

## Expert Group on International Merchandise Trade Statistics

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### First drafts for chapters 3 to 11

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## Chapter III Commodity Classifications

3.1. The commodity structure of external trade flows of goods is analysed using various internationally adopted commodity classifications which have different levels of detail and are based on different classification criteria. The basic reason for applying a goods nomenclature is to be able to identify details of the commodities in order to satisfy a variety of purposes, including customs, statistical and analytical purposes, particularly for the presentation of external trade statistics with the most detailed commodity specifications.

3.2. The complex nature of the basic customs and statistical needs makes it necessary to have a rather detailed commodity classification. The *Harmonized Commodity Description and Coding System* (Harmonized System, or HS), or extended versions based on HS, such as the Combined Nomenclature used by the countries that are members of the European Union<sup>1</sup> provide such details. Classification using these nomenclatures is based on the nature of the commodity. However, for analytical purposes, such a division of products is not the most appropriate. Commodity categories more suitable for economic analysis are provided by the *Standard International Trade Classification, Revision 4* (SITC, Rev.4)<sup>2</sup>, which classifies commodities according to their stage of production. The *Classification by Broad Economic Categories Defined in Terms of SITC, Rev.3 and the Harmonized Commodity Description and Coding System (2002)* (BEC),<sup>3</sup> groups large economic classes of goods with reference to their end use. Nomenclatures have also been elaborated with the primary aim of classifying productive economic activities. The *International Standard Industrial Classification of All Economic Activities (ISIC), Revision 4* (ISIC, Rev.4.)<sup>4</sup> is an example of such a nomenclature: it classifies according to the principal industry of origin of products. The *Central Product Classification Version 2.0* (CPC)<sup>5</sup> combines the main classification principle of ISIC, Rev.4 with criteria applied in HS.<sup>6</sup> For the purposes of balance of payments statistics, trade flows are broken down into the three broad categories general merchandise, goods under merchanting and non-monetary gold (see BPM6, paras. 10.13 -10.54).

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<sup>1</sup> See Official Journal of the European Communities No. L256 (7 September 1987), Council Regulation No. 2658/87, annex 1; amended annually by European Commission regulations.

<sup>2</sup> United Nations publication, Sales No. E.06.XVII.10; also contains a description of the origin and development of SITC.

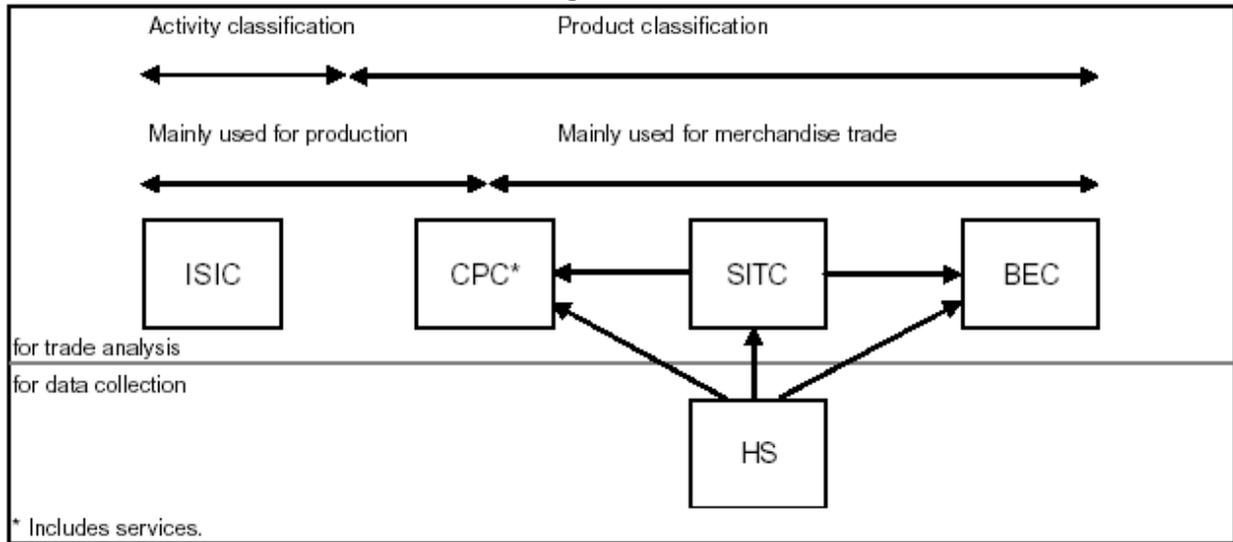
<sup>3</sup> United Nations publication, Sales No. E.03.XVII.8.

<sup>4</sup> United Nations publication, Sales No. E.08.XVII.25.

<sup>5</sup> See <http://unstats.un.org/unsd/cr/registry/cpc-2.asp>

<sup>6</sup> Correlation tables between these commodity-based classifications have been established and have generally been included in the publications containing the classifications themselves. Some of the correlations are also available from the United Nations Statistics Division website at <http://unstats.un.org/unsd/trade/methodology/imts.htm>.

Illustration 1: Relationship between different classifications



## A. Harmonized Commodity Description and Coding System

3.3. The Harmonized System was adopted by the Customs Co-operation Council in June 1983, and the International Convention on the Harmonized System (HS Convention) entered into force on 1 January 1988 (HS88).<sup>7</sup>

3.4. The Statistical Commission, at its twenty-seventh session (22 February to 3 March 1993), recommended that countries adopt HS for the compilation and dissemination of their international trade statistics.<sup>8</sup>

3.5. In accordance with the preamble to the HS Convention, which recognized the importance of ensuring that HS is kept up to date in the light of changes in technology or in patterns of international trade, HS is regularly reviewed and revised.<sup>9</sup> The Statistical Commission, at its twenty-seventh session, recommended that the Customs Co-operation Council take fully into account the statistical implications of any changes proposed for HS and the statistical needs and capacities of developing countries.<sup>10</sup>

<sup>7</sup> See Customs Co-operation Council, The Harmonized Commodity Description and Coding System (Brussels, 1989); see also second edition published by World Customs Organization (Brussels, 1996). As of 8 May 2009 there were 137 Contracting Parties to the Convention, and another 32 countries or territories which were not contracting parties but were using HS for customs/statistical purposes. The proper classification of goods is a legal obligation of the Contracting Parties to the HS Convention. HS, when incorporated in the country's tariff, becomes a national law. Entering wrong codes in the goods declaration may entail legal consequences.

<sup>8</sup> See Official Records of the Economic and Social Council, 1993, Supplement No. 6 (E/1993/26), para. 162 (d).

<sup>9</sup> Currently, there are several versions of HS: 1988, 1992, 1996, 2002, and 2007. Another revision is expected to come into force in the year 2012.

<sup>10</sup> See Official Records of the Economic and Social Council, 1993, Supplement No. 6 (E/1993/26), para. 162 (e).

3.6. The headings and subheadings of HS are accompanied by interpretative rules, and section, chapter and subheading notes, which form an integral part of HS and are designed to facilitate classification decisions in general and to clarify the scope of the particular headings or subheadings.

3.7. Four amended editions of the HS had gone into force, on 1 January 1992, 1 January 1996, 1 January 2002 and 1 January 2007.<sup>11</sup> The amendments took account of technological progress and trade patterns, clarified the text to ensure uniform application of HS, and provided a legal basis for decisions taken by the Harmonized System Committee. HS07 has 5,052 subheadings of which 4,208 are subheadings from the original HS88. 844 non-original subheadings (17 per cent) were introduced in the subsequent HS editions (1 in 1992, 267 in 1996, 316 in 2002, and 260 in 2007).<sup>12</sup> The fifth amended edition of the HS (HS12) is currently being discussed and is expected to be effective beginning 1 January 2012.

3.8. HS07 contains 5,052 subheadings and 1,221 headings, grouped into 97 chapters and 21 sections. As a general rule, goods are arranged in order of their degree of manufacture: raw materials, unworked products, semi-finished products and finished products. For example, live animals fall under Chapter 1, animal hides and skins under Chapter 41 and leather footwear under Chapter 64. The same order also exists within the chapters and headings.

3.9. The general structure of HS is as follows:

|                      |  |
|----------------------|--|
| Sections I to IV:    | Agricultural products  |
| Sections V to VII:   | Minerals, chemical and related products, plastics, rubber and articles thereof   |
| Sections VIII to X:  | Animal products, such as hides, skins and furskins, as well as wood, cork, pulp, paper, and articles thereof   |
| Sections XI and XII: | Textiles, footwear and headgear  |
| Sections XIII to XV: | Articles of stone, plaster, cement, asbestos, mica and the like, ceramic products, glass, pearls, precious or semi-precious stones, precious metals, jewellery, base metals and articles thereof |
| Section XVI:         | Machinery, mechanical appliances and electrical equipment  |
| Section XVII:        | Vehicles, aircraft, vessels and associated transport equipment   |

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<sup>11</sup> Some minor revisions to the 1988 HS (HS88), which also resulted in the deletion of one six-digit code, were made in 1992 (HS92). A more comprehensive set of amendments was adopted in 1993, and those amendments entered into force on 1 January 1996 (HS96). The amendments which became effective on 1 January 2002 (HS02) were relatively minor while the amendments of 1 January 2007 (HS 2007) entailed significant changes. For more information please visit [http://www.wcoomd.org/home\\_wco\\_topics\\_hsoverviewboxes\\_tools\\_and\\_instruments\\_hsnomenclature.htm](http://www.wcoomd.org/home_wco_topics_hsoverviewboxes_tools_and_instruments_hsnomenclature.htm)

<sup>12</sup> Whenever revisions are made to HS, items are added by the creation of new headings (four digit codes) or subheadings (six-digit codes). In order to accommodate users who maintain data in different versions of HS, codes for commodities which have been deleted are not reused.

|                      |  |
|----------------------|--|
| Section XVIII:       | Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus, clocks and watches, musical instruments       |
| Section XIX:         | Arms and ammunition  |
| Sections XX and XXI: | Miscellaneous manufactured articles, such as furniture, lighting fittings, prefabricated buildings, sports requisites, works of art, collectors' pieces and antiques |

3.10. *Use of HS chapters 98 and 99.* HS considers chapters 98 and 99 to be reserved for special use by Contracting Parties. In practice, there is a tendency for countries to reserve chapter 98 for goods which can be classified at the chapter level of HS and to use chapter 99 for recording special transactions and commodity categories not classified according to HS (e.g., postal packages not classified according to kind). It is advised that that practice be followed by all countries. Compilers are encouraged to code items attributed to chapters 98 and 99 by applying the formats “98hh” (where “hh” is the code of the HS chapter where goods could have been classified) and “99xxxx” (where “xxxx” is a sequence of digits chosen by a country to code a particular transaction).

3.11. **It is recommended** that countries use HS for the collection, compilation and dissemination of international merchandise trade statistics.

## **B. Standard International Trade Classification**

3.12. Taking into account the needs of countries, intergovernmental bodies and international agencies for greater international comparability of trade data, the Statistical Commission at its third session had recommended that a revision of the League of Nations’ Minimum List of Commodities for International Trade Statistics<sup>13</sup> be prepared. In cooperation with Governments and with the assistance of expert consultants, the United Nations Secretariat drew up the 1950 edition of the United Nations Standard International Trade Classification (referred to below as the "original" SITC).<sup>14</sup> In its resolution 299 B (XI) of 12 July 1950, the Economic and Social Council, upon the recommendation of the Statistical Commission at its fifth session held in May 1950, urged all Governments to make use of the Standard Classification by adopting it. By 1960, many countries were compiling international merchandise trade data according to the original SITC or national classifications correlated to it and major international organizations had adopted SITC as a basis for the reporting of international trade statistics.

3.13. The first revision of SITC was issued in 1961, after being considered by the Statistical Commission at its eleventh session.<sup>15</sup> In 1974, the Statistical Commission adopted SITC, Revision 2 which was issued on the following year.<sup>16</sup> The Statistical Commission, at its twenty-first session,

<sup>13</sup> League of Nations, 1938 (II.A.14; and corrigendum, 1939).

<sup>14</sup> Statistical Papers, No. 10/Rev.1, June 1951 (United Nations publication, Sales No. 51.XVII.1).

<sup>15</sup> Statistical Papers, Series M, No. 34, 1961 (United Nations publication, Sales No. 61.XVII.6).

