1. **Introduction**

The implementation of the European System of national and regional accounts in the European Union (the ESA 2010) and the System of National Accounts (the 2008 SNA) treatment of goods sent abroad for processing will affect the compilation of the industry and commodity accounts and the way in which these relationships are interpreted. In principle, the European system of accounts (the ESA 95) and the SNA 1993 and the new requirements of the ESA 2010 and the 2008 SNA treatments of goods sent abroad for processing lead exactly to the same GDP. However, compilers of input-output tables usually adopt some hypotheses of stability concerning coefficients such as value added to output ratios. The lack of coherence between data in *International Merchandise Trade Statistics: Concepts and Definitions 2010 (IMTS 2010)*\(^1\) and data in domestic surveys potentially creates imbalances in the commodity accounts since structural business surveys are based on the change of ownership while the IMTS 2010 on imports and exports measure the physical movements of goods across borders regardless of the change of ownership.

2. **Work of the Eurostat Task Force on goods sent abroad for processing**

In order to address these difficulties, Eurostat set up a Task Force on goods sent abroad for processing in 2011\(^2\). This Eurostat Task Force had been tasked to study the main consequences of

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\(^1\) At European level the term 'international trade in goods statistics' is used. Statistics on the international trade of goods measure the value and quantity of goods traded between Member States of the European Union (known as intra-EU trade) and goods traded by Member States of the European Union with non-member countries (known as extra-EU trade). These statistics are the official source of information about imports, exports and the trade balance in the European Union, its Member States and the euro area.

\(^2\) The Task Force met 3 times: on 8 November 2011, 23-24 February 2012 and 6 June 2012. The final report was presented to the NAWG on 22 November 2012. In the preparation to the meetings, the countries were asked to
the implementation of the new treatment of goods sent abroad for processing in the ESA 2010; to identify the need for new data sources; to promote the exchange of experiences and to propose some practical solutions to the main difficulties encountered during its work.

3. This chapter summarises the main experiences based on case studies presented at the Eurostat Task Force level and recommendations agreed by the Task Force, and highlights those areas of the recommendation needing further attention. Due to the fact that the resources and the time of this Task Force were limited, in this chapter only the centres of expertise, central points from case studiesSupporting paper and main actions at European level are presented. Where this chapter refers to countries, it means the Member States of the European Union and Norway, which participated in this Eurostat Task Force.

3. Treatment recommended in international standards

4. The process of sending material for processing is called 'goods sent for processing'. This term refers to two specific situations in national accounts and balance of payments statistics: in the case of outward processing, the principal sends goods it owns to another unit (processor) abroad to be processed. The principal pays a (processing) fee to the processor for the services provided. In the case of inward processing, a processor receives goods belonging to the principal and, in return for a processing fee, transforms the goods using its own labour and capital before sending them back to the principal for further processing and sale by the latter. Over the course of the transformation process, the principal maintains legal and economic ownership of the raw materials and semi-processed goods as well as the processed goods.

5. Between the ESA 95/SNA 1993 and the ESA 2010/2008 SNA, there has been a fundamental change in the treatment of goods sent abroad for processing without change of ownership. In the ESA 95/SNA 1993, such goods were shown as exports on being sent abroad, and then recorded as imports on return from abroad, at a higher value as a result of the processing. This was known as the gross recording method and effectively imputes a change of ownership so that international trade figures represent an estimate of the value of the goods being traded. The ESA 95 paragraph 3.133 (c) imputes a change of ownership: goods for significant processing to order or repair are recorded both in imports and exports although no change of ownership occurs. The SNA 1993, paragraph 14.61 provides and present case studies highlighting useful practices on the current and future treatment of goods for processing. 18 countries presented case studies.

3 For case studies from countries presented outside the territory of the European Union see Supporting paper 4 'How will the Statistical Adjustment on Manufacturing Services on Physical Inputs Owned by Others Affect China’s Balance of Payments Statistics' and Supporting paper 3 'Goods for processing in Mexico: The ‘Maquiladora’ Industry Program and its usefulness to identify goods for processing until 2006'. At a later stage these papers will be included as annexes to this chapter.

4 The following countries and international organisations have participated in the Eurostat Task Force on goods sent abroad for processing: Belgium, Bulgaria, Czech Republic, Denmark, Germany, Estonia, Ireland, Spain, France, Italy, Latvia, Luxembourg, Hungary, Netherlands, Austria, Romania, Slovenia, Slovak Republic, Finland, United Kingdom, Norway, ECB and OECD.

5 In this chapter, the following terminology is applied: The principal is a unit that enters in a contractual relationship with another unit (here called processor) to carry out some part (or all) of the production process; the processor is a unit that carries out a specific production process based on a contractual relationship with a principal. The activities performed by the processor are denominated 'on a fee or contract basis'. Processing is a contractual agreement according to which the principal requires the processor to carry out a specific production process. The term 'sub-contracting' is sometimes used as well. In this context, the production process also includes supporting activities.

6 See ESA 2010, paragraph 1.90 and 2008 SNA, paragraphs 2.47 and 2.48.
resident, while the goods received back are recorded as imports, even though they were not purchased from a non-resident.

6. According to the treatment in the fifth edition of the Balance of Payments Manual (BPM5), when goods cross the border, a change in ownership is imputed and the goods are included in trade as goods exports and imports. The BPM5 paragraph 197 states that goods for processing covers goods that are exported or imported for processing and that involve two transactions: (i) the export of a good (e.g., crude oil, vehicle parts, fabric) and (ii) the re-import of the good (refining of crude oil into petroleum, transformation of fabric into clothing) on the basis of a contract and for a fee. Symmetrically, processing performed (for non-residents) in the partner economy consists of an import followed by an export. The inclusion, on a gross basis, of these transactions under goods is an exception to the change of ownership principle.

7. The ESA 2010, the 2008 SNA and the BPM6 do not impute a change of ownership, but rather show only one entry – an import of the processing service. This would be an export of the service for the country in which the processing (inward processing) takes place and an import of service for the country of the principal (outward processing). This recording is more consistent with the institutional records and associated financial transactions. It does, however, cause an inconsistency with the IMTS 2010. The IMTS 2010 continues to show the gross value of the exports for process and returning imported processed goods.

8. Under the new BPM6 standard, the goods are excluded from goods trade, and the processing fee charged by the manufacturing service proved is recorded as services trade. In the BPM6, this service is referred to as 'manufacturing service on physical inputs owned by others' instead of 'goods for processing', in order to stress the fact that services are applied to the goods, which have not changed ownership to the processor. The goods trade flows are recorded (only) when the goods change ownership, not when they are physically delivered to an economy for processing without a change in ownership. The BPM6 indicates in paragraph 10.64 that the manufacturing service fee could include the cost of materials purchased by the processor. The BPM6 stipulates in paragraph 10.71 that gross values of goods sent abroad for processing should be identified as supplementary items.

9. In the ESA 2010, the 2008 SNA and the BPM6 all processing, regardless of whether it returns to the country of the principal or is exported to a third country is now recorded on a fee basis in the services account rather than gross in the goods account. The proposed treatment of goods which are sent abroad for processing and which are not re-imported by the country of the principal (either sold to a resident of the processing country or exported to a third country) will not change.

10. The recording of processing under the ESA 95 and the SNA 1993 depended on the pattern of goods flow i.e. whether they moved from the country of the principal to the processing country and back again, or whether there were more complex arrangements involving additional countries. In the former case goods for processing was recorded gross in the goods account in the ESA 95 and the SNA 1993. Both the initial export, by the principal to the country of the processor and the subsequent import of the finished goods used to be recorded in the goods account of the balance of payments. The gross flows were recorded in the goods account because the ESA 95 and the SNA 1993 impute a change of ownership.

