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**INTERNATIONAL TRADE IN PRODUCTS?**

**DO WE NEED A NEW INTERNATIONAL CLASSIFICATION OR FRAMEWORK?**

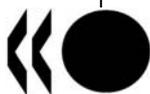
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*This document has been prepared by William Cave, OECD, and will be presented under item 14 of the draft agenda*

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## INTERNATIONAL TRADE IN PRODUCTS?

### DO WE NEED A NEW INTERNATIONAL CLASSIFICATION OR FRAMEWORK?

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#### **Introduction**

1. Detailed data on trade in goods relies in the main on administrative data from Customs reports, and the (much less) detailed data on trade in services relies on balance of payments data collection systems. The two systems have a different conceptual basis and they cannot be combined without further adjustment.

2. The division of trade into trade in goods and trade in services that we are familiar with was introduced 5<sup>th</sup> edition of the Balance of Payments Manual (BPM5). The division was never clear cut and BPM6 and 2008 System of National Accounts (2008 SNA) in different ways throw the split into question. While BPM6 has maintained the split of goods and services, it has moved the boundaries more into line with the “change of ownership” principle, and this change is also reflected in the SNA Rest of the world Account. Elsewhere the 2008 SNA takes the view that the partition of products into goods and services is in general of little interest. Nonetheless trade policy analysts still require the separate information in the primary data sources, as different trade agreements apply to goods than those much less-developed ones that apply to services and intellectual property.

3. This paper floats the idea of a classification or framework for international trade in goods and services statistics related to input-output tables and trade data sources that might advance the cause of integrated statistics on trade in products as well as improving links to production, employment, enterprise, including activity of multinationals, and direct investment statistics. This paper does not suggest that the separate data on goods and services are no longer needed, just that it would be analytically useful to be able to take a combined view.

#### **Trade and the revision of SNA and associated frameworks**

4. Following the revision of SNA and the associated frameworks, a much greater divergence can be expected between the balance of payments trade in goods on the one hand, and merchandise trade statistics on the other. The former will now follow more strictly the change in ownership principle between residents and non-residents and less the physical movement of goods. The latter will be largely unchanged.

5. A new item is proposed in BPM6 of *manufacturing services on physical inputs owned by others*. This is made up of *goods for processing*, which moves from trade in goods and *processing services* that were in Other business services at least in principle, but rarely identified. A satisfactory implementation will require close cooperation between national accountants, trade and balance of payments. It will be very important for analysts to maintain the gross commodity flow information from Customs data,

supplementing this with enterprise surveys and business register information of trade in goods and services.

6. Audiovisual services, computer software, other products of the information industry and charges for the use of intellectual property are very difficult to split into goods and services in an analytically useful way.

7. Digitised products can be delivered either by physical media or electronically, or with which there are a range of licensing agreements to use or reproduce, which challenge the breakdown into goods or services. 2008 SNA, BPM6 and the the classifications of industry (ISIC Rev.4) and products (CPC Ver. 2) describe and classify both ICT products and intellectual property transactions in more detail in domestic production and international trade.

8. What trends in production and trade are perceived? With globally organised manufacturing systems, cross-border movements of goods seem increasingly to be occurring during the production and commercialisation processes, without a corresponding change of ownership or with the owner not being located in the country where goods are produced/packaged/stored. Similarly globally organised services in some cases involve the establishment of specialised ancillary units (e.g. an accounting or purchasing or IT centre or simply a special purpose entity) in particular countries that may not necessarily “trade” with the parent and other affiliated companies that they serve but may be allocated a budget by the parent to run their operations. Intra-firm trade and financial flows inevitably take into account fiscal exposure and the wider regulatory environments in countries where the firm has operations. This process would be internal to firms based in one economy but become partly visible to the exterior in the case of multinationals. In other words the money does not always follow the direction of trade for goods and services and physical production as closely as one might wish from a statistical and national accounting perspective.

9. Compatibility issues exist between trade statistics and statistics on production and employment when, for example, combining trade statistics with business statistics in input-output tables or in other analytical exercises.

10. Neither the customs-based merchandise trade system nor the balance of payments system, are at present conceptually adequate to provide a complete, detailed and analytically useful view of trade in goods and services. It has also become difficult to unambiguously split products into the two categories of goods and services as the distinction is increasingly unclear for some categories of products. In those cases, alternative groupings and divisions may be more interesting. It is necessary to consider a new view of trade in “products” with a unified classification that meets various trade, activity and input-output analytical needs. A broad outline of such a proposal is set out below.