<sup>16</sup> Statistical Papers, No. 34/Rev.2 (UN publication, Sales No. E 75.XVII.6).

took note of the fact that a third revision of SITC would have to be made available when HS came into force in 1988.<sup>17</sup> Employing the subheadings of HS88 as building blocks, in consultation with experts from Governments and interested international organizations and with the assistance of expert groups, the United Nations Statistics Division produced SITC, Rev.3, taking account of the need for continuity with the previous versions of SITC, as well as the following considerations:

- (a) The nature of the merchandise and the materials used in its production;
- (b) The processing stage;
- (c) Market practices and the uses of the product;
- (d) The importance of the commodity in terms of world trade;

3.14. The final draft of SITC, Revision 3, was approved by the Statistical Commission at its twenty-third session, in February 1985.<sup>18</sup> The Economic and Social Council, on its resolution 1985/7 of 28 May 1985, recommended that Member States should report internationally data on external trade statistics according to SITC, Revision 3.<sup>19</sup>

3.15. In 1993, the Statistical Commission endorsed the use of HS at the national level in compilation and dissemination of international merchandise trade statistics<sup>20</sup>; and in 1999, the Commission confirmed the recognition of SITC as an analytical tool.<sup>21</sup>

3.16. In the past, in order to maintain continuity in the SITC, Revision 3, series, the United Nations Statistics Division had issued appropriate correlation tables between SITC, Revision 3, and each new edition of HS. However, a strict period-to-period comparability was being lost for a growing number of series owing to significant changes in the HS classification scheme. At the same time, the majority of countries and international organizations continued to use SITC for various purposes, such as study of long-term trends in international merchandise trade and aggregation of traded commodities into classes more suitable for economic analysis. In this context, the Statistical Commission, at its thirty-fifth session (2-5 March 2004), agreed with the conclusion of the inter-agency Task Force on International Merchandise Trade Statistics that the fourth revision of SITC was needed in view of accumulated changes in HS.<sup>22</sup> SITC, Revision 4, was issued by the United Nations in 2006.<sup>23</sup>

3.17. The scope of SITC, Revision 4, remains the same as that of SITC, Revision 3, that is to say SITC, Revision 4, covers all goods classifiable in HS except for monetary gold, gold coin and current coin. All SITC, Revision 4, basic headings (except for 911.0 and 931.0) are defined in terms of HS07 subheadings. Since SITC is now recommended only for analytical purposes, there

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<sup>17</sup> See Official Records of the Economic and Social Council, 1981, Supplement No. 2 (E/1981/12), para. 41 (a).

<sup>18</sup> See Official Records of the Economic and Social Council, 1985, Supplement No. 6 (E/1985/26), Chapter IV, para 57 (d).

<sup>19</sup> Statistical Papers, No. 34/Rev.3 (United Nations publication Sales No. E.86.XVII.12 and corrigenda).

<sup>20</sup> See Official Records of the Economic and Social Council, 1993 Supplement No. 6 (E/1993/26), Chapter XI, para 158.

<sup>21</sup> Ibid., 1999, Supplement No. 4 (E/1999/24), Chapter II, para. 24 (c).

<sup>22</sup> See Official Records of the Economic and Social Council, 2004, Supplement No. 4 (E/2004/24), chapter V, para. 4 (i).

<sup>23</sup> United Nations publication, Sales No. E.06.XVII.10.

was no need –except in several special cases- to create new basic headings in SITC, Revision 4, that would be in one-to-one correspondence with the new HS07 subheadings.

3.18. SITC, Revision 4, retains the overall structure of SITC, Revision 3, and consists of the same number of sections, divisions and groups. The changes made were at the level of basic headings and some subgroups. It contains 3,993 basic headings and subheadings, which are assembled in 262 groups, 67 divisions and 10 sections. The sections are listed as follows:

- 0 Food and live animals
- 1 Beverages and tobacco
- 2 Crude materials, inedible, except fuels
- 3 Mineral fuels, lubricants and related materials
- 4 Animal and vegetable oils, fats and waxes
- 5 Chemicals and related products, not elsewhere specified
- 6 Manufactured goods classified chiefly by material
- 7 Machinery and transport equipment
- 8 Miscellaneous manufactured articles
- 9 Commodities and transactions not classified elsewhere in SITC

The coverage of the sections in all revisions of SITC is very close, so that historical series of data are largely comparable at this level of aggregation. The historical comparability is also preserved for numerous series at the more detailed levels of the classification.

3.19. **It is recommended** that, in addition to HS, countries use SITC for data dissemination and analysis as needed to meet the user requirements. **(Attention! Please comment whether you agree with this recommendation as it was not explicitly formulated in IMTS, Rev.2)**

### C. Classification by Broad Economic Categories

3.20. The original version of the Classification by Broad Economic Categories<sup>24</sup> was devised mainly for use by the United Nations Statistics Division for the summarization of data on international trade by large economic classes of commodities. It was designed to serve as a means for converting trade data compiled in terms of SITC into end-use categories that were meaningful within the framework of SNA,<sup>25</sup> namely, categories approximating the three basic classes of goods in SNA: capital goods, intermediate goods and consumption goods.<sup>26</sup> BEC has 19 basic categories that can be aggregated to approximate the three basic classes of goods, thus permitting trade statistics to be considered jointly with other sets of general economic statistics - such as national accounts and industrial statistics - for national, regional or global economic analysis.

3.21. The Classification was also expected by the Statistical Commission to serve as a guideline for national classifications of imports according to broad economic categories.<sup>27</sup> However, at its sixteenth session (5 - 15 October 1970), the Statistical Commission recognized that countries might wish to adapt the Classification for national purposes in different ways to meet national requirements, and concluded that consequently, the Classification was not to be regarded as a "standard" classification in the same sense as, for example, SITC.<sup>28</sup>

3.22. That original BEC was defined in terms of the divisions, groups, subgroups and basic headings of the Standard International Trade Classification, Revised<sup>29</sup> and was issued in 1971.<sup>30</sup> It has since been revised four times. The first revision defined BEC in terms of the Standard International Trade Classification, Revision 2<sup>31</sup> and was issued in 1976.<sup>32</sup> The second revision defined BEC in terms of the Standard International Trade Classification, Revision 3 (SITC, Rev.3)<sup>33</sup> and was issued in 1986<sup>34</sup> A third revision was issued in 1985 to provide full details of the SITC, Rev. 3 headings corresponding to BEC categories 41\* and 62\*, which were incomplete in the second revision due to the omission of one page; it also incorporated a corrigendum and a revised introduction.

3.23. In 2003, the fourth BEC revision was issued to take into account the more detailed description of commodities provided by the 2002 edition of the Harmonized Commodity

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<sup>24</sup> United Nations publication, Sales No. E.71.XVII.12.

<sup>25</sup> See Official Records of the Economic and Social Council, Forty-fourth Session, Supplement No. 10 (E/4471), paras. 116 and 118.

<sup>26</sup> See United Nations, A System of National Accounts (United Nations publication, Sales No. E.69.XVII.3), para. 1.50.

<sup>27</sup> Official Records of the Economic and Social Council, Forty-fourth Session, Supplement No. 10 (E/4471), para. 123.

<sup>28</sup> Ibid, Fiftieth Session, Supplement No. 2 (E/4938), para. 95.

<sup>29</sup> Statistical Papers, Series M, No. 34, 1961 (United Nations publication, Sales No. 61.XVII.6).

<sup>30</sup> Classification by Broad Economic Categories (United Nations publication, Sales No. E.71.XVII.12).

<sup>31</sup> United Nations publication, Sales No. E.75.XVII.6.

<sup>32</sup> Classification by Broad Economic Categories Defined in Terms of SITC, Revision 2 (United Nations publication, Sales No. E.76.XVII.7).

<sup>33</sup> United Nations publication, Sales No. E.86.XVII.12.

<sup>34</sup> Classification by Broad Economic Categories Defined in Terms of SITC, Revision 3 (United Nations publication, Sales No. E.86.XVII.24).

Description and Coding System.<sup>35</sup>

#### **D. Central Product Classification**

3.24. The Central Product Classification originated from initiatives in the early 1970s to harmonize international classifications. The new classification was intended to cover both goods and services (products) and would use the detailed subheadings of the Harmonized System as building blocks for the part dealing with transportable goods.

3.25. The first release of CPC, called The Provisional Central Product Classification, was approved by the Statistical Commission at its twenty-fifth session in 1989<sup>36</sup> and published by the United Nations in 1991.<sup>37</sup> CPC, Version 1.0 was adopted by the Statistical Commission at its twenty-ninth session in 1997<sup>38</sup> and published in 1998.<sup>39</sup> In 2003, CPC, Version 1.1 was released<sup>40</sup> taking into account the update to its goods sections according to the 2002 edition of the Harmonized Commodity Description and Coding System (HS02).

3.26. In 2008, the work on the next update of CPC, Version 2.0 was completed. It is divided into 10 sections, 71 divisions, 324 groups, 1,267 classes and 2,738 subclasses. Sections 0 to 4 are based on HS07,<sup>41</sup> and aggregate the HS codes into product categories suitable for various types of economic analysis within the national accounts framework. This part of the classification, like SITC, provides for the rearrangement of HS-based international merchandise trade statistics for analytical purposes. Sections 5 to 9 of CPC, Version 2.0 go beyond HS categories to provide a classification of service products.

#### **E. International Standard Industrial Classification of All Economic Activities**

3.27. Unlike HS, SITC, BEC and CPC that are considered product classifications, the International Standard Industrial Classification of All Economic Activities (ISIC) is the international reference classification of productive activities. Its main purpose is to provide a set of activity categories that can be utilized for the collection and reporting of statistics according to such activities. Since the adoption of the original version of ISIC in 1948,<sup>42</sup> ISIC has provided guidance to countries in developing national activity classifications and has become an important

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<sup>35</sup> United Nations publication, Sales No. E.03.XVII.8.

<sup>36</sup> Official Records of the Economic and Social Council, 1989, Supplement No. 3 (E/1989/21), paras. 95(b) and (f).

<sup>37</sup> Provisional Central Product Classification, Statistical Papers Series M, No. 77 (United Nations publication, Sales No. E.91.XVII.7).

<sup>38</sup> See Official Records of the Economic and Social Council, 1997, Supplement No. 4 (E/1997/24), para. 19 (d).

<sup>39</sup> Central Product Classification (CPC) Version 1.0, Statistical Papers Series M, No. 77, Ver.1.0 (United Nations publication, Sales No. E.98.XVII.5)

<sup>40</sup> United Nations publication, Sales No. E.03.XVII.3

<sup>41</sup> The correlations between HS07 and CPC, Version 2.0 can be accessed at the United Nations Statistics Division website at <http://unstats.un.org/unsd/class>.

<sup>42</sup> *Statistical Papers*, No. 4, Lake Success, New York, 31 October 1949.

tool for comparing statistical data on economic activities at the international level. Wide use has been made of ISIC, both nationally and internationally, in classifying data according to kind of economic activity in the fields of economic and social statistics, such as for statistics on national accounts, demography of enterprises, employment and others.

3.28. The original ISIC was revised four times. The structure of the current fourth revision of ISIC was considered and approved by the Statistical Commission at its thirty-seventh session, in March 2006,<sup>43</sup> as the internationally accepted standard. It contains 21 sections, 88 divisions, 238 groups and 419 classes.

3.29. Since ISIC has been used for the collection and presentation of statistics in many areas, there has been a strong need for correspondence tables between ISIC and other classifications. When drafting ISIC, Rev.4, and simultaneously CPC, Ver.2, a strong link was established between the two classifications. By rearranging the CPC categories according to their industrial origin and using the link between CPC, SITC and HS, a detailed correspondence table between HS, SITC, CPC and ISIC was established.<sup>44</sup> Countries can take advantage of this correlation when analyzing trade flows by activity categories.

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<sup>43</sup> Official Records of the Economic and Social Council, 2006, Supplement No.4 (E/2006/24), chap. I, para. 3, item 37/105 (a).

<sup>44</sup> These and other correspondence tables are available in electronic format only and can be accessed at the United Nations Statistics Division website at <http://unstats.un.org/unsd/class>.

## Chapter IV Valuation

### A. Statistical value of imports and exports

4.1. *Statistical value.* **It is recommended that for** all goods covered in international merchandise trade statistics, whether sold, exchanged or provided without payment, a statistical value is recorded following the specific rules as defined below.

4.2. *Customs valuation and statistical value.* In the past, most countries had no specific system for the valuation of commodities for the purposes of international merchandise trade statistics.<sup>45</sup> However, the values placed on merchandise for customs purposes were - and are - available to the statistician. National practices of customs valuation often vary from country to country, and consequently the trade statistician needs to be aware of those practices to understand the customs values.