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7 See SNA 1993, paragraph 14.61-14.64.
8 See IMTS 2010, paragraph 1.20. It is recommended that in all cases, goods for processing and goods resulting from such processing (compensating products in customs terminology), are to be included in the merchandise exports and imports of the countries at their full (gross) value.
9 According to both BPM5 and BPM6, cross-border trade is recorded only when a change in ownership occurs. Thus, goods trade covers only goods in which economic ownership changes between residents and non-residents.
10 See BPM6, paragraphs 10.62 - 10.71.
Where the processed goods were exported to a third country, rather than returning to the
country of the principal, the recording differed. In this case BPM5 recommended that a service fee,
representing the processing fee be shown as an import of a service from the country of the processor
and entered under *merchanting and other trade related*. The processed goods were shown as an
export from the country of the principal to the country of the final customer. The statistical treatment
of this case - the processed goods are exported to a third country – according to the ESA 95, the
SNA 1993 and the BPM5 is almost fully in line with the new standard. The only difference is that
the service category for recording of the processing fee in the BPM6 is now 'manufacturing services
on physical inputs owned by others', rather than 'merchanting and other trade-related services' as in
the BPM5.

Where processed goods are sold by the non-resident owner to residents of the processing
economy, the value of the processing services is recorded in services, and the subsequent sale of
goods is recorded in general merchandise (exports of general merchandise by the non-resident
owner, and imports by the processing economy) in BPM6, similar to the treatment under the
BPM5\(^\text{11}\).

In treatment of processing without change of ownership in the ESA 2010, the 2008 SNA and
the BPM6 does however cause an inconsistency with the IMTS 2010, which requires the value of
materials sent abroad for processing to be recorded as exports of goods irrespective of a change in
ownership takes place or not, and the processed goods subsequently returned to be recorded as
imports of different goods. It recommends that in all cases goods for processing and returning
imported processed goods are to be included in the merchandise exports and imports of the countries
at their full (gross) value\(^\text{12}\). The IMTS 2010, paragraph 1.21 encourages countries to explicitly
identify in their trade statistics (preferably by special coding) goods for processing and goods
resulting from such processing where no change of ownership takes place, in order to take into
account the needs of international trade in services and balance of payments statistics where
manufacturing services on inputs owned by others should be recorded. However, it is recognized
that such identification may not be all-inclusive and the obtained information may not be
internationally comparable since (a) merchandise trade statistics compilers may not have adequate
sources of data (especially in cases when the appropriate customs procedures are not used) and (b)
national definitions of such procedures may differ significantly.

4. Conceptual and measurement issues

During its work the Eurostat Task Force discussed conceptual or measurement problems
related to application of the existing international standards and studied practical cases, where the
raw material or semi-processed goods were sent to units abroad, and the finished goods were sold in
the domestic market or in foreign markets. The Eurostat Task Force considers inward processing as
very common in Member States of the European Union for pharmaceutical and chemical industries,
electronic manufacturing services, aeronautical products, wearing apparel, textiles and related
products. Case studies presented by the delegates from Member States of the European Union
demonstrated that outward processing is more important for vehicles, textiles, metals and machinery
in Europe. Specialisations which can be observed in Europe in particular activities may, for example,
be due to natural environment or the availability of resources. Examples of this include oil and
nickel refinery, manufacturing of major mechanical components for land and offshore drilling and
production equipment. The customers for such processing services may be entirely separate

\(^{11}\) See BPM6, paragraph 10.66 (b).
\(^{12}\) See IMTS 2010, paragraphs 1.19 and 1.20.
companies (seeking the economic advantages of specialised outward processing) or companies within the same group (possibly seeking tax optimisation).

a) Data sources for the compilation of International Merchandise Trade Statistics in the European Union

15. The compilation of the IMTS (named international trade in goods statistics - ITGS - at the level of the European Union) relies principally on customs records complemented, as appropriate, by additional sources to enhance their coverage (e.g. to include electricity, or trade in vessels and aircrafts). These statistics essentially reflect the physical movement of goods across borders.

16. The IMTS in the European Union is based on two data collection systems, called Intrastat and Extrastat, because the European Union is a customs union and there are no customs frontiers between its Member States. The introduction of the single market on 1 January 1993 led to the abolition of customs formalities between the Member States which had served as the traditional source of trade statistics, and to a clear distinction in the observation methods and collecting systems between the intra-EU and extra-EU trade, giving existence to two observation methods: the Intrastat system and the Extrastat system.

17. Companies that trade within the European Union with other Member States (so-called Intrastat trade) have seen substantial changes: detected by means of the value added tax (VAT) information, they declare directly to the statistical authorities. Companies that trade with countries outside the European Union (so-called Extrastat trade) declare (as before 1993) only to the customs authorities and a copy of the customs documents is processed by the statistical authorities.

18. The Intrastat system is linked to the value added tax system, based on enterprise surveys and data according to the country of consignment for arrivals (imports) and the country of destination for dispatches (exports). Enterprises registered in the VAT register with a foreign trade turnover exceeding the statistical threshold submit Intrastat declarations. In the Intrastat declaration the information related to the country of origin is not obligatory; the reporting agent in the country of final destination may therefore not know at all the non-EU country of origin of the goods; only the information related to the country of consignment (imports) is available.

19. The trade of Member States with non-member countries (Extrastat) is recorded on the basis of customs declarations (single administrative document). The Extrastat statistics collect data according to the country of origin/final destination. For most Member States, adjustment methods for Intrastat are based on VAT data and/or historical data for intra-EU trade; Extrastat is based on data collected by customs for statistical purposes. Collecting, processing and disseminating statistical intra-EU trade information is done in the most of the Member States participating in this Eurostat Task Force by the national statistical institutes. In some countries, data collection is done by customs, tax administration, VAT offices, Ministry of Finance or Revenue.

20. Again, the IMTS is based in the Member States of the European Union on Intrastat and Extrastat, and goods for processing are recorded on a gross basis in the IMTS. An export is recorded when a semi-finished good is transferred to a foreign processor for processing under contract (outward processing) and an import is recoded when a national processor receives foreign owned goods for processing (inward processing). Goods for processing can – to some extent – be identified in the IMTS by the 'nature of transaction' codes (NoT) and/or the customs procedure codes (CPC). It is mandatory for Member States to collect the 'nature of transaction' code in Intrastat. The nature of transactions is the sum of characteristics (e.g. buy/sale, goods for processing), helping to determine the different transactions in Intrastat/Extrastat. The nature of transactions is specified by a two digit code as follows:

- Operations with a view to processing under contract:
  41. Goods expected to return to the initial Member State of dispatch;
42. Goods not expected to return to the initial Member State of dispatch.
  • Operations following processing under contract:
    51. Goods returning to the initial Member State of dispatch;
    52. Goods not returning to the initial Member State of dispatch.

21. In Extrastat – and in the customs code – it is optional for Member States to collect the 'nature of transaction'. It is envisaged that the collection of the 'nature of transaction' should become mandatory with the implementation of the modernized customs code in 2013. The Customs procedure codes (CPC) are four digit codes – the two first digits of the CPCs shows the current procedure while the third and fourth digit indicate the previous procedure that the goods were placed under.

Some procedures indicate goods for processing:
  • 21, 22: Temporary export under outward processing
  • 41: Inwards processing procedure – drawback system
  • 51: Inwards processing procedure – suspension system
  • 91: Processing under customs control

Some procedures can only exists as a previous procedure:
  • 54: A previous procedure indicating that goods were under inward processing procedure in another Member State (suspension system).
  • 92: A previous procedure indicating that goods were under processing under customs control in another Member State.