### **What kind of new trade by product classification goods and services?**

11. The following starts from the current classifications and suggests a new presentation of trade in goods and services statistics based on the input-output framework that would be more relevant, would have more analytical uses and facilitate the combination with production data and FATS. If countries could be persuaded to report data on these lines, it would allow a progressive improvement in quality. Trade information on goods and services are difficult to combine in any level of detail. They are normally only integrated in detail in the input-output framework of national accounts. This bringing together should be done at an earlier stage in the integration of statistics and with the necessary estimations done in a more transparent way in a second-level data set.

***The trade classifications of goods***

12. There are two dominant international trade classifications for goods HS2007 (World Customs Organization) and the more analytical SITC Rev 4, linked to HS, of the United Nations. They both relate to the physical movement of goods across customs frontiers. The detail of six digit in the case of HS covers all movable goods. It should be noted that non-movable goods such as fixed constructions are in general not traded internationally according to the conventions of national accounts and international transactions on fixed constructions are included in direct investment.

***The balance of payments classification of trade in goods and services***

13. The IMF Balance of Payments Manual 6<sup>th</sup> Edition (BPM6) sets out a classification of trade in goods and services for resident-nonresident trade – for an overview of this see table 1. This accords with 2008 SNA Rest of the world account, but the partition of products into goods on the one hand and services on the other is not of great interest to national accounts. It is however of considerable interest for trade policy analysis, where trade agreements are quite different for goods and services. In BPM6 for goods there is no product breakdown, just general merchandise and some other items such as merchanting, and for services the breakdown is mainly by product but partly by transactor. In the Manual on Statistics of International Trade in Services (MSITS) the BOP services classification is extended in the EBOPS providing a maximum of about 80 items. The additional detail was developed in part with GATS negotiation needs in mind. At present detailed data on trade in goods and detailed data on trade in services are available only on different conceptual bases and cannot be combined without further adjustment and estimations.

Table 1 Overview of Goods and Services Account in BPM6

	Exports (CR.)	Imports (DR.)
General merchandise on a balance of payments basis		
<i>Of which: re-exports</i>		
Net exports of goods under merchanting		
<i>Goods acquired under merchanting (negative exports)</i>		
<i>Goods sold under merchanting (exports)</i>		
Nonmonetary gold		
Total goods		
<i>Balance on trade in goods</i>		
<b>Manufacturing services on physical inputs owned by others</b>		
<b>Repairs and maintenance n.i.e.</b>		
<b>Transport</b>		
<b>Travel</b>		
<b>Telecommunications, computer, and information services</b>		
<b>Construction</b>		
<b>Insurance and pension fund services</b>		
<b>Financial services</b>		
<b>Charges for the use of intellectual property</b>		
<b>Other business services</b>		
<b>Personal, cultural, and recreational services</b>		
<b>Government goods and services n.i.e.*</b>		
<b>Total services</b>		
<i>Balance on trade in services</i>		
Total goods and services		
<i>Balance on goods and services</i>		

\*n.i.e.—not included elsewhere

**CPC**

14. The only full product classification of goods and services is the UN Central Product Classification (CPC) Version 2, but the structure is not fully helpful for trade purposes or for production purposes. It does have links to HS for movable goods. In the case of a digital product like computer software, it is split into four depending on whether it is a good (on physical media) or services or downloaded or originals. In the CPC Manufacturing services on physical inputs owned by others are far from goods and included in business services, yet one would normally wish to group particular goods whether produced on own account or as a service to a particular manufacturing activity. The CPC does not explicitly make the goods versus services distinction, but movable goods can be found in Sections 0-4 mostly mapping closely to HS, while all other products are found in Sections 5-9.

***SNA definitions of goods and services***

15. In Chapter Six of 2008 SNA are defined goods, services - split into change-effecting services and margin services - and knowledge-capturing products. These four types of products together make up the set of "goods and services" included in the production boundary. Just to make life more confusing certain services are excluded from the SNA production boundary, for example many household services produced for own consumption. For further 2008 SNA descriptions of goods and services see Annex 1 of this paper.

***A new trade classification/framework?***

16. To recap then, there is a perceived demand for a conceptual product classification or framework that groups tradable products in a way that can be linked to trade data and production by activity and IO tables in a building block approach. This could look something like the national accounts IO table but linked to the product and trade classifications. The details need to be further worked out. It should be not too detailed, taking into account trade data sources and IO needs, but would also link to CPC as far as possible. It would effectively bring input-output perspectives into the trade statistics area and one could imagine an alternative presentation of trade data in that format as a second-level derived dataset from primary trade data sources. An important aim of such an exercise would be linking trade by product data to production by activity data and the potential to look at value-added in exports in an input-output context.