4.3. An important step towards the standardization of the customs approach to valuation was made in 1947 by the adoption of article VII of the General Agreement on Tariffs and Trade (GATT 1947).<sup>46</sup> The contracting parties to GATT 1947 agreed to base the customs value of imported merchandise on its actual price, and recognized the validity of that approach in respect of all products subject to duties or other charges and restrictions on importation and exportation based on value. In 1953, the Brussels Definition of Value (BDV) was developed to further standardize the customs approach to valuation.<sup>47</sup> In 1981, another approach was adopted within the GATT framework, known as the Agreement on Implementation of Article VII of the General Agreement on Tariffs and Trade 1981 (1981 GATT Agreement on Valuation).<sup>48</sup> Finally, in 1995, the Agreement on Implementation of Article VII of the General Agreement on Tariffs and Trade 1994 (WTO Agreement on Valuation) was established; it came into effect on 1 January 1995. It is one

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<sup>45</sup> An increasing number of countries include in their customs declarations a provision for statistical value; for example, many countries have adopted the Single Administrative Document (SAD), which contains a special entry for statistical value.

<sup>46</sup> See World Trade Organization, *The Results of the Uruguay Round of Multilateral Trade Negotiations: The Legal Texts* (Geneva, 1995), pp. 495 - 497.

<sup>47</sup> The Convention on the Valuation of Goods for Customs Purposes, more commonly known as the Brussels Definition of Value (BDV), came into force on 28 July 1953. BDV represents a "notional" concept of value, under which it is assumed that there is a single, theoretical standard of value, namely, the normal price which goods would fetch in the open market under specified conditions. It is assumed that that price can always be found by applying appropriate methods. In practice, when imported goods are the subject of a bona fide sale, the price paid or payable on that sale is generally considered as a valid indication of the normal price mentioned in the definition.

<sup>48</sup> The 1981 GATT Agreement on Valuation came into force on 1 January 1981. It was intended to provide a fair, uniform and neutral system for the valuation of goods for customs purposes, and to be a system that conformed to commercial realities and outlawed the use of arbitrary or fictitious customs values. The Agreement noted that customs value should, to the greatest extent possible, be based on the price actually paid or payable for the goods being valued; that price, subject to certain adjustments, was called the "transaction value". The latter was to be the customs value in the great majority of importations, and constituted the primary basis for valuation under the Agreement. Where there was no transaction value or where the transaction value could not be accepted because the price had been influenced by distortions resulting from certain conditions or restrictions, the Agreement provided for other methods of determining customs value, to be applied in a prescribed order.

of the multilateral agreements on trade in goods annexed to the Marrakesh Agreement Establishing the World Trade Organization, and is obligatory for all WTO members.<sup>49</sup> The WTO Agreement on Valuation is patterned on the 1981 GATT Agreement on Valuation, adopting transaction value (the price actually paid or payable for the goods including some adjustments) as the customs value of imported goods.<sup>50</sup> The text of the rules on customs valuation, as set out in the WTO Agreement on Valuation, is contained in annex C below. **[Question to WCO and WTO: Is there any more recent development that should be mentioned?]**

4.4. **It is recommended** that countries adopt the WTO Agreement on Valuation as the basis for valuation of their international merchandise trade for statistical purposes. This valuation method applies to all goods flows.

4.5. The WTO Agreement on Valuation allows countries to include in or exclude from the customs value, in whole or in part, such components as:

"(a) The cost of transport of the imported goods to the port or place of importation;

(b) Loading, unloading and handling charges associated with the transport of the imported goods to the port or place of importation;

(c) The cost of insurance."<sup>51</sup>

4.6. *FOB-type and CIF-type values.* In principle, under the Agreement, countries can choose two different approaches to the valuation of goods, namely they can use FOB-type or CIF-type values. FOB-type values include the transaction value of the goods and the value of services performed to deliver goods to the border of the exporting country. CIF-type values include the transaction value of the goods, the value of services performed to deliver goods to the border of the exporting country and the value of the services performed to deliver the goods from the border of the exporting country to the border of the importing country (see paras [...] for details).

4.7. *Country practices.* Countries almost universally apply FOB-type values for exports. In the case of imports most countries use the CIF-type values as customs administrations usually determine the customs value of the goods on this basis. The CIF-type value of imported goods is important for various analytical purposes such as price comparison with other goods available on the domestic market **[To be elaborated. Please provide your suggestions]**. The FOB-type values of imports are more difficult to compile and are systematically applied by a rather limited number of countries. However, FOB-type values provide a uniform basis<sup>52</sup> for goods valuation (in the sense of giving a single point of valuation for exports and imports, namely, the border of the exporting country's statistical territory) and, therefore, serve the purposes of the compilation of national accounts and balance of payments statistics at the aggregate level. The FOB-type values

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<sup>49</sup> See World Trade Organization, op.cit., pp. 197 - 229.

<sup>50</sup> See 1981 GATT Agreement on Valuation.

<sup>51</sup> Ibid., p. 204.

<sup>52</sup> For valuation, particularly uniform valuation, see 2008 SNA, para. x.xx, and BPM6, para xxx.

of imported goods (at the detailed level) are used in reconciliation studies, the examination of bilateral trade balances and trade negotiations as only they provide a comparable valuation of the exports and imports of trading partners.

4.8. To promote the comparability of international merchandise trade statistics and taking into account the commercial and data reporting practices of the majority of countries and analytical needs, **it is recommended** that:

(a) *The statistical value of exported goods* be an FOB-type value;

(b) *The statistical value of imported goods* be a CIF-type value; however, countries are encouraged to compile FOB-type value of imported goods as a supplementary information;

4.9. **It is further recommended** that countries which compile only CIF-type values of imports make efforts to collect separately data for freight and insurance, at the most detailed commodity/partner level possible. It is recognized that compilation of imports on the FOB-type basis and/or separate data for freight and insurance might entail a significant additional burden on respondents and merchandise trade compilers and should be undertaken based on the national situation and needs. However, countries are encouraged to explore additional methods which can facilitate the compilation of FOB-type values of imports and to provide a basis for a more systematic use of those values in future (examples will be provided in the updated compilers manual).

#### COMPILATION OF FOB-TYPE AND CIF-TYPE VALUES

4.10. Customs administrations generally require the FOB or CIF value to be placed on the customs declarations by traders or calculate those values themselves based on the various documents submitted by traders. Such supporting documents may include the contract of sale, which would normally contain the "terms of delivery" of goods and their value. Types of terms of delivery used in international commerce, including FOB and CIF, are described in annex [D].

4.11. The value of the goods negotiated between traders depends on the agreed terms of delivery. For example, in the case of goods dispatched from the exporting country by sea or inland waterway, FOB at point of export can be used; in the case of goods dispatched from the exporting country by other means of transport and when FOB is not applicable, "Free Carrier" (FCA) at port of export can substitute for it; if neither FOB nor FCA is applicable (e.g., exports by railroad or pipeline), "Delivered at Frontier" (DAF) of exporting country may be used. Since the values of the goods delivered under the FOB, FCA and DAF terms reflect costs of delivery of goods to the border of the exporting country they are similar and are referred to as FOB-type values. Goods imported by sea or inland waterway can be delivered under the CIF (port of importation) terms. In the case of goods imported by other means of transport and when CIF terms are not applicable, the goods can be delivered on a "Carriage and insurance paid to" (CIP) at port of importation basis. Since the values of the goods delivered under the CIF and CIP terms reflect costs, including freight

and insurance, of goods delivery to the border of the importing country they are similar and are referred to as a CIF-type values. If other kinds of terms of delivery are used (such as Ex works, Free Alongside Ship etc.), other sources of data need to be used to establish their FOB-type or CIF-type value by adding/subtracting certain cost items.<sup>53</sup> The additional guidance on compilation of the FOB or CIF-type values is provided in the IMTS Compilers Manual.

4.12. Commercial practice in international merchandise trade displays a variety of detail in the terms of delivery of goods. Statisticians should carefully examine available data sources, including the terms of goods delivery standardized by the International Chamber of Commerce and known as INCOTERMS (see annex D below), in order to derive the recommended FOB/CIF values. In addition, they should establish a close cooperation with the primary data collectors to provide guidance on the methodology regarding the statistical value and to ensure the availability of adequate data. The customs value, when established in compliance with the WTO Agreement on Valuation, should form the basis for the statistical value.

4.13. However, compilers should be aware that values placed on goods by customs authorities may not necessarily comply with statistical requirements. It is advised that if customs values of economically significant shipments of goods are established with a clear deviation from those requirements, these customs values should be replaced by values derived from non-customs sources or by estimated values (if deemed more accurate). Compilers are encouraged to contact exporters of major commodities and, if necessary, to conduct special studies to determine statistical value on the basis of cost of production, including cost of materials, compensation of employees and other relevant information.

#### SELECTED ISSUES OF VALUATION

4.14. Most of the goods covered by international trade statistics cross borders as a result of commercial transactions (purchases/sales). The contract of sale contains, among other information, the price of the goods (contract price), which is normally reflected in the related commercial documents, such as invoices, and can serve as the starting point for determination of the transaction value. Contract prices, however, do not reflect all the costs associated with goods importation and exportation. The identification of total cost depends, as indicated above, on analysis of the terms of delivery embodied in the particular contracts.<sup>54</sup> The contract of sale may not be available or may not contain all the necessary information. In such cases, the data compiler should resort to other commercial documents, such as invoices, contracts of carriage and insurance contracts.

4.15. There are international transactions which present special difficulties or questions

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<sup>53</sup> For ease of reference, the word "type" may be omitted and the terms "CIF value" and "FOB value" may be used as generic names instead.

<sup>54</sup> international guidelines on the content of contracts of sale, see United Nations Convention on Contracts for the International Sale of Goods of 11 April 1980, in *Proceedings of the United Nations Conference on Contracts for the International Sale of Goods, Vienna, 10 March - 11 April 1980* (United Nations publication, Sales No. 81.V.5), pp. 178 - 190.

regarding valuation of the goods involved. Some of the difficulties are due to the complexity of the transaction or the peculiarity of the goods. In other cases, the transactions may not require goods valuation by the involved parties and are not accompanied by the movement of currency or credit. In particular, some questions of valuation arise in relation to some of the goods specified in chapter 1 above. The valuation of all goods should be made in accordance with the WTO Agreement on Valuation and the recommendations contained in the present publication (see paras. xxx and xxx above). In addition, **it is recommended** that:

**[Please advise, if there is a need to add other specific cases - in the first meeting of the EG-IMTS the following were mentioned: returned goods, used goods, goods on consignment (including sales at auctions on foreign markets), rebates and discounts, goods bundled with services, goods with very large mark- up margins and counterfeit goods]**

(a) *Unissued banknotes and securities and coins not in circulation* be valued at the transaction value of the printed paper or stamped metal rather than at their face value (see para. xx above);

(b) *Media, whether or not recorded* be valued at their full transaction value (not at the value of the empty diskettes or CD-ROMs, paper or other materials) The transaction value of that media might fully or partially include the value of certain services and countries should provide details on how the transaction value is established in specific cases (see para. xx above);

(c) *Electricity, gas and water* be valued net of any delivery charges which might or might not appear separately on the invoice. **It is recommended** that countries establish the transaction value of these goods directly. However if only the overall value, including the delivery charges is available, the delivery charges should be subtracted in order to arrive to the transaction value for these goods. Delivery charges should be valued at market prices but it is acknowledged that often no markets for such services exist and that prices for such services are either set administratively or based on some cost calculation. **It is recommended** that trading partners in such transactions value and record these flows in a uniform way to improve international comparability.

(d) *Goods under financial lease*. Goods which are part of a financial lease should be reported using a value equivalent to the price of the goods if offered for sale. Any value reflecting services supplied under the lease (e.g., training, maintenance, etc.) should be excluded. If the goods are not normally offered for sale, the shipment should be valued following the general WTO guidelines on valuation.

4.16. There are cases in which an international transaction in goods may not require goods valuation by the involved parties and is not accompanied by a corresponding movement of currency or credit, such as trade and barter agreements based on quantities without stated prices (para. xx above); food and other humanitarian aid (para. xx above); goods on consignment (para. xx above); goods for processing (para. xx above); migrants' effects (para. xx above); cross-border movements of unsold articles and gifts made by private agencies or persons<sup>66</sup>. In

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<sup>66</sup> Gifts between persons often cannot be separated from other categories of shipments, such as parcel post (which in itself gives rise to special problems); they should, in such cases, be valued by the method used for the categories of

these cases, following the general recommendation, the value of the goods should be established in accordance with the WTO Agreement on Valuation (including the use of transaction value of identical or similar goods, or a computed value) and the recommendations on statistical value contained in the present publication (see paras. xxx and xxx above).