22. CPC 41, 51 and 91 are import procedures used by the companies (requires an authorisation) when there is a tariff on the materials that are going to be processed. The extent of goods imported for processing where the procedure for normal imports is used is unknown. CPC 41 and 51 are used when the goods are expected to be re-exported. In case of CPC 51 the goods are not in free circulation of the EU ('T1 goods') and after processing the exports of the processed goods must be documented. In case of CPC 41 the customs duties are paid and the goods are in free circulation ('T2 goods'). When the goods are subsequently re-exported the duties are refunded. Since the goods are in free circulation the goods can without any further notification of the customs authorities stay in the processing economy even though this was not anticipated initially. Due to the re-export of the processed goods both 41 and 51 might represent processing activities under contract. Concerning CPC 91 there is no requirement – or intention – that the goods must be re-exported following processing. Only when the goods are re-exported it seems reasonably that that the goods might have been processed under contract. Only a fraction of the goods imported for processing under customs control should be associated with processing under contract – the ratio between the value of goods that are re-exported and goods that are not re-exported provides an indication of the share of imports for processing under contract. CPC 54 and 92 exist only as a previous procedure indicating that the processing activity has taken place in another Member State. CPC 21 and 22 are export procedure codes that are used when the processed goods are expected to return. When there is a tariff on the finished goods the company has an economic incentive to use the CPCs for processing. The extent of goods imported following processing but with the procedure for normal imports indicated is

14 Under the drawback system the import duties are paid at importation and reclaimed on subsequent export of the processed goods. The drawback system will suit traders who do not know how much of their processed goods will be exported outside the European Union.
15 Under the suspension system import duties payable are suspended at importation. The suspension system will suit traders who plan to export their processed goods outside the European Union.
unknown. When semi-finished goods are not expected to return after processing, the procedure for normal exports is likely to be used.

b) Analysis of empirical statistical data in Member States of the European Union

23. Analysis of statistical data showed that in some Member States participating in the Eurostat Task Force imports of goods for processing are lower than the exports of goods after processing. A detailed analysis of data broken down by ‘nature of transaction’ showed that some countries are more processor of goods (inward processing) then countries exporting goods for processing. These results seems to be in contradiction to what could be expected for the European economy, characterized by the increasing processes of fragmentation of production chains and trade in intermediate goods and that Member States of the European Union are probably more involved in outward processing. On the other hand, data about the value of exports for outward processing seems underestimated in some countries, due to the usage of customs data (on extra-EU side) and Intrastat data (on the EU side). A reason for this could be that enterprises do not declare outward processing as such, but rather declare them as ‘normal’ exports.

24. For some countries, exports for processing are higher than the subsequent re-imports after processing. It is expected that goods after processing are re-exported to foreign markets of third countries. For a few Member States it could be concluded that processing imports and exports were evenly balanced.

25. Two Member States participating in this Eurostat Task Force identified specific problems linked to the trading activities of non-resident units of the exporting/importing country, which are registered for VAT only. According to their case studies, the balance of exports and imports can vary greatly depending on the difference in prices for imported and exported goods declared on the border, and value of transactions between residents and non-residents. Transactions could be recorded in Intrastat/Extrastat by non-residents registered for VAT, and not by the processing company, and the processing fees could completely disappear. If a reporting unit in international trade in goods statistics was not a processor, but another unit like a branch of foreign parent company registered in the business register/VAT register, it is difficult to identify the relevant enterprises. VAT traders can be identified mainly due to the construction of the VAT-number.

c) Case studies analysed by the Eurostat Task Force on goods sent abroad for processing

26. During its work, the Eurostat Task Force studied some examples which might help to illustrate the issue. These case studies presented by delegates from Member States describe 3 scenarios, in which goods sent abroad for processing subsequently (scenario 1) return to the country of origin, (scenario 2) enter the host economy of the country of processing, or (scenario 3) are sent from the host country (of the processor) after processing to a third country. Scenarios 2 and 3 assume that during processing the goods were still owned by the principal, and the change of ownership took place only with respect to the produced goods. In practice, in addition to the above mentioned 3 basic scenarios, several variations of transactions may take place. The following describes – on the basis of the case studies provided - how these 3 scenarios are covered by statistical sources applied in countries.
d) Coverage of activities related to goods for processing in statistical sources used in the national accounts

Activity-based annual structural business statistics

27. At the starting point, the principal keeps ownership and exports raw materials/semi-processed for processing and subsequently re-imports the finished goods after processing (scenario 1). In some Member States the activity-based annual structural business statistics are the main source for calculating figures for output, value added, compensation of employees and gross fixed capital formation in manufacturing, mining and quarrying, as well as in most service industries, in the annual national accounts and cover establishments. The annual structural business statistics are mainly based on data from administrative registers and some additional information from questionnaires reported to the national statistical compilers.

28. A first Member State asks the respondents within the questionnaires on structural business statistics to report amounts paid or received related to the sending or receiving of goods for processing. Firms declaring foreign trade on goods are asked whether the transaction concerns imports or exports for processing abroad.

29. Another Member States conducts annually an industrial business survey and an industrial products survey as alternative sources of information – in addition to IMTS – to calculate the processing fees. The industrial business survey's main objective is to provide specific information on the main structural characteristics and activity of the various sectors that make up the economies industrial activity. The industrial business survey includes questions to identify the part of production which is outsourced. The industrial products survey records the traded output during the reference period of the survey in quantity and value, for more than 5,000 industrial products through 78 separate questionnaires. However, it is not possible to know whether sub-contractors are either residents or non-residents.

Balance of payments statistics

30. One Member State informed that in the balance of payments statistics processing fees received (for inward processing) and paid (for outward processing) were recorded. In addition, sales of finished goods after (inward) processing – which were not re-exported to the country of the (non-resident) principal – shall be reported to the Central Bank by the resident purchaser (scenario 2). Sales of the finished goods (outward processed goods) after outward processing to a non-resident (scenario 2) and buying-in of raw materials/semi-processed goods abroad (purchased inputs) shall be reported by the resident principal. Imports and exports of raw materials/semi-processed goods and processed goods related to inward/outward processing were not recorded in the balance of payments statistics, because these transactions were separately recorded in IMTS in this Member State.

31. In cases when goods (inputs not necessarily originating from the principal’s own economy, goods before or after processing) do not cross the border of the principal’s country (Scenario 3), the IMTS do not record any flows. The following transactions related to scenario 3 are recorded in this Member State in its balance of payments statistics as follows: expenditure for contract production (processing fees paid), buying-in of goods abroad (e.g. raw materials/semi-processed goods).

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16 Establishments are called local kind-of-activity units in the ESA 2010. See ESA 2010, paragraph 2.148: The local kind-of-activity unit (local KAU) is the part of a KAU which corresponds to a local unit. The local KAU is called establishment in the SNA and ISIC Rev. 4.
goods to be used as inputs by the non-resident processor) by the (resident) principal and sales of the finished goods after (outward) processing to a non-resident consumer.

32. With regard to global manufacturing, the case could be varied when the goods do not leave the country of the principal, and a non-resident processor assembles the goods in the client’s country (outward processing in the host country). These transactions are not captured in the IMTS\textsuperscript{17}, but shall be reported in this Member States to the balance of payments statistics.

