so the value added arisen in X' and belonging to X cannot be found between export and import records containing transactions from Country A to Country B and made by Country A and Country B, respectively. *Mutadis mutandis* it would be the case if Country A were in the community and Country C were outside it and export to Country C were recorded at the price of 150. The main point is, however, that it is not needed to record branding in every case when we face fiscal representations or VAT registrations in a community.

We can see in Table 7 that the delivery of goods from Country B to Country C is recorded at the price of 110 in Country B and at the price of 150 in Country C. It shows that if two countries are in the same community, or in general, between them there is no community border, transactions can be recorded upon only national concept, i.e. as in Table 4 and Table 5. Moreover, this procedure will be independent of whether Country D is inside the community or not. What matters is the existence or the lack of the community border between countries concerned with delivery of goods. For example, if Country A, Country B and Country C are in the same community, records of transactions in Figure 2 and Figure 3 will be the same as in Table 4 and Table 5¹⁸.

¹⁷ This shows the paradox of the introducing of branding. It has no real balancing item either in goods or in services but it should be netted of merchanting in order to get coherent statistics on community level. Technically it seems simpler to record branding directly as negative merchanting but then it should be economically explained. So branding, if it is needed, operates purely technical balancing item in order to aggregate data on community level well.

¹⁸ There is a border case if, for example Country B and Country C are inside the community while Country A and Country D are outside it. Officially the first resident in the community buying the goods on the price of 50 is X' but

Concluding remarks

In this paper we have argued purely methodologically without any discussion practical difficulties and published data. It seems important because it exhibits which problem cannot be solved even with a high improve in quality of statistics. As we mentioned, data collecting systems and their legal backgrounds show more or less similar patterns on international level so we should accept that fiscal representations and VAT registrations are "exporters" and "importers" in a given country and at the same time they are also sources of mock surplus, i.e. such surplus which belongs to another countries. Firstly it is important to examine whether there is a possibility and existence for this kind of mock surplus in a given country. It is definitely the case in the European Union.

We could see in Table 2 and Table 3 that in certain countries how the presence of fiscal representation or VAT registration might cause mock surplus. On the other hand, these surpluses also appear in balance of payments of countries to which they belong so, in real, records of mock surpluses mean duplication of value added on international level and result in errors and omissions in balance of payments of countries which contain these surpluses incorrectly.

Table 4 and Table 5 show the elimination of this mock surplus (and errors and omissions) from the balance of payments if there is no community border between countries concerned with dispatching goods. If there is a community border and a special community concept of statistics then Table 4 and Table 5 are usually not appropriate compiling community statistics and we should apply Table 6 and Table 7 together with their difficulties upon both BPM5 and BPM6. But the main point is that the introduction of branding in the cases of Table 6 and Table 7 is just a necessary evil and it should not be applied to all goods transactions managed through fiscal representations or VAT registrations in a community.

This means that the general recommendation of Eurostat for member states to record branding to eliminate mock surplus from balance of payments upon community concept is not cautious enough. Of course, the main principle of elimination of mock surplus from balance of payments and national accounts is more than acceptable since it can confuse analysts and policymakers. But it should be necessary to give at least a rule of thumb for applying this recommendation and in this paper we have tried to do its first steps into this direction.

As an illustration, for Belgium, which faces a huge set of quasi transit transactions and they cross the outer border of the European Union, it seems justified to record branding (or something similar) to eliminate mock surplus arising from quasi transit upon community concept. For Hungary, however, which faces mainly trade including mock surplus and these transactions mainly occur inside the European Union, it seems justified to adjust them according to Table 5 upon not only national but also community concept. The common feature and importance of these cases is that they exhibit significant adjustments in statistics. As a consequence, it does matter which procedure will be applied by compilers of statistics to eliminate mock surplus if it is necessary.

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really the first resident in the community is either V in Country B or Z in Country C and they buy these goods on higher prices and merchanting attributable to this change in prices is also belong to a non-community player. Here it should be decided whether theoretical or practical considerations are stronger.