4.17. The appropriate valuation of goods is very important for the accuracy of international merchandise trade statistics. Consequently, the data compiling and data-collection authorities should cooperate to provide reliable valuation in all cases, especially for problem categories of goods (irrespective of whether contract prices are available).

## **B. Currency conversion**

4.18. *The unit of account.* The value of trade transactions may be expressed initially in a variety of currencies or other standards of value. Compilers are required to convert these values into a single (reference) unit of account in order to produce consistent and analytically meaningful national statistics suitable, *inter alia*, for measuring trade flows and the compilation of national accounts and balance of payments statistics. From the perspective of the data compiler, the national currency unit is the preferable reference unit of account. However, if the national currency is subject to significant change relative to other currencies, the analytical value of the data may be diminished. In those circumstances, it might be appropriate to use another more stable unit of account so that the values of international transactions expressed in that unit would not be significantly affected by appreciation or depreciation (relative to the unit of account) of the currencies in which the given transactions occur.

4.19. *Exchange rate for conversion.* In accordance with the WTO Agreement on Valuation **it is recommended** that:

"(a) Where the conversion of currency is necessary for the determination of the customs value, the rate of exchange to be used shall be that duly published by the competent authorities of the country of importation concerned and shall reflect as effectively as possible, in respect of the period covered by each such document of publication, the current value of such currency in commercial transactions in terms of the currency of the country of importation;

(b) The conversion rate to be used shall be that in effect at the time of exportation or the time of importation, as provided by each Member."<sup>55</sup>

4.20. An equivalent approach to conversion should apply for both imports and exports. In cases when both buying and selling (official/market) rates are available the rate to be used is the midpoint between the two, so that any service charge (i.e., the spread between the midpoint and those rates) is excluded. If a rate is not available for the date of exportation or importation, **it is**

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which they form a part.

<sup>55</sup> See World Trade Organization, *op.cit.*, pp. 204 and 205.

**recommended** that the average rate for the shortest period applicable be used.

4.21. *Multiple official exchange rates.* Some countries use a regime of multiple exchange rates, under which different exchange rates are applicable to different categories of traded goods, favouring some transactions and discouraging others. **It is recommended** that trade transactions be recorded using the actual rate applicable to specific transactions, noting which official rate was used for each currency.

4.22. *Parallel or black market exchange rates.* Transactions that involve parallel or black market rates should be handled separately from those that involve official rates. Compilers of trade statistics should attempt to estimate the exchange rate actually used in transactions in such markets, and should use that rate for conversion.

## Chapter V Quantity measurement

5.1. *Quantity units* refer to physical characteristics of goods, and since they are free of the valuation problems discussed in chapter IV above, in many cases they provide a more reliable indicator of international movements of goods. Use of appropriate quantity units also may result in more comparable data on these movements, because differences in quantity measurements between the importing country and the exporting country are normally less significant than in value measurements. Quantities are often used in checking the reliability of the value data. In addition, quantity units are indispensable in the construction of index numbers and for transportation statistics.

5.2. *The standard units of quantity recommended by the World Customs Organization.* In 1995, WCO adopted a recommendation on the use of standard units of quantity to facilitate the collection, comparison and analysis of international statistics based on the Harmonized System.<sup>56</sup> The standard units of quantity are:<sup>57</sup>

|                      |   |
|----------------------|---|
| Weight <sup>58</sup> | kilograms (kg)<br>carat (carat)   |
| Length               | metres (m)  |
| Area                 | square metres (m <sup>2</sup> )   |
| Volume               | cubic metres (m <sup>3</sup> )<br>litres (l)  |
| Electrical power     | 1,000 kilowatt-hours (1,000 Kwh)  |
| Number (units)       | pieces/items (u)<br>pairs (2u)<br>dozens (12u)<br>thousands of pieces/items (1,000u)<br>packs (u(set/pack)) |

5.3. In the WCO recommendation, one of the above standard units of quantity is specified for each HS six-digit subheading.<sup>59</sup>

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<sup>56</sup> See HS, annex II (for HS citation, see para. 6, footnote b above).

<sup>57</sup> Ibid., introduction.

<sup>58</sup> Weight units (kilograms) can be expressed on a net or a gross basis, and can be used to meet a variety of needs. For instance, net weight units (excluding packaging) are very useful for economic analysis; gross weight units (including packing) are more appropriate for analyses of transportation.

<sup>59</sup> The recommendation allows that other units of quantity may be retained or used in statistical nomenclatures for collecting international merchandise trade data and for other international purposes. The WCO considers a country as complying with its recommendations on quantity unit when the recommended quantity units are applied to 80 percent of commodities [WCO requested to review this footnote]

5.4. **It is recommended** that countries collect and report quantity information on all trade transactions. **Further it is recommended** that:

- (a) Countries use the WCO standard units of quantity when collecting and reporting international merchandise trade on the basis of the Harmonized System
- (b) In the case of the HS headings (subheadings) where the standard unit is other than weight, a weight also be collected and reported;
- (c) Weight figures be reported on a net weight basis;<sup>60</sup>
- (d) Countries that use units of quantity other than the WCO standard units provide the conversion factors to the standard units in their statistical nomenclatures.

5.5. In order to establish a greater uniformity in the application of quantity units and the availability of quantity information **is recommended that**

- (a) the same quantity units are applied for all transactions within one sub-heading, unless there is good reason for applying different units of quantity measurement;
- (b) conversion factors into WCO recommended units are provided in the metadata whenever a quantity unit different from the WCO recommended unit is applied;
- (c) clear description of the used quantity units and applicable conversion factors are provided in the metadata.

5.6 **It is further recommended** that countries identify estimated quantities and provide information about the methodology used for estimation in their metadata.

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<sup>60</sup> To the extent that gross weights are also desired by a country, they should be collected directly, but given that collection of gross weight data presents difficulties in many countries, countries may wish to obtain gross weights from net weights through sampling.

## Chapter VI Partner country

### A. General

6.1. Trade statistics by partner countries, both for the total value of trade in goods and for the quantity and value of trade in individual commodities, are of significant analytical value. They are used for a number of purposes, including analysis of economic trends, national accounts, balance of payments, regional trade patterns, trade shares, market analysis and business decisions, and trade policy and negotiations, as well as for checking the accuracy and reliability of trade data. Trade-by-partner statistics are frequently used by analysts to estimate the value of imports and exports of a country that does not report (or does so only after substantial delay). Where a country's reported data are considered questionable by a user or when the user is seeking indications of any under- or over-reporting of imports or exports, a country's trade data, both at the total level and by commodity, are frequently compared with the data of its partners. Countries report their trade statistics by partner countries in a number of different ways, which contributes to the non-comparability of reported international merchandise trade statistics (for further discussion of the issue of data comparability, see para. xxx below).

### B. Types of partner country attribution

6.2. The present section describes several types of partner country attribution used in international merchandise trade statistics by various countries, provides a brief comparison of their advantages and disadvantages,<sup>61</sup> and makes recommendations.

#### IMPORTS

6.3. *COUNTRY OF PURCHASE.* The country of purchase is the country where the purchaser's co-contractor (seller of the goods) resides. The term "resides" should be interpreted in accordance with the 2008 SNA and BPM6 (see annex A, para. xx). If both countries collect data on a purchase/sale basis, the country of purchase will record goods as exports to the country of sale, and the country of sale will record the same goods as imports from the country of purchase.

6.4. *COUNTRY OF CONSIGNMENT.* The country of consignment (in the case of imports) is the country from which goods were dispatched to the importing country, without any commercial transactions or other operations which change the legal status of the goods taking place in any intermediate country. If, before arriving in the importing country, goods enter a third country and are subject to such transactions or operations, that third country should be taken as the country of consignment.

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<sup>61</sup> Definitions presented in paragraphs below are derived from definitions used by countries and from the text of the 1982 revision of *International Trade Statistics: Concepts and Definitions*.

6.5. *COUNTRY OF SHIPMENT*. The country of shipment (in the case of imports), is the country from which goods are shipped, whether or not commercial transactions or any other operations which change the legal status of the goods occur after the goods are dispatched from the exporting country. If such transactions do not occur, the country of shipment is the same as the country of consignment.

6.6. *COUNTRY OF ORIGIN*. The country of origin of a good is determined by rules of origin established by each country.<sup>62</sup> Generally, rules of origin consist of two basic criteria:

(a) The criterion of goods "wholly produced" (obtained) in a given country, where only one country enters into consideration in attributing origin;

(b) The criterion of "substantial transformation", where two or more countries have taken part in the production of the goods.

6.7. The international guidance on these criteria is currently provided by the Revised Kyoto Convention.<sup>63</sup> **It is recommended** that countries follow the relevant provisions of the Revised Kyoto Convention in international merchandise trade statistics for determining country of origin.

6.8. Since the WTO Agreement on Rules of Origin came into force,<sup>64</sup> the Technical Committee on Rules of Origin, under the auspices of the World Customs Organization (Brussels) and the Committee on Rules of Origin, under the auspices of WTO (Geneva), have been undertaking the harmonization work programme on rules of origin, under which both Committees are to:

(a) Develop definitions of wholly obtained goods and of minimal operations or processes that do not by themselves confer origin to a good;

(b) Elaborate upon substantial transformation expressed by change in HS tariff classification;

(c) Develop - in cases where the exclusive use of the HS nomenclature does not allow for the expression of substantial transformation - supplementary criteria, such as *ad valorem* percentages and/or manufacturing or processing operations.

6.9. The substantial transformation criteria are being elaborated on a product specific basis, and are to be applied to a good when more than one country is concerned in its production. These rules will provide updated international guidelines in this area, and will allow the determination of origin of each internationally traded commodity classified in the Harmonized System. A recent significant development has been the completion of a draft document on the non-preferential rules of origin.<sup>65</sup>

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<sup>62</sup> There are also a number of countries which do not have rules of origin at all.

<sup>63</sup> See Revised Kyoto Convention, annex XX; for Convention citation, see para. xx, footnote a above.

<sup>64</sup> See World Trade Organization, *op.cit.*, pp. 241 - 254.

<sup>65</sup> Exact reference required [WCO input requested]

## EXPORTS

6.10. *COUNTRY OF SALE*. The country of sale is the country where the seller's co-contractor (purchaser of the goods) resides. As mentioned above, the term "resides" should be interpreted in accordance with the 2008 SNA and BPM6 (see annex A, para. xx below). If both countries collect data on a purchase/sale basis, the country of purchase will record goods as exports to the country of sale, and the country of sale will record the same goods as imports from the country of purchase.

6.11. *COUNTRY OF CONSIGNMENT OR DESTINATION*. The country of consignment<sup>66</sup> is the country to which goods are dispatched by the exporting country, without - as far as it is known at the time of exportation - being subject to any commercial transactions or other operations which change the legal status of the goods.

6.12. *COUNTRY OF SHIPMENT*. The country of shipment (in the case of exports), is the country to which goods are shipped, whether or not commercial transactions or any other operations which change the legal status of the goods are expected before arrival of the goods in that country.

6.13. *COUNTRY OF LAST KNOWN DESTINATION*. The country of last known destination is the last country - as far as it is known at the time of exportation - to which goods are to be delivered, irrespective of where they have been initially dispatched to and whether or not, on their way to that last country, they are subject to any commercial transactions or other operations which change their legal status. For instance, if it is known at the time of exportation that goods are to be delivered to country A but have been initially dispatched to a third country (country B) where they are subject to commercial transactions or other operations which change their legal status, that third country (country B) is the country of destination (consignment) and country A is the country of last known destination. If goods are delivered to country A without any such transactions or operations occurring, country A is both the country of destination and the country of last known destination.

6.14. *COUNTRY OF CONSUMPTION*. The *country of consumption* of a good (for exports) is the economic complement to the concept of country of origin for imports. The country of consumption is the country in which the goods are expected to be used for private or public consumption or as inputs in a production process.

### C. Comparison of several alternative methods

#### *COUNTRY OF PURCHASE OR OF SALE*

6.15. This method is clear enough conceptually, but it leads to inconsistencies in collected data since most of the data are recorded on the basis of goods crossing borders. To illustrate these inconsistencies, let assume that:

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<sup>66</sup> Is also referred to as country of destination.

(a) Country A produces goods which are sold to a resident of country B, who in turn sells them to a resident in country C;

(b) Goods are shipped directly from country A to country C.