**International merchandise trade statistics**

33. One Member State illustrated in a case study, that the national compiler divides cross-border movements of goods for detailed statistical presentation into types of import (for example: release into free circulation, inward processing, and processing under customs control) and into export types (for example: exportation, outward processing, and re-exportation following either inward processing or processing under customs control). Processing under customs control includes goods which were sent abroad for processing from a parent company to a subsidiary company and which were sent back to the parent company after processing, even if fictive payments were done between parent and subsidiary company. Cases in which enterprises sold goods to a processor in another country and re-purchased them back with guarantee were not considered as processing, but as selling and back-purchases. Therefore processing may be underestimated to some extent. But even if data classified by kind of transaction is used in future, further investigation is necessary to ensure that exports for processing and imports after processing do not include any sales between parent company and subsidiary company. Exports after inward processing might be underestimated since these transactions were often not declared as such, but rather as normal exports. Another reason could be that the processing might not be completed within the period. Foreign products, which come to the Member States only temporary for inward processing, are compiled in the IMTS. Therefore they are recorded as imports in national accounts. Their importance for imports has increased during the last years.

34. In the national accounts of this Member State, the goods imported for inward processing are not accounted for as inputs for domestic production. They are accounted for changes in inventories. The value of output was limited to the payment of the foreign enterprise for processing as well. The exports after processing equalled the processing fees received (by the resident inward processor) plus the value of imported raw materials/semi processed goods for processing. Further to the previous entries into inventories now withdrawals from inventories occurred. There could be an impact on the balancing item, when entries to and withdrawals from inventories were not recorded in the same period or exports after processing were record in a different product group than imports for processing.

35. Exemplifications from further case studies showed, that some Member States estimate the processing fee as the net difference between exports for outward processing ‘goods send abroad for processing’ (nature of transaction code 41) and re-imports after outward processing ‘goods return after processing’ (nature of transaction code 51) and imports for inward processing and re-exports after inward processing, according to the requirements in Intrastat/Extrastat. The value of

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\textsuperscript{17} In cases where the physical form of the goods is changed during the period the goods are owned as a result of manufacturing services performed by other entities, then the goods transactions are recorded under general merchandise rather than merchanting. In other cases where the form of the goods does not change, the goods are included under merchanting, with the selling price reflecting minor processing costs as well as wholesale margins (see BPM6, paragraph 10.42 and Box 10.1).
36. Another country uses the 'nature of transaction' codes to select the flows returning to the initial Member State of dispatch, which indicate the gross amount of goods to be removed of total imports and exports by product. In this country the customs and excise authorities monitor merchandise trade and compiles statistics on intra-EU and extra-EU trade. The amount of manufacturing services for processing is taken from the balance of payments statistics on the basis of customs data, broken down by product. There is a need to estimate the part of bilateral flows related to goods for processing – for consistency and to define keys of breakdown: in proportion of gross amounts of bilateral flows by products involved, using the structure given by customs data by 'nature of transaction'. Customs data are already the source for the row 'processing' in the current transactions account under BPM5.

37. A third Member State applies the 'nature of transaction' codes, which allows identifying goods for processing included in IMTS. Incoming and outgoing flows are recorded in the IMTS as imports and exports, whereas the collecting system based on payments only shows the processing fees as balance. Data about the value of exports and imports for inward and outward processing are collected in surveys separately, but these transactions may be underestimated since inward and outward processing is often not declared as such.

38. In a fourth Member State the IMTS – which are the principal statistical source for valuing exports and imports of goods – are compiled by the Taxation Authority. The IMTS are compiled on the basis of two different types of questionnaires: Intrastat declarations and 'single administrative documents'. Both of the questionnaires value exports of goods FOB (the value at the customs frontier of the exporting economy, that is, free on board), including those cases in which goods are transferred free of charge; and imports are valued CIF (cost, insurance and freight). In order to obtain exports and imports of goods in national accounts terms, the necessary adjustments are introduced to the IMTS.

39. Finally a Member State compares on a regular basis different statistics at a unit level in order to ensure consistency and detect imbalances. Moreover, in the framework of a one-time-exercise measures were adopted to compare data from the IMTS with data on production derived from the short-term statistics and structural business statistics; the latter provided data on the processing fees paid (intermediate consumption) and processing fees produced in activities not covered by the short-term statistics. In the IMTS all transactions are recorded gross, in short-term statistics inward processing is recorded net and in structural business statistics all transactions are recorded net. The data is used to check the plausibility of declarations. In addition to this valuation problem, the most important problem for IMTS is that goods exported for outward processing are not re-imported after processing, but sold directly on foreign markets (see scenario 2). If only the IMTS are used to estimate the value of goods sent abroad for processing, the results lead to implausible results for this Member State.

Statistical surveys related to industrial production (Prodcom)

40. In one Member State statistics on industrial production are comprised of an 'annual survey on production' and an 'annual sector survey' (focussing on the other sectors). Respondents provide a breakdown of their sales by industry category, enabling the compiler to determine the sector to

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18 See BPM6, paragraph 10.70. Possible causes include holding gains or losses, the inclusion of overheads (such as financing, marketing, and know-how included in the finished good price), and measurement errors associated with the valuation of goods movements where there is no sale.
which they belong. In manufacturing, enterprises have to record in a very detailed breakdown output by product. A question in the 'annual survey on production' was designed to measure industrial services provided on the national territory. These activities are classified under the industry 'manufacturing' and under products as 'manufactured products'. The annual survey on production provided data elements on industrial output in order to meet the requirements of the European Prodcom regulation. The purpose of the annual sector survey is to observe the different activities performed by companies by breaking down their turnover into activities (sector classification).

41. The Prodcom sample covers all large enterprises with establishments (local KAU) in manufacturing, mining and quarrying. The Prodcom data includes:
   - the physical volume of production sold during the survey period;
   - the value of production sold during the survey period;
   - for some products, the volume of total production during the survey period.

42. Another country asked in the Prodcom survey questions on the physical volume of production and the value of production sold during the survey period are covered, including questions on inputs of raw materials and other inputs. Prodcom data are used in the national accounts to establish figures for intermediate consumption in manufacturing industries. The structural business surveys record incomes and costs related to production. A part of income may be related to goods which were produced abroad and subsequently delivered to non-resident customers. These goods are not recorded as exports and imports, because they are no cross-border transactions. Symmetrically, import figures may not include payments to non-residents related to the production abroad, even though these costs may be included in the costs reported in the structural business statistics. In order to achieve consistency between exports and imports in the IMTS and the reporting of incomes and costs related to production in the structural business surveys, total income is added to exported goods and grossed-up. Trade statistics are based on administrative data from customs declarations and cover external trade in goods and services. External trade in services is compiled on the basis of quarterly sample surveys submitted by non-financial enterprises. With the quarterly trade in services survey it is currently not possible to compile net exports and imports of the processing fees, because there is no particular question on 'processing fees'. Dialogues with companies should help to clarify whether it is possible to separate processing fees from other kinds of income or not.

43. A third Member State compiles the processing fee on the basis of the Prodcom survey, in particular the 'annual questionnaire on manufactured and sold industrial products'. The value of processing the fee is recorded at basic prices (without VAT and excise duties) and at the product level (Prodcom). The survey provides data on total production sold, production sold in domestic markets, total processing fees received and processing fees received from non-resident principals at product level. The national compiler derives the values for exports (excluding processing) as difference between total amounts of the sales and the sales on domestic markets from the Prodcom survey (excluding processing). When comparing this value with the value of total exports (from IMTS), the amount of processing fees is derived. The estimate is more exact if the calculation is made on a low product level – 4 or 6-digit-level using the European Union Classification of Products by Activity (CPA) as a relation between Prodcom list codes and CN codes. The annual survey

19 The title comes from the French 'PRODuction COMmunautaire' (Community Production) and is the title of the industrial production (PROD) surveys defined at EU level (COM) and governed by the Council Regulation (EEC) No 3924/91 of 19 December 1991 on the establishment of a Community survey of industrial production.
20 The Prodcom survey is based on a list of products called the Prodcom list which comprises about 4,500 headings relating to industrial products.
21 The Combined Nomenclature (CN) is the European Union's external trade nomenclature. CN corresponds to the Harmonized System (HS). All goods imported into or exported from the EU must be classified for Customs
covers 90% of sold production in terms of value at the national level for each NACE Rev. 2\textsuperscript{22} class. The reporting population comprises all enterprises carrying out main or secondary industrial activities.