17. As with any such exercise there are problems. The balance of payments and the SNA Rest of the world account are transactions accounts and not production accounts. The case of distribution services illustrates this issue. Goods traded internationally may have either been produced and sold by a manufacturer or just distributed by a wholesaler. At the same time the wholesaler is producing a service while selling goods. How to deal with the problem of distribution services of wholesale and retail? A mixture of distribution data from balance of payments is available such as merchanting and trade-related services, but this is a minority of distribution, and for the rest estimates of the distribution content of merchandise trade by commodity might be used and coefficients applied.

18. For Charges for the use of intellectual property, these have a nominal industry in ISIC Rev. 4 related to leasing of intangible assets, but in practice they will be to be distributed across a range of industries. A similar problem is posed by R&D services.

19. Information products such as music or computer software could be grouped as specific commodities not split into goods and services.

20. For *manufacturing services*, it would be highly desirable that these be split by commodity. Information could be estimated from merchandise trade and register links in trade in services surveys

could be made to the activity of the producer. The importance of maintaining the commodity flow information in merchandise trade statistics is crucial.

21. EBOPS items such as *travel* would have to be estimated by product along the lines proposed in BPM6 and the revised MSITS.

22. As it is production based, the presentation conceptually fits better exports rather than imports. There is also likely to be a clear difference between conceptual product-industry links and empirical links from enterprise surveys.

23. This kind of product by activity classification does not exist at the international level. The nearest is the European Classification of Products by Activity (CPA). This could give the international analytical community a language/framework to discuss trade in goods and services and production of goods and services together with less misunderstanding.

24. If it is to be a trade classification it must relate clearly to the goods and services data sources and classifications. A broad illustration of a possible classification or framework for trade in products is shown below in table 2.

Table 2 A possible classification/presentation of trade by product by activity

ISIC Rev.4		Trade in goods	Trade in services
Section/Code	Description	HS and EBOPS	EBOPS and HS
A	Ag,forestry, fish	HS adjusted	Ag,forestry, fish serv
B	Mining oil and gas	HS adjusted	Mining Oil & Gas services
C	Manufacturing	HS adjusted	Manufacturing services with HS
C10-12	Food,drink, tobacco	HS adjusted	Manufacturing services with HS
C13-18	Textiles, leather & wood products	HS adjusted	Manufacturing services with HS
C19-22	Petroleum, chemicals, pharma, plastics	HS adjusted	Manufacturing services with HS
C24,25,28	Metal & machinery products (exc ICT)	HS adjusted	Manufacturing services with HS
C26	ICT products	HS adjusted	Manufacturing services with HS
C29-30	Transport equipment	HS adjusted	Manufacturing services with HS
C33	Repair & installation	HS adjusted	Repair and maintenance nie
C15,23,27,31	Other manufacuring	HS adjusted	Manufacturing services with HS
E	Water, sewage, waste treatment	HS adjusted	Waste treatment and depollution
D	Electricity gas	HS adjusted	Elec transmission, pipeline services
G	Distribution	HS with estimates, merchanting	Trade related services
F	Construction		Construction services
I	Hotels, Restaurants		Travel part
H	Transport		Transport
J	Information sector, telecoms and IT services	HS adjusted	Telecoms, comp and information services; audiovisual PCR
K part	Financial		Financial
K part	Insurance		Insurance
N77	Operational leasing of equipment and produced intangible assets		Operational leasing and charges for use of intellectual property
M72	R&D		R&D
M69-70	Professional, Management		Legal, accounting, management
M71,74-75	Scientific and technical		Architecture, engineering, technical
N78-82	Other business support services		Other business services other
Q	Health		Health travel & Health PCR
P	Education		Education travel & Education PCR
R	Personal, cultural, recreational (PCR)		Other PCR
	Government goods and services		Government n.i.e

### Conclusions and suggestions

25. The split of products into goods and services in trade has become progressively more problematic and while data are still needed separately, we also need to find a new way of considering trade in products (goods and services together) that is useful for trade, production, and input-output analysis.

26. A new classification/presentation of trade in goods and services should be developed in cooperation with Input-output and classification specialists. In addition a pilot exercise could be undertaken to produce estimated data from existing data sources, with any necessary adjustments made explicit.