6.16. If all countries record goods on the basis of crossing their border and at the same time use a purchase/sale basis of partner country attribution, then the statistics of country A would record goods as exports to country B, and the statistics of country C would record the same goods as imports from country B. However, the statistics of country B will show neither imports from country A nor exports to country C since the goods did not cross its borders. No exact comparability of trade statistics between partners can be expected if statistics are based on a combination of border crossing and purchase/sale principles. In addition, purchases/sales comprise only a part of international merchandise trade statistics.

6.17. The compilation of statistics on a purchase/sale basis also presents a country with the problem of how to obtain the required information when the goods are sent to a recipient in a country other than the country where the buyer is located and when the goods are received from a country other than the country where the seller is located (see the example in para. 6.16 above). The compilation of trade statistics on a purchase/sale basis is a relatively expensive operation, requiring substantial effort to determine the residence of the purchaser (for exports) and seller (for imports) for each external trade transaction. Surveys can contribute relevant information, especially when linked to value added tax declarations; however, in general, the compilation of international merchandise trade statistics on a purchase/sale basis cannot be recommended as the standard.

#### *COUNTRY OF CONSIGNMENT*

6.18. In general, the method of compiling data by the country of consignment (or destination) offers the possibility of obtaining consistent statistics and reasonable comparability since it promotes the recording of the same transactions by importing and exporting countries and this approach should result in symmetrical data sets since goods recorded as imports by one country are to be recorded as exports by another.

6.19. However, there can be a lack of knowledge about the destination of goods at the time of export as goods can be redirected while at sea or goods can be trans-shipped from the original country of consignment and, therefore, not included in that country's imports thus creating the incomparability in partner statistics. In practice, export statistics are rarely revised to reflect the change in country of consignment. Also, data on a consignment basis do not provide the information required for quota and tariff purposes.

### *COUNTRY OF SHIPMENT*

6.20. The method of country of shipment has the advantage that for the majority of transactions, in the case of imports and exports, the trading partner can be easily determined from shipping documents. However, shipment of goods between countries does not necessarily reflect trade transactions. The transportation of goods from the country of consignment to the country of destination may involve the use of multiple shippers and passage through several countries, so that at the time of goods importation the country of consignment and the country of shipment may or may not coincide. The country identified by the importer as the partner country will often be the country where the last shipment arrangements were made rather than the country from which the goods were originally dispatched. It follows that the recording of a partner country on a shipment basis will result in a distorted picture of the international merchandise trade flows, and cannot, therefore, be recommended.

### *COUNTRY OF ORIGIN OR CONSUMPTION*

6.21. The recording of imports by country of origin has the advantage of showing the direct relationship between the producing country (the country in which goods originate) and the importing country. This information is regarded as indispensable for matters of trade policy and negotiations, for administering import quotas or differential tariffs and for related economic analysis. The WTO Agreement on Rules of Origin, which is obligatory for all WTO members, indicates such areas for their application as most-favoured-nation treatment, anti-dumping and countervailing duties, safeguard measures, origin marking requirements, quantitative restrictions and quotas. The Agreement specifically provides that the WTO rules of origin, after their adoption, will "include rules used for government procurement and trade statistics".<sup>67</sup>

6.22. However, there are limitations to the use of data compiled on a country-of-origin basis; most notably, such an approach does not permit a symmetrical recording of the same trade transactions by the exporting country and the importing country if the goods were not directly imported from the country of production. Suppose goods were produced in country A, sold and shipped to country B, and afterwards resold and dispatched to country C. The statistics of country B will show exports to country C, but statistics of country C will not attribute its imports to country B; it will indicate that goods were imported from country A (the country of origin). This fact complicates the issue of the comparability of data, and detracts from their usefulness for some types of economic analysis, especially in compilation of balance of payment statements by partner countries or regions.

6.23. Difficulties can also arise in actually determining the country of origin since the information on origin for different transactions may not have the same quality because of variations in the requirements to produce documentary evidence. The requirement to present a certificate of origin of goods is defined by the tariff law of the countries and does not apply to all

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<sup>67</sup> See World Trade Organization, *op.cit.*, p. 242.

goods entering or leaving a country.<sup>68</sup> In the case of customs union countries, the union's external trade statistics (extra-union trade), as far as imports are concerned, is generally based on origin; but statistics of trade between member States (intra-union trade) may record only the country of consignment (or the state of dispatch/arrival).<sup>69</sup>

6.24. The country of consumption for exports is the economic equivalent to the country of origin for imports and would be analytically useful, but the country of consumption is difficult to define conceptually and is rarely known with certainty at the time of exportation..

#### **D. Recommendations**

6.25. Although no single method of attributing partner country is ideal, attribution by origin for imports meets what is considered to be a priority application of international merchandise trade statistics, namely, matters of trade policy and related economic analysis. Consequently, **it is recommended** that in the case of imports, the country of origin be recorded. As country of consumption cannot be recommended as an international standard due to the reasons stated above (see para 6.24) **it is recommended** that in the case of exports, the country of last known destination be recorded.

6.26. **[Attention! Please, comment whether you agree with the recommendation below]** The partner data compiled on the country of origin (for imports) and the country of last known destination (for exports) are very often not comparable. Therefore, in view of the analytical needs for the internationally comparable data including for the purposes of trade data reconciliation, **it is recommended** that country of consignment is recorded as well for both imports and exports. It is recognized that the compilation of the partner data by country of consignment may not be always feasible and the implementation of this recommendation may be considered by some countries as a rather longer term objective.

6.27. Calculation of trade balances: **[Attention ! Please advice or provide your experiences on how to calculate trade balances in bilateral trade if more than one partner attribution for imports or exports is available for the calculation].**

6.28. **It is recommended** that the economic territory of the trading partners constitute the basis upon which the statistics on trade by partner are compiled.<sup>70,71</sup> In the case of countries applying the

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<sup>68</sup> According to the Revised Kyoto Convention, "documentary evidence of origin may be required only when it is necessary for the application of preferential customs duties, of economic or trade measures adopted unilaterally or under bilateral or multilateral agreements or of measures adopted for reasons of health or public order" (Annex XX, p. xx; for Convention citation, see para. xx, footnote a above).

<sup>69</sup> See *Official Journal of the European Communities*, No. L316/7 (1991), Council Regulations, No. 3330/91, article 20.

<sup>70</sup> Based on a decision of the Statistical Commission; see *Official Records of the Economic and Social Council, Thirteenth Session, Supplement No. 5, E/1994*, para. 20.

<sup>71</sup> To assist countries in knowing how other countries define their statistical territory and how statistical territory relates to customs territory, the United Nations Statistics Division has published *Customs Areas of the World*, the latest

general trade system their statistical territories, as defined by countries themselves, can be used for the purpose of partner attribution.

6.29. *Special trading partners: Trade with itself and trade with Free Zones.* It is possible that in the case of re-imports (import of domestic goods which were previously recorded as exports) and the use of country of origin countries register trade (imports) with itself. Yet, it is neither recommended nor common practice to record exports to itself as the country of last known destination, even if the return of the goods might be almost certain (i.e. after minor processing which does not change the country of origin) [**Do the experts agree? – please provide your feedback**]. In the case of countries applying the special system, country may register trade (imports or exports) from / to its free zones. The existence of free zones as trading partners is the indication that country does not use general trade system.

6.30. Countries may wish, in national publications, to group together countries for analytical purposes. However, in reporting to regional and international organizations, **it is recommended that** countries report their data with complete and most detailed partner breakdown. This will allow both national and international users to aggregate countries into economic and geographical groupings according to their own analytical requirements, and will facilitate the estimation of trade for late reporting or non-reporting countries.

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revision of which was issued in 1989. (United Nations publication, Sales No. E.89.XVII.12). As an aid to countries, the Division also compiles and makes available a publication, "Standard country or area codes for statistical use", Statistical Papers, Series M, No. 49/Rev.3; Revision 4 is forthcoming.

## Chapter VII Mode of transport

[Attention! This is a new chapter.]

7.1. To provide information on transportation arrangements and for other analytical purposes the compilation of merchandise trade data by mode of transport had been already recommended in the first revision of these recommendations (IMTS, Rev.1, paragraph 148 ). **It is further recommended** that countries compile and disseminate international merchandise trade statistics by mode of transport at the most detailed commodity level (as a new data dimension). The mode of transport which should be recorded is the means of transport used when goods enter or leave the economic territory of a country. Diversions from this guideline, which can, for example, be related to the application of the special trade system should be indicated in the country's metadata.

7.2. The following classification can be used for compilation of the trade statistics by the mode of transport.

1. Air
2. Water
  - 2.1 Sea
  - 2.2 Inland waterway
3. Land
  - 3.1 Railway
  - 3.2 Road
4. Other
  - 4.1 Pipelines
  - 4.2 Cables
  - 4.3 Other

7.3. **It is recommended** that countries identify at least four modes of transport (air, water, land and other) as applicable. Depending on their national requirements countries may wish to compile mode of transport at the two digit level or create even more detailed breakdowns.

7.4. According to their national requirements countries might want to compile mode of transport not only as the means of transport when crossing the border, but in addition according to different criteria such as for example the predominant mode of transport. Predominant mode of transport can, for example, be defined as the mode of transport which accounts for the majority of the transportation costs or the longest part of the route by distance. Countries are free to define such different criteria and to record multiple modes of transport according to their national needs and circumstances (i.e. in the case of landlocked countries), but are requested to provide detailed information about this additional recording of mode of transport in their metadata.

## Chapter VIII Data compilation strategies

[Attention! This is a new chapter.]

### A. Data sources

8.1. The collection of data on international merchandise trade through customs administrations has a long history, although the primary purpose of customs activity has not been for statistical collection. In a growing number of cases, full coverage of international merchandise trade statistics cannot be achieved by use of customs records only, either because the relevant transactions are no longer subject to customs controls or customs surveillance, or because the record keeping may not be adequate from the statistical point of view.

#### USE OF CUSTOMS RECORDS

8.2. **It is recommended** that statisticians use the customs records as the main and normally preferred data source since those records reflect the physical movement of goods across borders, which international merchandise trade statistics aims to record, and, in general, are reliable and readily available in most countries. **[Do you agree with this para?]**

8.3. *Customs declaration*: Statistical information are mostly derived directly from customs declarations which is “any statement or action, in any form prescribed or accepted by the customs, giving information or particulars required by the customs”.<sup>72</sup> The customs declaration indicates a customs procedures under which goods are enter or leave the country.

8.4. *Customs procedures*: A customs procedure is a “treatment applied by the customs to goods which are subject to customs control”.<sup>73</sup> The annexes to the Kyoto Convention (original and revised versions) identify a set of customs procedures, and provide standards and recommended practices regarding those activities. From the statistical point of view, those procedures can be separated into two categories: (a) Procedures covering goods which are to be included in trade statistics; (b) Procedures covering goods which are to be excluded from those statistics.

8.5. *Customs procedures under the Kyoto Convention covering goods to be included in trade statistics* Countries may have other procedures in addition to those identified in the Kyoto Convention and **compilers should decide on the inclusion/exclusion of customs procedures following the recommendations on the scope of IMTS contained in chapter 1. As a general guideline goods crossing an international border under the following procedures should be included in trade statistics** (references to both the original Kyoto Convention and the revised Kyoto Convention are made):

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<sup>72</sup> WCO Glossary, p. 17. See also the revised Kyoto Convention, General annex, Chapter 2, E19/F8 Goods declaration.

<sup>73</sup> See WCO Glossary (see footnote 22), and revised Kyoto Convention, general annex, chap. 2, E7/F3.

- (a) Clearance for home use (annex B.1 (original)/general annex, chap. 3, and specific annex B, chap. 1 (revised));
- (b) Outright exportation (annex C.1 (original)/specific annex C, chap. 1 (revised));
- (c) Reimportation in the same state (annex B.3 (original)/ specific annex B, chap. 3 (revised));
- (d) Customs warehouses (annex E.3 (original)/specific annex D, chap. 1 (revised));
- (e) Temporary admission for inward processing (annex E.6 (original)/specific annex F, chap. 1 (revised));
- (f) Temporary exportation for outward processing (annex E.8 (original)/specific annex F, chap. 2 (revised));
- (g) Free zones (annex F.1 (original)/specific annex D, chap. 2 (revised));
- (h) Processing of goods for home use (annex F.2 (original)/specific annex F, chap. 4 (revised));
- (i) Customs formalities in respect of postal traffic (annex F.4 (original)/specific annex J, chap. 2 (revised));
- (j) Urgent consignments (annex F.5 (original)/annex deleted in the revised Kyoto Convention but principles were incorporated in the general annex).