44. Finally a Member State estimates the total value of the processing fees on the basis of structural business statistics (processing fees received from the principal; the fees paid to sub-contractors) and Prodcom surveys (total value of the contract processing, i.e. fees received from the principal enterprise for the work performed, the processing fees received from non-resident units). In the following step, information from IMTS is added. The data on imports and exports are reclassified according to the concepts of customs procedures.

e) Transactions of non-residents registered for VAT

45. According to the VAT legislation harmonized across the European Union, non-resident traders are obliged to register for VAT in any country where they realized any taxable transaction\textsuperscript{23}. These taxable transactions include supply of goods (e.g. sales of goods on internal national market or dispatch of goods to other Member States of the European Union 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 the VAT and consequently they become respondents to Intrastat in the country where they are not seated and do not have even any physical representation.

46. A few Member States participating in the Eurostat Task Force referred to a specific problem lying in the trading via non-residents of the exporting/importing country, which can be observed in the more recent accession countries. With the accession to the European Union, it became possible for non-resident enterprises to make their acquisitions and sales in these new Member States through entities without a physical presence subject only to VAT registration in the host country. A foreign firm is obliged to register for VAT in any country where they realize any taxable transaction, without being required to set up a business, a local unit or to employ any person.

47. These so-called 'VAT registrations' are issued tax numbers and their founders execute their trade-related VAT payments through these entities. For the purposes of the balance of payments and the national accounts, these VAT registrations are not part of the host economy; consequently; their transactions with residents of their host economy need to be included in balance of payments statistics and national accounts.

48. Intrastat is closely related to the system of value added tax (VAT) in the European Union. All VAT registered entities in a host country (above the threshold) are obliged to report their transactions across the borders of the host country to Intrastat in this host country. However, VAT registered entities are not only residents of the host country. Thus the turnover of these 'VAT registrations' is also included in the trade balance data.

\textsuperscript{22} NACE is a Statistical Classification of Economic Activities developed in the European Union and is an acronym derived from the French title 'Nomenclature générale des Activités économiques dans les Communautés Européennes'. NACE is a four-digit classification providing the framework for collecting and presenting a large range of statistical data according to economic activity in the fields of economic statistics (e.g. production, employment and national accounts) and in other statistical domains.

\textsuperscript{23} See also Chapter 6: Measurement Issues Associated with Quasi-transit Trade and Similar Phenomena; and in particular the 'role of fiscal representatives in the EU'.
49. The same entities are often referred to as ‘VAT traders’, but that name seemed misleading, because they are as often involved in processing as in simple trade (just buying and selling). According to the European experience, there must be significant amount of processing trade 'hidden' in the external trade statistics figures of several Member States. According to VAT law, a transfer of products to/from the Member State of processing has to be carried out via a 'VAT registration' of the principal in the country of processing. However, the standard case for goods sent abroad for processing, where a principal sends raw material out of the country (recorded with 'nature of transaction' code 41) to be processed in another country, and receives the finished goods in return (recorded with 'nature of transaction' code 51), is not considered to be the most typical example for the host country of the non-resident VAT trader, because its economy is influenced by global production arrangements.

50. To compile the IMTS, export and import data are collected directly from the non-resident VAT traders on the basis of customs records. Due to non-residents imports of goods into the host country, a phenomenon similar to 'quasi-transit trade' can occur within a single country. The value according to the Intrastat/Extrastat declaration can differ significantly from actual payments to residents. According to the case studies presented, the processing fee received for inward processing was recorded in Intrastat as invoiced value under 'nature of transaction' codes 51/52. Processing might be underestimated due to misreporting to IMTS, or these transactions were recorded under a different 'nature of transaction' code.

51. According to the VAT regulation, except for the much less common traditional scenario (when materials arrive from the same Member State where the processed goods are dispatched), transfer of products to/from the processing Member State have to be carried out via a 'VAT registration' of the principal in the country of processing. Arrivals of materials, as well as dispatches of processed goods are declared by the 'VAT registration' as acquisitions/deliveries, thus hiding the main characteristics of the international transactions, namely the processing. Multinational enterprises are typically the ones following the latter pattern, i.e. operating via VAT registrations.

52. In order to disclose that kind of 'disguised processing' in the country of processing, a few Member States observe and contact 'VAT registrations' in order to follow their activities, requiring them to declare processing for Intrastat if they are involved in the relevant transactions. At the same time their local processors are located and contacted to make sure they do not declare the same trade.

53. As for the mirror flow (sending goods for and receiving after processing), disclosing processing transactions would be even more complicated. When the principal sends materials to and receives the final products from several Member States (e.g. warehouses), then the declaring party (the principal) has information on the real 'nature of transaction' and is able to declare processing. In other cases, when the material is sold or the processed goods are bought by some other enterprises directly to/from the 'VAT registrations', the 'nature of transaction' code 11 is correctly applied since the units do not have any information and are not involved in processing. These processing transactions cannot be disclosed and with the implementation of single flow the information would be completely lost for statistics.

54. The Member States concerned have fostered the cooperation between their national statistical institutes and non-resident VAT traders/VAT registrations. Data based on Extrastat, Intrastat, VAT or other sources of a few big enterprises employing non-resident VAT traders in question are analysed in depth and the related companies are contacted. On the basis of the

24 Quasi-transit trade occurs when goods enter an economy and are declared by non-residents as imports for customs purposes at values that differ from those that are declared when the goods leave the same economy, without the transit economy having acquired ownership of the good.
information gathered, their external trade data in national accounts concept are corrected at elementary level.

5. Main consequences identified by the Eurostat Task Force on goods sent abroad for processing related to the implementation of goods sent abroad under ESA 2010

f) Quality of basic data

55. A major difficulty is the lack of methodological consistency between balance of payments, national accounts and business accounting on the one hand and the IMTS on the other hand. For supply-use tables there is a need of breakdown by products.

56. Structural business surveys are considered by the Eurostat Task Force as an adequate source for the calculation of the processing fees, but however, to improve the quality of the estimates it is necessary to add questions on processing fees. The different case studies and the discussion during the meetings of this Eurostat Task Force shows that to elaborate national accounts figures for output and value added of a sufficient quality, and following the principles in ESA, it is necessary to ask the reporting population of enterprises for more information.

57. Several national statistical institutes already have established profiling units to ensure that transactions of multinational enterprises including goods for processing are treated consistently across all areas of macro-economic statistics.

58. At the same time the Eurostat Task Force acknowledges that it will be difficult to increase the respondent burden, reflecting current policy of non-excessive burden on respondents.

59. Replacing the flow of goods with service fees will change technical input-output coefficients in supply-use tables and input-output tables in most countries.

60. There is evidence of underestimation of exports of goods for processing. Data show that some Member States are inward processing countries, which is in contradiction to the economic reality.