27. Measurement of trade in goods and trade in services through enterprise surveys should be reviewed and attention given to the business register links to activity codes in order to supplement existing collections. This would facilitate the estimation of alternative views of trade in goods of services by activity.

**Questions to delegates:**

- I) *Do delegates agree that this alternative presentation or classification of trade in goods and services approach is worth researching further?*
- II) *As the input-output model was one of the inspirations for this unified presentation proposal, should the proposal be reviewed against 2008 SNA input-output proposals and harmonised with them?*
- III) *Given that the implementation of BPM6 may take some years, should the presentation be done also in terms of current classifications ISIC Rev.3, CPC Ver. 1.1 and BPM5?*
- IV) *Do you have any other comments or suggestions?*

## Annex 1

### *SNA definitions of goods and services*

The following description of goods and services is an extract from Chapter six of the pre-edited final version of 2008 SNA on the UN website in August 2008.

#### *“Goods*

6.15 ***Goods are physical, produced objects for which a demand exists, over which ownership rights can be established and whose ownership can be transferred from one institutional unit to another by engaging in transactions on markets.*** They are in demand because they may be used to satisfy the needs or wants of households or the community or used to produce other goods or services. The production and exchange of goods are quite separate activities. Some goods may never be exchanged while others may be bought and sold numerous times. The production of a good can always be separated from its subsequent sale or resale.

#### *Services*

6.16 The production of services must be confined to activities that are capable of being carried out by one unit for the benefit of another. Otherwise, service industries could not develop and there could be no markets for services. It is also possible for a unit to produce a service for its own consumption provided that the type of activity is such that it could have been carried out by another unit.

6.17 ***Services are the result of a production activity that changes the conditions of the consuming units, or facilitate the exchange of products or financial assets.*** These types of service may be described as change effecting services and margin services respectively. Change effecting services are outputs produced to order and typically consist of changes in the conditions of the consuming units realized by the activities of producers at the demand of the consumers. Change-effecting services are not separate entities over which ownership rights can be established. They cannot be traded separately from their production. By the time their production is completed, they must have been provided to the consumers.

6.18 The changes that consumers of services engage the producers to bring about can take a variety of different forms as follows:

- a. Changes in the condition of the consumer's goods: the producer works directly on goods owned by the consumer by transporting, cleaning, repairing or otherwise transforming them;
- b. Changes in the physical condition of persons: the producer transports the persons, provides them with accommodation, provides them with medical or surgical treatments, improves their appearance, etc.;
- c. Changes in the mental condition of persons: the producer provides education, information, advice, entertainment or similar services in a face to face manner.

6.19 The changes may be temporary or permanent. For example, medical or education services may result in permanent changes in the condition of the consumers from which benefits may be derived over many years. On the other hand, attending a football match is a short-lived experience. In general, the changes may be presumed to be improvements, as services are produced at the demand of the consumers. The improvements usually become embodied in the persons of the consumers or the goods they own and are not separate entities that belong to the

producer. Such improvements cannot be held in inventories by the producer or traded separately from their production.

6.20 A single process of production may provide services to a group of persons, or units, simultaneously. For example, groups of persons or goods belonging to different institutional units may be transported together in the same plane, ship, train or other vehicle. People may be instructed or entertained in groups by attending the same class, lecture or performance. Certain services are provided collectively to the community as a whole, or large sections of the community, for example, the maintenance of law and order, and defence.

6.21 Margin services result when one institutional unit facilitates the change of ownership of goods, knowledge-capturing products, some services or financial assets between two other institutional units. Margin services are provided by wholesalers and retailers and by many types of financial institutions. Margin services resemble change-effecting services in that they are not separate entities over which ownership rights can be established. They cannot be traded separately from their production. By the time their production is completed they must have been provided to the consumers.

#### *Knowledge-capturing products*

6.22 Knowledge-capturing products concern the provision, storage, communication and dissemination of information, advice and entertainment in such a way that the consuming unit can access the knowledge repeatedly. The industries that produce the products are those concerned with the provision, storage, communication and dissemination of information, advice and entertainment in the broadest sense of those terms including the production of general or specialized information, news, consultancy reports, computer programs, movies, music, etc. The outputs of these industries, over which ownership rights may be established, are often stored on physical objects (whether on paper or on electronic media) that can be traded like ordinary goods. They have many of the characteristics of goods in that ownership rights over these products can be established and they can be used repeatedly. Whether characterized as goods or services, these products possess the essential common characteristic that they can be produced by one unit and supplied to another, thus making possible division of labour and the emergence of markets.”