8.6. **It is recommended** that information about the customs procedures applied to individual transactions is part of the dataset provided by custom to the agency responsible for the compilation of international merchandise trade statistics.

8.7. Information available at customs is not limited to the customs declaration as supportive documentation such as the commercial invoice, transport documents, import licenses and certificate of origin is usually accompanying the customs declaration. Compilers should make arrangements with the customs authorities to have access, as permitted by law, to whichever of those documents are collected, and use them as additional sources of information.

8.8. Depending on the national legislation and practices customs records can include or exclude transactions of certain goods such as electricity, gas, oil, ships and aircraft, goods sent by parcel and letter post etc. Compilers should be aware of the coverage of the customs recording and use additional data sources as required. The customs authorities might also have information about transactions of goods outside the customs territory, for example, about goods entering and leaving free zones free zones. Compilers should be aware of this information and obtain access to it in order to compile international merchandise trade statistics to the best possible extent as recommended in these guidelines.

8.9. Non-customs data sources are recommended for use if customs records are not available or clearly not adequate.

## NON CUSTOMS RECORDS

8.10. In a growing number of cases, full coverage of international merchandise trade statistics cannot be achieved by use of customs records only, either because the relevant transactions are no longer subject to customs controls or customs surveillance, or because the record keeping may not be adequate from the statistical point of view. **It is recommended that** in such cases, customs based data be supplemented with information obtained from other sources, as necessary, to ensure full coverage of international merchandise trade statistics. **It is recommended** to use non-customs sources as substitutes for available customs records only if they provide a cost effective way to improve quality of trade statistics.

8.11. There are various non-customs sources of data. Foreign shipping manifests can be used for cross-checking and/ or supplementing information gathered from customs declarations. Many countries utilize enterprise surveys as a means to collect data on transactions, which may not be captured by customs authorities (e.g. trade in electricity, water, gas, petroleum and goods for military use). The member States of the European Union have developed, for the purposes of intra-Union merchandise trade statistics, a data collection system (Intrastat) relying on monthly reporting by enterprises - additional information is supplied via the fiscal authorities through the value added tax collection system. Surveys are also used to capture so called shuttle trade and border trade. Currency exchange records and records of monetary authorities often provide timely information about international transactions including merchandise flows. Aircraft and ship registers may be utilized to capture trade in aircrafts and ships in case customs records are incomplete or non-existent. Parcel post and letter post records are used to ensure that the merchandise flows via parcel and postal services are adequately covered. Reports from commodity boards may be used, as appropriate, to supplement or cross-check customs recording of trade in these commodities.

8.12. In the case of the use of non-customs data sources such as enterprise surveys **it is recommended** that countries take an integrated approach to data collection and make use of business registers and enterprise identification numbers in order to obtain the required information with minimal costs and burden of enterprises. The integrated approach to data collection is of particular importance for the fulfilment of additional information requirements such as for goods for processing, intra-firm trade etc. which often cannot be easily satisfied through the use of customs declarations only.

8.13. Both, the use of custom declarations and the use of non-customs sources have specific problems and shortcomings and compilers should be aware of them. Customs records, for example, may not provide full coverage of all transactions, may not be subject to adequate statistical quality control at customs or might not be made available to statistics compilers in a comprehensive and unrestricted manner. Non-customs data sources may suffer from a lack of a consistent classification (e.g., of goods, countries) and do not follow standards recommended for valuation, time of recording and partner country attribution. **It is recommended** that compilers pay special attention to these issues in order to obtain information from non-customs sources that fulfils the requirements of trade statistics.

8.14. The reconciliation and integration of customs and non-customs data includes adding non-customs to the customs data and substituting non-customs for the customs data. To merge and crosscheck data collected from customs and non-customs sources is quite a complex and time-consuming activity. Compilers need to be aware of the conceptual and practical difficulties in reconciling and integrating data from different sources.

## **B. Institutional arrangements**

8.15. The compilation of IMTS is governed by the statistical laws and regulations of countries, which, to different degrees, specify the rights and responsibilities of the involved institutions and agencies. The data sources for IMTS are subject to their own laws and regulations, in particular in the case of customs records, the main data source for IMTS. **It is recommended** that the agency responsible for the overall compilation of IMTS should, whenever appropriate, initiate modifications to national legislation or relevant administrative regulations in order to establish a solid foundation for the high quality and timeliness of trade statistics.

8.16. In most countries several institutions and agencies are involved in the compilation of trade statistics. The main national organizations involved in the compilation of trade statistics are national statistical offices, customs administrations and central banks. In some countries, the ministry of trade or other specialized governmental bodies may be assigned responsibility or may play an important role, for example, by providing additional information.

8.17. **It is recommended** that the necessary institutional arrangements for the effective compilation of trade statistics are established and maintained through appropriate laws and regulations and by agreeing to and implementing appropriate working arrangements between the institutions involved.

8.18. Different institutional arrangements (based on the administrative structure in a country) may result in acceptable trade statistics provided that the agency responsible for the overall IMTS compilation follows internationally recognized methodological guidelines, utilizes all available statistical sources and applies appropriate compilation procedures. However, in general, the national statistical office is seen as the preferred agency to assume the responsibility for the official foreign merchandise trade statistics of a country as it has more experience and capability to ensure the most timely and proper application of the common statistical standards and procedures in data compilation, data and metadata dissemination as well as adherence to the system wide quality requirements. This becomes especially relevant in view of an ever increasing role of the non-customs sources.

8.19. Appropriate institutional arrangements and working arrangements are the foundation for the efficient and effective production and the high quality of international merchandise trade statistics. Such arrangements are usually characterized by a clear definition of the rights and responsibilities of all institutions involved, the designation of only one institution as responsible

for the publication of the results, formalized (as opposed to informal) working arrangements between those institutions, regular working group meetings of the institutions involved and unrestricted access to the required raw data in electronic format.

8.20. Whatever the institutional arrangement, the agency responsible for the overall IMTS compilation should periodically review the definitions, methods and the statistics themselves to ensure that they are compiled in accordance with the recognized international methodological guidelines, are of high quality, and are available to users in a timely fashion.

## Chapter IX Data quality and metadata

[Attention! This is a new chapter.]

9.1. Data on international merchandise trade statistics are the end product of a complex process comprising many stages starting from the collection and processing of basic records to compilation and dissemination of official statistics. Recommendations on how to approach the issue of data quality in a systematic and comprehensive way are provided in section A.

9.2. The objective of quality measurement of international merchandise trade statistics can be twofold: to provide producers with the appropriate information to monitor and further enhance data quality and to provide users with sufficient information to judge whether the data are adequate for their intended use, that is to say, to judge their “fitness for use.” Quality is seen as a multidimensional and difficult to measure concept. The dimensions of quality are described in this section B while approaches to their measurement are outlined in section C.

### A. Enhancing quality of international merchandise trade statistics

9.3. *Enhancing data quality of international merchandise trade statistics.* Enhancing data quality is a process covering all states of the statistical production process and is cutting across all issues covered in these recommendations. It starts at the data entry by the trader or broker when completing the customs declaration, it requires appropriate institutional arrangements for example in order to allow adequate access of statistics compilers to the required data from different sources, the joint efforts of all involved parties as well as the appropriate use of technology.

9.4. Actions for enhancing data quality are often focused on individual characteristics of the data itself such as reported commodity, value, quantity, quantity unit and trading partner (or combinations thereof) but must also address issues of coverage and comprehensiveness of recording. However, the systematic approach to the data quality implies that all aspects of the entire trade statistics program are examined and evaluated against certain principles and standards as it allows to more effectively identify and implement appropriate actions to further improve data quality. **It is recommended** that countries develop such standards and related good practices covering the institutional arrangements, the statistical processes and outputs.<sup>74</sup>

9.5. **Further, it is recommended** that countries develop a standard for regular quality reports which cover the full range of statistical processes and their outputs and which would use the above mentioned principles and standards as its basis. Such reports can be either producer-oriented with the aim to identify strengths and weaknesses of the statistical process and lead to or contains the definition of quality improvement actions or user-oriented with the aim to keep users informed on the methodology of the statistical process and the quality of the statistical output.

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<sup>74</sup> Countries may wish to use the European Statistics Code of Practice as an example in such an exercise.

9.6. **It is recommended** that the quality reports of international merchandise trade statistics should be completed or updated at least every five years or more frequently if significant methodological changes or changes in the data sources occur; in order to monitor the quality of the processes and effectiveness of quality improvement actions the reviews should be conducted with higher frequency, ideally once a year at the end of each production cycle.

9.7. **It is recommended** that the quality reports be based on a set of quantitative and qualitative indicators for international merchandise trade statistics and on a checklist covering data collection, processing and dissemination to allow for a precise assessment of strengths and weaknesses in the statistical process and to identify possible quality improvement actions.

## **B. Measuring quality of international merchandise trade statistics**

9.8. *Data quality assessment frameworks.* Most international organizations and many countries have developed definitions of quality, outlining the various dimensions (aspects) of quality and quality measurement and integrated them into quality assessment frameworks.<sup>75</sup> Although the existing quality assessment frameworks differ to some extent in their approaches to quality including number, name and scope of quality dimensions, they complement each other and provide comprehensive and flexible structures for the qualitative assessment of a broad range of statistics. For example:

(a) The *IMF Data Quality Assessment Framework (DQAF)* takes a holistic view of data quality and includes governance of statistical systems, core statistical processes and statistical products. The Framework is organized as a cascading structure covering the prerequisites and five dimensions of quality: assurance of integrity, methodological soundness, accuracy and reliability, serviceability and accessibility;

(b) The *European Statistical System (ESS)* adopted a Code of Practice which provides a broad conceptual framework for viewing quality and sets standards for the institutional environment, statistical processes and statistical outputs. The European Statistics Code of Practice is formulated in terms of the fifteen principles of which the following five relate to the statistical output: relevance, accuracy and reliability, timeliness and punctuality, coherence and comparability, accessibility and clarity;

(c) The *OECD quality measurement framework* views quality as a multifaceted concept. As with the Eurostat approach, the quality characteristics depend on user perspectives, needs and priorities, which vary across groups of users. Quality is viewed in terms of seven

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<sup>75</sup> See for instance: International Monetary Fund Data Quality Assessment Framework (<http://dsbb.imf.org/Applications/web/dqrs/dqrsdqaf/>); Eurostat, Working Group “Assessment of quality in statistics”, “Definition of quality in statistics” (document Eurostat/A4/Quality/03/General/Definition), prepared for the sixth meeting (Luxembourg, 2 and 3 October 2003); Organization for Economic Cooperation and Development, Statistics Directorate, “Quality framework for OECD statistics” (Paris, June 2002).

dimensions: relevance, accuracy, credibility, timeliness, accessibility, interpretability and coherence.

9.9. The overall aim of the three quality assessment frameworks is to standardize and systematize statistical quality measurement and reporting across countries. They allow an assessment of national practices to be made against internationally (or regionally) accepted statistical approaches for quality measurement. The quality assessment frameworks could be used in a number of contexts, including for (a) guiding countries' efforts towards strengthening their statistical systems by providing a self-assessment tool and a means of identifying areas for improvement; (b) technical assistance purposes; (c) reviews of particular statistical domains as performed by international organizations; and (d) assessment by other groups of data users.

9.10. *Dimensions of quality.* National statistical offices and other agencies responsible for compilation and dissemination of international merchandise trade statistics may decide to implement one of the existing frameworks for quality assessment or develop on their basis national quality assessment frameworks that fit best their country's practices and circumstances. **It is recommended** that at least the following dimensions of quality are taken into account while developing such frameworks: prerequisites of quality, relevance, credibility, accuracy, timeliness, methodological soundness, coherence and accessibility. Brief descriptions of these dimensions is provided below:

(a) *Prerequisites of quality.* Prerequisites of quality refer to all institutional and organizational conditions that have an impact on the quality of international merchandise trade statistics. The elements within this dimension include the legal basis for compilation of data; adequacy of data-sharing and coordination among data-producing agencies; assurance of confidentiality; adequacy of human, financial, and technical resources for implementation of international merchandise trade statistics programmes and implementation of measures to ensure their efficient use; and quality awareness;

(b) *Relevance.* The relevance of international merchandise trade statistics reflects the degree to which they meet the user needs;

(c) *Credibility.*<sup>76</sup> The credibility of international merchandise trade statistics refers to the confidence that users place in those data based on the image of the statistical office or agency that produces the data. Confidence by users is built over time. One important aspect of credibility is trust in the objectivity of the data, which implies that the data are perceived to be produced professionally in accordance with appropriate statistical standards, and that policies and practices are transparent. For example, data should not be manipulated, nor should their release be timed in response to political pressure;

(d) *Accuracy.* The accuracy of international merchandise trade statistics refers to the closeness of the disseminated statistics to the true (yet unknown) characteristics of the trade flows

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<sup>76</sup> This dimension is referred to as assurance of integrity in the IMF Data Quality Assessment Framework.

and can be assessed only indirectly. It has many facets and in practice there is no single aggregate for or overall measure of accuracy (see section C for indicators of accuracy);

(e) *Timeliness.* The timeliness of international merchandise trade statistics reflects the amount of time between the end of the reference period to which the data pertain, and the date on which the data are released. Timeliness is closely tied to the existence of a publication schedule. A publication schedule may comprise a set of target release dates or may entail a commitment to release international merchandise trade data within a prescribed time period following their receipt. This factor usually involves a trade-off with respect to accuracy. The improved timeliness of statistics enhances its relevance;

(f) *Methodological soundness.* Methodological soundness is a dimension that encompasses the application of international standards, guidelines and good practices in the production of international merchandise trade statistics.