61. A breakdown of processing fees according to CPA 2008 classification is required. A 4-digit-level of breakdown of processing fees according to CPA 2008 classification should be sought.

g) Data collection

62. A few Member States are not in a position to separate goods temporarily imported for processing from other imported goods, which is also the case for exports. For those which are able to identify goods for processing, a difficulty may arise for identifying whether products after processing return to the country of the owner, are exported to a third country or are cleared for final use in the processing country. A case study exemplified that processing enterprises even if identified from the Prodcom list of enterprises and engaged in international processing declare the total or a certain amount of goods for processing as normal imports or exports. It is essential for national statistical institutes to adjust the figures.

63. A number of Member States participating in the Eurostat Task Force explicitly mention that the flows concerning processing abroad are very difficult to observe: the fact that goods often return in a different time period, the difficulty for enterprises to distinguish between domestic processing and processing abroad. Valuation problems due to discrepancies caused by transportation costs are other factors that make it more difficult to quantify goods sent abroad. The quality of recording is affected e.g. by measurement errors associated with the valuation of goods movements where there
is no sale, time differences between processing and sending back of goods and classifications. It is necessary to detect the processing chain, and to follow goods after processing which were not sent back to the dispatching country. However, in practice it is difficult to identify supply chains in order to trace the exports of processed goods to third countries.

64. According to the ESA 2010 and the BPM6, information should be collected on the value of the processing fees. This information could be obtained through direct reporting (e.g. international trade in services questionnaires, enterprise surveys), and additionally, if feasible, on the value of goods for processing. Depending on the accounting practices, this may lead to an additional response burden for enterprises (and additional burden for national statistical compilers). Countries face severe resource problems and their enterprise accounting rules may not easily lead themselves to the surveying of the information on the value of goods for processing. One country referred to an example that the statistical measurement of the domestic economic activities and the part of its sales to non-residents needs follow up, indicating that not all of the necessary information about export and import of processing fees is available in the accounting systems. A possible solution could therefore be for the IMTS to continue the current practice of reporting goods for processing, and for national compilers to ask questions about processing when collecting surveys in relation to e.g. the structural business statistics or Prodcom. Those countries which already survey enterprises in order to identify goods for processing activities and related fees could continue to do so.

65. In one Member State gross flows of exports and imports are recorded with the current system, but not the processing fees. It is questioned that processing fees are estimated as difference between imports and exports of goods before and after processing. The domestic company which receives goods for processing could only declare an artificial price (value) for the goods imported.

66. A second Member State reports activities in the balance of payments statistics aimed at providing a global evaluation of the processing fees. But these amounts are limited to bilateral flows only, and there is no breakdown by product or industry. Confronting them to customs data by nature or transaction is difficult. For most cases, the value of the manufacturing services or the processing fees recorded according to BPM6 is not simply the difference between the value of goods before and after processing. A reason for such a difference may be the reliability of the value of goods as it may include profit margins or be subject to other factors of pricing in respect of intra-firm trade. With the implementation of BPM6, the main source for the manufacturing service will be the goods account from the balance of payments statistics: transactions in goods will be cleared of gross flows of goods sent or received for processing and they will be adjusted from customs data by 'nature of transaction'. The term 'customs data' covers data from Intrastat as well as customs declaration as the customs administration is responsible for collection and compilation of both trade statistics intra-EU and extra-EU. Customs data are already the source for 'processing' in the current transactions account under BPM5. Within the services account, manufacturing services will appear among services in the balance of payments. The evaluation is based on businesses data via direct reporting (direct general declarers). In addition, a new complementary survey on services has been launched since 2011 in order to meet the requirements of BPM6.

67. A third country collects on the basis of balance of payments surveys some detailed information on the activities of inward and outward processing companies.

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25 See BPM6, paragraph 10.70. The value of manufacturing services on physical inputs owned by others is not necessarily the same as the difference between the value of goods sent for processing and the value of goods after processing. Possible causes include holding gains or losses, the inclusion of overheads (such as financing, marketing, and know-how included in the finished good price), and measurement errors associated with the valuation of goods movements where there is no sale.
h) Transactions of non-residents registered for VAT recorded in Intrastat/Extrastat

68. In a few countries specific problems linked to the trading activities of non-resident units of the exporting/importing country, which are registered for VAT only, are identified. According to their case studies, the balance of exports and imports can vary greatly depending on the difference in prices for imported and exported goods declared on the border, and value of transactions between residents and non-residents. Transactions could be recorded in Intrastat/Extrastat by non-residents registered for VAT, and not by the processing company, and the processing fees could completely disappear.

69. Some Member States conclude that if a reporting unit in IMTS was not a processor, but another unit like a branch of foreign parent company registered in the business register/VAT register, it is difficult to identify the relevant enterprises. A few Member States consider that VAT traders can be identified mainly due to the construction of the VAT-number. There is high incidence that the phenomenon of non-residents registered for VAT is not only relevant among the more recent accession countries to the Union, but also in some old Member States.

70. The Eurostat Task Force pointed out that the Member States are confronted with the problem that VAT registered entities without physical presence caused distortion in statistical data and imposed important changes on national accounts and balance of payments statistics, which needs follow-up.

i) Analytical issues identified by the Eurostat Task Force related to supply-use tables/input-output tables

71. Goods sent abroad for processing concern in most cases raw materials/semi-processed goods. One Member State showed examples in which imports after processing were recorded in a different product classes. As a consequence, it is not possible to establish a link between both of the transactions and to calculate the processing fee as difference. In addition to the 'nature of transaction', it is also important to trace goods being imported after transformation in order to compile supply-use tables.

72. For a second Member State it is important to identify goods which should be removed from supply-use tables, because the imbalance (non-imputation of flows) is influencing the input structure for the different industries. Another issue is how to treat purchases from and sales to third countries. Currently production of the survey for processing is classified according to industry. Similar breakdowns are necessary for the imports and exports of the processing fees to improve the quality of supply-use tables.

73. The issue of deflating the values of goods for processing is also relevant for a few countries. Among this group, one country applies different commodities for inward (without the fees) and outward processing. The import values of goods for inward processing (without the fees) are deflated on the basis of an import price index, and the export values of goods for outward processing are deflated on the basis of an export price index. PPI are applied for the deflation of the fees itself.

74. The Task Force is concerned that sometimes issues related to non-residents registered for VAT traders are complicating the valuation of trade flows based on the cross-border measuring, which overestimates the country’s trade balance in comparison with its value added created. The overvaluation of the trade balance is divided into exports (which are over-valuated) and imports (which are under-valuated). It is concentrated in several commodity groups. The activities of non-residents registered for VAT have an impact on the structure of the input-output tables, especially the division of the domestic and foreign part of the supply-use matrices. This disproportion between the source and use side (exports exceed the production of some commodity groups, analogous to the
importation of more than domestic use) makes commodity balancing within supply-use tables very difficult, because the data sources are inconsistent.

75. In order to be able to check the foreign trade figures for consistency with the national accounts, one country assumed in a one-time-exercise that processing mainly took place within the same industry, and goods processed were considered as characteristic for this industry. With this assumption it was possible to compile a basic version of a product account, with imports and exports from the IMTS calculated as the respective difference. Imports and exports of processing fees calculated from the IMTS could then be checked for consistency at unit level with intermediate consumption and production from structural business statistics/short-term statistics.

6. Promotion of exchanges of experiences

76. The Task Force sees exchanges of best recording practice as potentially helpful in many areas, which can be usefully encouraged at a time when the new international standards are being implemented.

j) Data sources: Questions on 'processing fees paid or received' in surveys

77. A few countries informed to add in the structural business surveys a new question on 'processing fees paid or received' in order to facilitate the transition from the current requirements to ESA 2010 and BPM6, or to modify the survey on trade in service in order to ask for the exported and imported values of processing service and for the total value of goods exported and imported for processing, since the 'nature of transaction' is not yet mandatory in Extrastat.

78. One country intends in order to improve the quality of the estimates, to add a question on processing fees in structural business surveys, in which currently information on intermediate consumption and revenues for processing is collected. It is intended to ask the enterprises for a split of the processing fees into internal and external flows, to have a measure for processing fees per transaction for inward and outward processing.

79. Structural business surveys are considered by the Task Force as a reliable source for the calculation of the processing fees, because information on output, intermediate consumption (and thus valued added) is compiled on the basis of business accounting. Structural business surveys are the main source to estimate GDP according to the production approach of national accounts, and there is consistency with the requirements of balance of payments statistics. The approach of direct reporting is supported by this Task Force.

80. Based on the discussion, the Task Force supports the idea to minimise the introduction of new questions in the existing surveys and questionnaires, in order to support efforts to reduce the response burden.

k) Profiling units, large and complex cases units and direct reporting

81. Several national statistical institutes established profiling units to ensure that transactions of multinational enterprises including goods for processing are treated consistently across all areas of macro-economic statistics. Some Member States have established direct contacts with enterprises to clarify the activities of principals and processors. Profiling activities are on-going in a few countries, where the national statistical institutes established units to evaluate and analyse also goods for processing activities. One national statistical office established a 'large and complex cases unit' in 2009 to focus on the collection and processing of data for the largest enterprises, engages with selected companies very closely on an on-going basis, at least one face-to-face meeting per quarter. The processing companies are surveyed and as inter-group transactions follow, the compiler is aware
where the finished goods were sent. In addition, larger companies are addressed with the quarterly balance of payments survey.

82. One Member State experienced that many enterprises do not consider processing as a part of the trade of goods and thus do not declare the transactions in Intrastat. A question on the value of processing fees declared in Intrastat is added in the balance of payment surveys. These fees are recorded in the balance of payment statistics and national accounts, and not in the IMTS.

83. Direct contacts with big companies allow identifying the relevant cases. A second Member State closely contacts one reporting company with a significant output and performing inward processing. The company reported in the structural business survey total income. In the framework of a one-time-exercise, selected reporting companies which reported output abroad in Prodcom, were contacted to ensure their capabilities with regard to data reporting. With the quarterly trade in services survey it is currently not possible to compile net exports and imports of the processing fees, because there is no particular question on ‘processing fees’. A dialog with the companies should help to clarify whether it is possible to separate processing fees from other kinds of income or not.

84. In order to improve consistency, a third Member State compares data at enterprise level based on Prodcom surveys, short-term statistics and the IMTS. The calculation of the processing fees only based on the IMTS showed in most cases implausible results. Analyses of short-term statistics, structural business statistics and the supply-use table facilitate the identification of inconsistencies. A substitution of inconsistent values in supply-use tables in order to balance the tables is not considered as sufficient. Therefore a direct surveying of the cross-border processing fees is envisaged; these items are to be included in the balance of payments survey. The reporting population could be directly addressed during the surveying process.

85. Industrial services provided in the national economy are measured in a one country with the annual production surveys. These activities are recorded in the industry 'manufacturing' and in products as 'manufactured products'.

86. Finally a country highlighted in its case study on outward processing that further clarity is needed on the principles to determine the economic owner of the raw materials (inputs), outputs and intellectual property products, particularly in the case of affiliated enterprises. Where production is outsourced, it is important to properly distinguish between 'goods for processing' and 'merchanting' treatment. This choice may have major implications for recorded trade in goods and services, and uncertainty about the underlying nature of the transactions may introduce discrepancies between national statistics.

7. Proposed solutions to the main difficulties encountered by the Eurostat Task Force on goods sent abroad for processing

87. To be able to compile the goods sent abroad for processing in a more comprehensive and consistent way, recommendations would be:

1) Principle of ownership as key point for goods for processing

88. The Task Force agreed that goods sent abroad for processing were goods sent abroad or brought into a country for processing without a change of ownership. The key point is the principle of no change in ownership, when deciding to classify the transactions as goods for processing. The extent of the physical transformation of a product, as a criterion for determining whether the goods
had been processed or not, was considered as less important.

89. The Task Force considers cases as processing, in which the principal maintained legal and economic ownership of the raw materials and semi-processed goods throughout, as well as of the processed goods.

**m) Nature of transaction system for identifying processing**

90. The Task Force considered the 'nature of transaction' system as promising to allow – to some extent – identifying transactions in goods which when preparing national accounts and the balance of payments statistics should be removed from IMTS replaced by processing fees. This is especially suitable for cases in which goods sent abroad for processing subsequently return to the country of origin. In addition, direct reporting (e.g. balance of payments surveys, international trade in services questionnaires) are needed to get information (see for details point c below) on goods sold abroad after processing and on inputs purchased by the principal in foreign countries intended for processing abroad.

**n) Flexibility of data sources**

91. The Task Force considers that flexibility is needed in the use of data sources, because each country could use the data sources which are most relevant in its particular case.

**Flagging inward and outward processing flows in international merchandise trade statistics**

92. The IMTS are the starting point for the compilation of trade in goods statistics in national accounts and balance of payments. As described in chapter a) above, customs declarations (Extrastat) and Intrastat returns are the basic source of data for trade statistics. Goods for processing can – to some extent – be identified by the nature of transaction codes and/or the customs procedure codes.

93. The Member States apply commonly two trade systems to compile the IMTS: the general trade system and the special trade system (relaxed definition), which means that beside regular

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26 ESA 95 paragraph 3.135 (m) states that ‘Imports and exports of goods include transactions between residents and non-residents in goods processed to order abroad when a substantial physical change in the goods is involved. Similar goods processed on the domestic territory on behalf of non-residents’. BPM5 as well as the 1993 SNA recommend that goods that are sent abroad for processing and later on re-imported should be recorded gross by the processing economy as well as by the economy that sent the goods for processing, if the processing involves a substantial physical change in the goods. The Eurostat Task Force agreed that the ‘change of ownership principle’, and not the ‘substantial transformation of a product’ should be used as a predominant criterion for recording processing, i.e. that goods sent abroad for processing are to be recorded on a ‘net basis’, as an import of processing services for the country of the principal. The ESA 2010 does not any longer refer to ‘physical change’ when discussing ‘goods for processing’.

27 The IMTS 2010 paragraph 1.20 recommends that in all cases goods for processing, as well as goods resulting from the processing (compensating products in customs terminology) are to be included in the merchandise exports and imports of the countries at their full (gross) value.

28 The general trade system is in use when the statistical territory of a country coincides with its economic territory. Consequently, under the general trade system, imports include all goods entering the economic territory of a compiling country and exports include all goods leaving the economic territory of a compiling country.

29 The special trade system is in use when the statistical territory comprises only a particular part of the economic territory. The special trade system (strict definition) is in use when the statistical territory comprises only the free circulation area, that is, the part within which goods 'may be disposed of without customs restriction'. Consequently, in such a case, imports include all goods entering the free circulation area of a compiling country, which means cleared through customs for home use, and exports include all goods leaving the free circulation area of a compiling country. The special trade system (relaxed definition) is in use when (a) goods that enter a country
import and export transactions also inward and outward processing as well as processing carried out in customs free trade zones are included in the trade statistics. Goods for processing (where there is no change of ownership) therefore need to be separately identified so that they can be removed from the IMTS source data, for use in national accounts and balance of payments statistics.