(g) *Coherence.* The coherence of international merchandise trade statistics reflects the degree to which the data are logically connected and mutually consistent as well as to the degree to which they can be successfully brought together with other statistical information within a broad analytical framework and over time.

(h) *Accessibility.* The accessibility of international merchandise trade statistics refers to the ease with which they can be obtained from the statistical office, including the ease with which the existence of information can be ascertained, as well as the suitability of the form or the media of dissemination through which the information can be accessed. Aspects of accessibility also include the availability of metadata and the existence of user support services. Accessibility requires development of an advance release calendar so that the users will be informed well in advance on when and where the data will be available and how to access them.

9.11. These dimensions of quality are overlapping and interconnected. Action taken to address or modify one aspect of quality will tend to affect other aspects. For example, there may be a trade-off between aiming for the most accurate estimation of the value of a country's total exports and imports and providing this information in a timely manner. **It is recommended** that if countries are not in a position to meet the accuracy and timeliness requirements simultaneously, they should produce a provisional estimate, which would be available soon after the end of the reference period but would be based on less comprehensive data content. This estimate would be replaced at a later date with information based on more comprehensive data but would be less timely than its provisional version.

9.12. The measurement of quality of any statistical data, including international merchandise trade statistics data, is not a simple task. Problems arise from the difficulties involved in quantifying the levels of individual dimensions and in aggregating the levels of all dimensions. Under these circumstances, deriving a single quantitative measure of quality is not possible. In the absence of such a single measure, countries are encouraged to use a system of quality measures/indicators following the recommendations contained in section C below.

9.13. Countries are also encouraged to develop their own quality assessment frameworks based on the above-mentioned dimensions and taking into account the specific circumstances of their economies. The quality framework offers statistical offices a practical approach to assess whether the provided data meet different users' needs, while the publication of quality assessments allows users to judge for themselves whether a data set meets their particular quality requirements.

### C. Quality measures and indicators

9.14. *Quality measures.* Quality measures directly reflect a particular aspect of quality. For example, the time lag from the reference date to the release of particular international merchandise trade statistics is a direct quality measure. However, in practice, quality measures can be difficult or costly to calculate. Instead, quality indicators can be used in quality assessment.

9.15. *Quality indicators.* Quality indicators are summarized quantitative data that provide evidence about the quality of the data. They are generally defined with respect to some reference point and can assist in making different types of comparisons. When countries define the quality indicators for their international merchandise trade statistics, **it is recommended** that they ensure that the indicators satisfy the following criteria: (a) they cover part or all of the dimensions of quality as defined in section A above; (b) the methodology for their compilation is well established; and (c) the indicators are easy to interpret.

9.16. **It is recommended** that countries maintain a balance between different dimensions of quality and the number of indicators. The objective of quality measurement is to have a limited set (minimum number) of indicators which can be used to measure and follow over time the quality of the international merchandise trade statistics and to ensure that users are provided with a useful summary of overall quality, while not overburdening respondents with demands for unrealistic amounts of quality metadata.

9.17. *Minimum set of quality measures/indicators.* Table 1 below presents a possible set of indicators which countries could use on a regular basis for measuring the quality of international merchandise trade statistics. Their utilization provides users with a clear and up-to-date overview of the overall quality of international merchandise trade statistics.

**Table 1**

[Attention! We need more input on this topic. Please, advise]

**(i) Key indicators for measuring the quality of international merchandise trade statistics**

| <i>Quality dimension</i> | <i>Quality measure/indicator</i>  |
|--------------------------|---|
| Relevance                | <ol style="list-style-type: none"> <li>1. Gaps between key user interests and compiled international merchandise trade statistics in terms of concepts, coverage and detail</li> <li>2. Results of users' satisfaction surveys</li> </ol>   |
| Accuracy                 | <ol style="list-style-type: none"> <li>1. Application of reporting thresholds,</li> <li>2. Under-coverage/ Non-response rates,</li> <li>3. Characteristics of revisions,</li> <li>4. Application of confidentiality,</li> </ol> <p>In the case of sample surveys-based international merchandise trade estimates, the accuracy can be measured using the following indicators:</p> <ol style="list-style-type: none"> <li>5. Sampling errors               <ul style="list-style-type: none"> <li>- Coefficient of variation</li> </ul> </li> <li>6.. Non-sampling errors               <ul style="list-style-type: none"> <li>- Unit response rate</li> <li>- Item response rate</li> </ul> </li> <li>7. Number and average size of revisions of international merchandise trade data</li> </ol> |
| Timeliness               | <ol style="list-style-type: none"> <li>1. Time lag between the end of the reference period and the date of the first release (or the release of final results) of international merchandise trade data</li> </ol>   |
| Methodological soundness | <ol style="list-style-type: none"> <li>1. Number and rates of divergences from the relevant international statistical standards in concepts and measurement procedures used in the collection/compilation of international merchandise trade statistics</li> </ol>  |
| Coherence                | <ol style="list-style-type: none"> <li>1. Comparison and joint use of related international merchandise trade data from different sources</li> </ol>  |
| Accessibility            | <ol style="list-style-type: none"> <li>1. Number and types of means used for dissemination of international merchandise trade statistics</li> <li>2. International merchandise trade statistics data sets made available, by mode of dissemination, as a percentage of total international merchandise trade statistics data sets produced</li> </ol>   |

## D. Metadata on international merchandise trade statistics

9.18. *Content of statistical data.* Generally, statistical data consist of the following:

(a) *Microdata:* data on the characteristics of individual transactions collected by customs or by means of a other sources such as administrative records or surveys;

(b) *Macrodata:* data derived from microdata by grouping or aggregating them, such as total exports of goods classified in a particular HS subheading;

(c) *Metadata:* data that describe the microdata, macrodata or other metadata.

9.19. *Metadata.* The term metadata defines all information used to describe other data. A very short definition of metadata, then, is “data about data.” Metadata encompasses administrative facts about data (who has created them and when), definition of concepts applied as well as description of how data were collected and processed before they were disseminated or stored in a database.

9.20. *Statistical metadata.* Statistical metadata describe or document statistical data, that is to say, microdata, macrodata or other metadata. They facilitate sharing, querying and understanding of statistical data over the lifetime of the data. They also refer to any methodological descriptions on how data are collected and manipulated. There is a bidirectional relationship between metadata and quality. On the one hand, metadata describe the quality of statistics. On the other hand, metadata are themselves a quality component, which improves the availability and accessibility of statistical data.

9.21. Taking into account many types of users and uses for any given set of data a broad spectrum of metadata requirements have to be addressed. In particular, the responsible agency must make sufficient metadata available to enable the least and the most sophisticated users to readily assess data and their quality. As a minimum segmentation, metadata at the following two levels are **recommended**:

- i) *Reference metadata* presented as a detailed explanatory note describing the scope, coverage and quality of data set and is made available electronically alongside the database or in special publications.
- ii) *Structural metadata* presented as an integral part of the international merchandise trade statistics database and which can be extracted together with any data item; structural metadata can published in as a part of statistical table;

9.22. *International merchandise trade statistics metadata items.* [**Attention! We need more input on this topic. Please, advise**] **It is recommended** that countries provide the following metadata for their international merchandise trade statistics:

- (i) description of all underlying concepts and definitions;
- (ii) description of data sources;
- (iii) description of data collection and data processing procedures;
- (iv) estimations used;
- (v) release schedules;
- (vi) description of the all data fields (reference period, trade flow, commodity classification used, currency, quantity (net weight), weight unit used, supplementary quantity, supplementary quantity unit used, partner country (origin, last known destination, consignment);
- (vii) explanations and footnotes concerning the data as required, i.e. informing about break in series.

9.23. *Purposes of international merchandise trade statistics metadata.* The primary purpose of metadata is to help the users of international merchandise trade statistics to interpret, understand and analyse the data. International merchandise trade statistics metadata should help users transform statistical data into information. Yet, this metadata is also crucial for conducting bilateral reconciliation studies and also allows countries to compare their practices and to learn from each other.

9.24. **It is recommended** that countries view the development of metadata as a high priority and to consider their dissemination an integral part of the dissemination of international merchandise trade statistics. Moreover, **it is recommended** that, this is done in compliance with the approach adopted by a given country to metadata across all areas of economic statistics. Countries are encouraged to take advantage of these metadata standards proposed by various international organizations<sup>77</sup> while developing their metadata in general and trade metadata in particular. Further guidance on metadata for purposes related to international merchandise trade statistics will be elaborated and presented in the future *International Merchandise Trade Statistics: Compilers Manual*.

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<sup>77</sup> See International Monetary Fund (IMF), Statistical Office of the European Communities (Eurostat) and the Organization for Economic Cooperation and Development (OECD) which have developed metadata standards and collected metadata for different areas of statistics [websites].

## Chapter X Dissemination

**[Attention! This is a significantly updated chapter.]**

10.1. *Data dissemination.* Official statistics that meet the test of practical utility are to be compiled and made available on an impartial basis by official statistical agencies to honor citizens' entitlement to public information.<sup>78</sup> Clearly, the sole purpose of producing statistical data is its dissemination to users. Data dissemination refers to the dissemination of the statistical outputs and those outputs are subject to specific quality criteria. The most important requirements in the minds of data users such as policy makers, the business community and other users are often the timeliness and the accessibility and clarity of the data provided, which also includes the provision of adequate metadata. This chapter addresses some issues concerning data dissemination which are important and have not been addressed in other chapters. These are statistical confidentiality, release calendar, revisions, electronic dissemination and international reporting.

### A. Statistical confidentiality<sup>79</sup>

10.2. *Statistical confidentiality.* Most of the information about individual statistical units (the parties involved in merchandise trade transactions-) are considered to be confidential. Statistical confidentiality is necessary in order to gain and keep the trust of both those required to provide data and those using the statistical information.

10.3. Principle 6 of the United Nations Fundamental Principles of Official Statistics provides the basis for managing statistical confidentiality. It states:

Individual data collected by statistical agencies for statistical compilation, whether they refer to natural or legal persons, are to be strictly confidential and used exclusively for statistical purposes.

10.4. Legal provisions governing statistical confidentiality at national level are set forth in countries' statistical laws or other supplementary governmental regulations. National definitions of confidentiality and rules for microdata access may differ, but they should be consistent with this fundamental principle.

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<sup>78</sup> See United Nations Fundamental principles for official statistics.

<sup>79</sup> Statistical confidentiality refers to the protection of information of individual statistical units and has to be differentiated from other forms of confidentiality under which information is not provided due to other considerations, such as for example national security concerns. Nevertheless, merchandise trade statistics compilers should always strive for full coverage of all trade transactions and should apply appropriate methods to keep certain information confidential as mandated.

10.5. Yet, statistical confidentiality needs to be balanced against the need for public information in cases the application of statistical confidentiality would make it impossible to provide sufficient or meaningful information.

10.6. International merchandise trade data are usually disseminated by the responsible agency by providing the full dataset on electronic media, via access to a dissemination database and in the form of various statistical tables. Statistical confidentiality is protected if the disseminated data do not allow statistical units to be identified either directly or indirectly, thereby disclosing individual information. Direct identification is possible if data of only one statistical unit are reported in a cell, while indirect identification may take place if individual data can be derived from disseminated data (for example, because there are too few units in a cell, or because of the dominance of one or two units in a cell). To determine whether a statistical unit is identifiable, account shall be taken of all means that might reasonably be used by a third party to identify it. Statistical confidentiality does not apply if the information about individual statistical units is already publicly available.