94. As referred to in chapter 0 above, the IMTS 2010 encourages countries to explicitly identify in their trade statistics (preferably by special coding) goods for processing and goods resulting from such processing where no change of ownership takes place, in order to take into account the needs of international trade in services and balance of payments statistics where manufacturing services on inputs owned by others should be recorded. It would be helpful to flag inward and outward processing flow in IMTS in order to remove them from imports and exports.

95. The Task Force concluded that individual information in order to compile estimations and adjustments in the national accounts are required according to the new statistical standards for goods for processing. To record exports and imports of goods for processing and the processing fees in the balance of payments statistics and the national accounts, according to the ESA 2010, the following corrections to data from the IMTS must be made:

**Outward processing:** If the domestic unit has production abroad and ownership to raw materials (principal):

- Reported export value related to goods sent abroad for processing (cross-border movements of goods without change of economic ownership) must be deducted from export data.
- Reported import value related to goods returning after processing abroad (cross-border movements of goods without change of economic ownership) must be deducted from import data.
- Raw materials/semi-produced goods paid for by domestic units to non-resident suppliers, used in the production abroad (goods never cross the national border) must be added to import data.
- Sales revenues related to goods produced abroad and sold and transported directly to non-resident customers (processed goods never cross the national border) must be added to export data.

**Inward processing:** when goods are processed by domestic processors (the principal is non-resident and supplier of processing services is resident), the following data are needed:

- Reported import value related to goods send from non-resident units to be processed by domestic suppliers (cross-border movements of goods without change of economic ownership) must be deducted from import data.
- Reported export value related to goods sent abroad after inward processing (cross-border movements of goods without change of economic ownership) must be deducted from export data.

96. For inward and outward processing exports and imports of processing fees associated with processing services must be identified and surveyed.

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for or leave it after inward processing and (b) goods that enter or leave an industrial free zone are also recorded and included in IMTS.
Improving the surveying of industrial processing in business surveys and balance of payments statistics

97. The Task Force recommends applying data sources for the compilation of goods for processing with broad **breakdown by product and at least annual frequency**, which is also important for the compilation of supply-use tables. Examples of such sources were the balance of payments surveys and the structural business surveys.

98. Structural business statistics surveys are usually conducted at about five year intervals, and collect detailed information on sales and purchases by economic activity. Such surveys can be adapted to collect information on both inward processing and outward processing. In the case of **inward processing**, the following variables are required:

- The value of the processing service provided to a non-resident.
- The value of the goods received from abroad (if available).
- The value of the goods returned to the non-resident owner after processing (if available).

99. As there is no transfer of ownership and therefore no financial transactions, the resident processor is unlikely to know the value of the goods received or the goods returned to the non-resident owner. One option is to link the processing activity with information on goods received from abroad for processing from customs declarations. If it is not possible to link the processing with the goods declarations, it may be necessary to estimate the goods flows. Structural business statistics surveys can also collect the following variables for outward processing:

- The value of the processing service provided by a non-resident.
- The value of the goods sent abroad.
- The value of the goods returned to the non-resident owner after processing.

100. In this case, the owner of the goods will be reporting, so is able to provide information on the value of goods originally sent abroad and returned after processing. A longer term aim would be use a unique company identification code (such as a tax number) to link information companies report to business surveys to the foreign trade information reported via the IMTS. This will require significant investment, but will allow the compiler to validate both IMTS and survey results, leading to better quality data.

101. In the same way business surveys can be adapted to collect the variables necessary to derive goods for processing and processing services, balance of payments surveys can be similarly adapted. Many EU countries have moved to collecting Trade in Services via surveys or as part of balance of payments direct reporting. Such surveys can be amended to collect the additional variables required to identify goods for processing and the associated processing service.

102. Prodcom provides statistics on the production of manufactured goods. Production statistics are an important measure of sales of goods. But in order to give an accurate picture, they must be linked to import and export figures. For this reason, the production statistics published by Eurostat are accompanied by the related trade data. However trade data is collected independently using a different nomenclature (the Combined Nomenclature), so there can be discrepancies between the two sets of figures.

103. The non-imputation of the change of ownership principle in ESA 2010 requires removing goods for processing from data where required for administrative purposes and to align them with annual surveys on production. Consequently, national statistical institutes will need to continue to gather a significant amount of information on goods sent abroad for processing.

104. The Task Force recognises the usefulness of reconciliation tables to reconcile the often conflicting messages between the IMTS and the domestic system of balance of payments and
business surveys. The Task Force recommends that each Member State should draw up such tables to enable explanations to be given for the discrepancies between the IMTS and other national accounts and balance of payments measures of imports and exports of goods and services.

o) Strengthening cooperation and exchange of experiences

105. The Task Force considers it necessary to strengthen cooperation and exchange of experiences between national statistical institutes and central banks. The statistical measurement of domestic economic activities of multinational enterprises needed follow-up. The Task Force recommends, as far as possible, the establishment of ‘large and complex cases units’ at the national statistical institutes to consistently observe the largest and most complex multinational enterprises in general and specifically their merchanting and processing activities. International exchange of experiences would help to improve the effectiveness of these units, including observation techniques, data analyses, strategies of communication with representatives of multinationals' headquarters and the required skills of staff.

p) Activities of non-residents registered for VAT in the host country

106. The Task Force acknowledges that progress has been made in addressing practical measurement issues related to goods for processing. There were, however, some conceptual and measurement challenges that need further attention like non-residents registered for VAT: Case studies presented dealt with VAT registered entities with little or no physical presence in the host country, which caused distortion in data and imposed important changes on national accounts and balance of payments statistics. In one country their activities are mainly related to distribution and transport of goods.

107. Recommendations on the treatment of goods sent abroad for processing involving non-residents registered for VAT will be addressed – amongst other issues – in a manual on 'goods for processing' to be finalised by Eurostat in 2013. In the context of non-residents registered for VAT the Task Force recommends fostering cooperation on a bilateral level with regard to multinationals operating subsidiaries in a number of Member States with each subsidiary registered for VAT separately in every Member State in which it carries out a transaction. The Task Force suggests analysing the issue at a company level using company ledgers. A link between trade and business data would be the solution although this may be difficult to implement. An international exchange of micro-data and mirror comparisons should take place at least for large companies. This recommendation is not only limited to activities of non-residents registered for VAT.

q) Development of price deflators for processing fees

108. Industry statistics are not only prepared in nominal terms but also in real terms. Price indices are normally available for goods, but much less information on price indices is available about prices associated with assembling these goods. Further analysis on this issue is recommended.

109. Since the price of goods processed and the price for processing fees will most likely differ, the Task Force recommends the development of price deflators for processing fees.

r) Breakdown of processing fees according to CPA 2008 classification

110. A breakdown of processing fees according to CPA 2008 classification is required. A 4-digit-level of breakdown of processing fees according to CPA 2008 classification should be sought.
s) **Areas for future work**

111. Future work should focus on the development of operational criteria to distinguish between processing and merchanting, as well as other forms of global manufacturing. This includes especially factory-less goods producers.

7. **References**

112. European System of National and Regional Accounts (ESA 2010); Chapter 18: Rest of the world accounts; available from:


The Guide 'The Impact of Globalization on National Accounts' available from:
http://www.unece.org/stats/groups/wggna.e.html,
Annex 7.1

How will the Statistical Adjustment on Manufacturing Services on Physical Inputs Owned by Others Affect China’s Balance of Payments Statistics\(^\text{30}\)

(To be completed later)

Annex 7.2
Goods for processing in Mexico\(^\text{31}\)

(To be completed later)

\(^{30}\) Case study prepared by State Administration of Foreign Exchange (SAFE) of China.

\(^{31}\) Case study prepared by the National Institute of Statistics and Geography (INEGI) of Mexico.