10.7. *Statistical disclosure control.* Statistical disclosure control techniques are defined as a set of methods used to reduce the risk of disclosing information on individual units. Disclosure control methods attempt to achieve an optimal balance between the improvement in confidentiality protection and the reduction of information. On the basis of available international guidelines<sup>80</sup> countries are encouraged to develop their own statistical disclosure methods which best suit their specific circumstances **Attention !![Input requested !!]**.

10.8. **It is recommended that in** suppressing data due to confidentiality, any information deemed confidential (suppressed) be reported in full detail at the next higher level of commodity aggregation that adequately protects confidentiality

10.9. *Confidentiality rules for international merchandise trade data.* Rules for protecting confidentiality of international merchandise trade data should be in line with the provisions of countries' national legislation and practice. As a minimum requirement, the following two factors should be taken into account when defining the confidentiality rules: (a) number of units in a tabulation cell; and (b) dominance of a unit's or units' contribution over the total value of a tabulation cell. A decision with respect to the exact definition of the confidentiality criteria, for example, in terms of the number of units per cell and percentage of dominance, is left to the national responsible agency. **It is recommended** that the confidentiality rules are relaxed if the permission of the dominating respondent(s) to authorize the data disclosure is obtained.

10.10. *International Merchandise trade and business statistics:* Increasingly international merchandise trade statistics is seen as part of business statistics which are providing information

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<sup>80</sup> See Principles and Guidelines for Managing Statistical Confidentiality and Microdata Access, background document prepared for the Statistical Commission at its thirty-eighth session, held in New York from 27 February to 2 March 2007 (<http://unstats.un.org/unsd/statcom/sc2007.htm>).

according to the characteristics of enterprises. Such information can be either tabulated or provided in the form of anonymised microdata. This will pose additional challenges for data providers and countries are advised to refer to internationally available guidelines on this issue.

## **B. Reference period and data dissemination timetable.**

10.11. *Reference period.* **It is recommended** that countries make their data available on a calendar period basis, according to the Gregorian calendar and consistent with the recommendations set out in the present publication

10.12. *Data dissemination timetable.* In producing statistical information, there is usually a trade-off between the timeliness with which the information is prepared and the accuracy and level of detail of the published data. A crucial factor, therefore, in the maintaining of good relations between producers of international merchandise trade statistics and the user community is developing and adherence to an appropriate data compilation and release schedule. **It is recommended** that countries announce in advance the precise dates at which those statistics will be released. This advance release calendar should be posted in the beginning of each year on the website of the national agency responsible for the dissemination of the official international merchandise trade statistics.

10.13. The most important elements that should be taken into account in determining the compilation and release schedule of international merchandise trade statistics include:

- (a) Timing of the collection of initial data by the customs administrations and other source agencies;
- (b) The extent to which data derived from the major data sources are subject to revisions;
- (c) Timing of preparation of important national economic policy documents that need international merchandise trade data as inputs;
- (d) Modes of data dissemination (press release, on-line access, or hard copy).

10.14. Timeliness is the lengths of time between the event and the availability of statistical information about this event. The timeliness of the release of monthly, quarterly and annual international merchandise trade data varies greatly from country to country, mainly reflecting different perspectives on the timeliness-reliability-accuracy trade-off but also differences in available resources and in the efficiency and effectiveness of the statistical production process. Taking into account that processing of the customs declarations in most countries is automated and the records relevant to statistics are edited and consolidated on the monthly basis, **countries are encouraged [Attention!, please review and advise]:**

- (i) to release their provisional monthly totals of exports and imports within **45** days after the end of the month, at least by major trading partners and basic commodity breakdown;

- (ii) to release their quarterly data within **60** days after the end of the quarter;
- (iii) to release their annual data within **90** days after the end of the year.

10.15. If countries use additional information for compilation of annual international merchandise trade statistics, the data for the fourth quarter (or for the twelfth month) need to be compiled and disseminated in their own right and should not be derived as the difference between the annual totals and the sum for the first three quarters (or 11 months) in order to provide undistorted data for all months and quarters.

### C. Data revision

10.16. *Data revisions.* Revisions are an essential part of country practices in respect of the compilation of international merchandise trade statistics. Their production is a consequence of the trade-off between the timeliness of published data and their reliability, accuracy and comprehensiveness. To resolve these issues, **it is recommended** to compile provisional data which are later revised when new and more accurate information becomes available. Although, in general, repeated revisions may be perceived as reflecting negatively on the reliability of official international merchandise trade data, the attempt to avoid them by producing accurate but very untimely data will ultimately fail to satisfy users' needs. It is important to emphasize that the revisions of international merchandise trade data are produced for the benefit of users, in order to provide them with data that are as timely and accurate as possible. The revisions affect both annual and short-term international merchandise trade statistics but they are more significant for the short-term data.

10.17. *Reasons for revisions of data.* Reasons for revisions can be classified in multiple ways. In general, two types of revisions are differentiated: (a) routine, normal or concurrent revisions which are part of the regular statistical production process and which aim at the incorporation of new or updated data or the correction of data or compilation errors; and (b) major or special revisions which are not part of the regular revision schedule and which are conducted in order to incorporate major changes in concepts, definitions, classifications and changes in data sources. For normal statistical data revisions **it is recommended** that countries should develop a revision policy which is synchronized with the release calendar. Statistical offices may decide to carry out a special revision, in addition to the normal statistical data revisions, for the purpose of reassessing the data or investigating in depth some new economic structures. Such revisions are carried out at longer, irregular intervals of time. Often, they may require changes in the time series going as far back as the beginning of the series to retain the methodological consistency. **It is recommended** that these revisions be subject to prior notification to users to explain the reasons and to provide information on the possible impact of the revisions on the data.

10.18. *Revision policy.* Countries are encouraged to develop a revision policy that is well designed, carefully managed and well coordinated with other areas of statistics. The development of a revision policy should be aimed at providing users with the information necessary for coping with revisions in a systematic manner. The absence of coordination and of planning of revisions is

considered a quality problem by users. Essential features of a well-established revision policy are a predetermined release and revision schedule, reasonable stability from year to year, openness, advance notice of reasons and effects, and easy access of users to sufficiently long time series of revised data, as well as adequate documentation of revisions included in the statistical publications and databases.

10.19. *Recommended practices for data revisions.* A sound revision policy is recognized as an important aspect of good governance in statistics, as it will not only help the national users of the data but will also promote international consistency. With a view to assisting countries that have not yet set out such a policy, **the following good practices are recommended.**<sup>81</sup>

- (a) There should be consultations with users to elicit their views on revisions practices;
- (b) A clear, short summary statement of when to expect revisions and why should be readily accessible to users;
- (c) The current revision cycle should be stable from year to year;
- (d) Major conceptual and methodological revisions should usually be introduced every four to six years, balancing need for change and users' needs for stability;
- (e) Revisions should be carried back several years to yield consistent time series;
- (f) Documentation on revisions should be readily available to users;
- (g) Users should be reminded of the size of the likely revisions based on past history;
- (h) When a mistake in reporting or processing is made, the revision should be carried out in a transparent and timely manner.
- (i) Revisions should be monitored and analysed and this analysis should be made available to users and where necessary taken into account into the statistical production process.

#### **D. Dissemination formats**

10.20. *Dissemination formats.* A key to the usefulness of international merchandise trade statistics is the availability of data and hence its broad dissemination. Data can be disseminated both electronically and in paper publications. **It is recommended** that countries choose the dissemination format that best suits their users' needs. For example, press releases of international merchandise trade statistics have to be disseminated in ways that facilitate re-dissemination by mass media; more comprehensive or detailed statistics need to be disseminated in electronic and/or paper formats. **It is further recommended** that international merchandise trade statistics can be accessed through the electronic dissemination databases maintained by the responsible agency. Regular data dissemination should satisfy most if not all user needs and customized data

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<sup>81</sup> For details, see Organization for Economic Cooperation and Development *Data and Metadata Reporting and Presentation Handbook* (Paris, 2007), chap.7, "Guidelines on key reporting practices."

sets would be provided only in exceptional cases. It is advisable that countries ensure that users are clearly made aware of the procedures and options for obtaining the required data.

10.21. *Dissemination of metadata.* Provision of adequate metadata and quality assessment of international merchandise trade statistics are as important to users as provision of data. Countries are encouraged to follow the recommendations provided in chapter IX on data quality and metadata for international merchandise trade statistics and to develop and disseminate metadata in accordance with the recommendations provided. Countries might consider developing different levels of detail of metadata so as to meet the requirements and needs of specialized users.<sup>82</sup>

## **E. International reporting and cross-country data comparability**

10.22. *International reporting.* Countries are encouraged to make international merchandise trade data available on their websites and to disseminate them internationally as soon as they become available to national users without any additional restrictions. In order to ensure a speedy and accurate data transfer to the international and regional organizations **it is recommended** that countries send the required data sets to those organizations in accordance with the agreed data structure and database format. **It is further recommended** that countries make use of the Statistical Data and Metadata Exchange (SDMX)<sup>83</sup> format as preferred standard for the exchange and sharing of data and metadata by the United Nations Statistical Commission.<sup>84</sup> The SDMX technical standards and content-oriented guidelines can provide common formats and nomenclatures for exchange and sharing of statistical data and metadata using modern technology. The dissemination of national data and metadata using web technology and SDMX standards is encouraged as a means to reduce the international reporting burden and to increase the efficiency of the international data exchange.

10.23. *Cross-country data comparability.* Cross-country data comparability remains an important issue. Non-comparability is caused by differences in coverage; different methods for the treatment of certain goods (e.g., military goods, ship's stores, confidential data); value increases in intermediary countries; differences in classification of goods; time lags in reporting; differences in valuation, including CIF/FOB differences; currency conversion; methods of partner country attribution; and trade via third country intermediaries. Such non-comparability may be substantially reduced by the adoption of the concepts and definitions recommended in the present publication. Nevertheless, because of variations in data sources, errors in data collection or in the processing and forwarding of results, the use of fraudulent documents or the inability of traders to furnish accurate information, a certain amount of non-comparability will remain. **It is recommended**, therefore, that countries periodically conduct bilateral and multilateral

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<sup>82</sup> For further details on data and metadata reporting, see Organization for Economic Cooperation and Development, *Data and Metadata Reporting and Presentation Handbook* (Paris, 2007).

<sup>83</sup> For additional information on SDMX, see: <http://www.sdmx.org/>.

<sup>84</sup> See Economic and Social Council Official Records 2008 Supplement No. 4 E/CN.3/2008/34 para 39/112.

reconciliation studies or implement data exchanges<sup>85</sup> so that their statistics can be made more accurate and useful both for national purposes and for international comparisons.

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85 Reconciliation studies involve comparison of a country's data with that of its major trading partners and investigation of any significant discrepancies. Data exchange can mean either the substitution of one partner's import data for the other partner's export data, or simply the exchange of data between partners for comparison purposes.

## Chapter XI Supplementary topics

[Attention! This is a new chapter.]

### A. External trade indices

11.1. *Index numbers.* Many users need more information than trade values by country or by commodity, and require information on prices and volumes as well. Two kinds of indices may be produced to reflect prices for imports and exports: unit value indices based primarily on customs documents and export/ import price indices based on survey data.<sup>86</sup> Both approaches have strengths and weaknesses. Although price indices are generally preferred on methodological grounds, in practice countries may not have the resources available to compile that information. Many countries compile only unit value indices, while others compile and use both, price and unit value indices in a complementary manner. **It is recommended** that all countries produce and publish volume (quantum) indices and either unit value or price indices for their total imports and exports on a monthly, quarterly and annual basis. Countries are also encouraged to calculate and publish such indices for the detailed commodity groups at least quarterly.

### B. Seasonally adjusted data

11.2. *Need for seasonally adjusted data.* Monthly/quarterly data on international merchandise trade statistics are an important tool for economic policy making, business cycle analysis, modeling and forecasting. However, they are often characterized by seasonal fluctuations and other calendar/trading-day effects, which mask other characteristics of the data that are of interest to analysts. Seasonal adjustment is a process of estimating and removing seasonal or calendar influences from a time series in order to achieve a better knowledge of the underlying behavior. **Countries are encouraged** to compile and publish, where appropriate, seasonally adjusted monthly/quarterly data, including both values and index numbers on a regular basis.

11.3. *Seasonal adjustment method.* Because national circumstances vary from one country to another, no preferred seasonal adjustment method is recommended. If seasonally adjusted data is published, **it is recommended** that information on the adjustment methods, data quality etc. should be provided by countries in their metadata.

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<sup>86</sup> For detailed information on external trade price indices and unit values please refer to the upcoming IMF Manual.