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International trade statistics

Report of the Secretary-General

Summary

> The present report, which was prepared at the request of the Statistical Commission at its forty-third session (see E/2012/24, sect. I.A), draws on the work undertaken by various task forces in the global statistical system on topics such as integrated economic statistics, linking trade and business statistics, trade and global production, trade in value added, statistics of multinational enterprises and foreign direct investment, and was prepared by the United Nations Statistics Division with the support of experts from national statistical offices and international organizations.

> The report describes the emerging policy needs for new statistics on international trade, outlines the current state of official trade statistics, indicates new initiatives in the measurement of global value chains and trade in value added, and expresses concern at the lack of coordination among the many task teams operating in this field. The report proposes the development of an overarching framework for international trade and economic globalization to ensure consistency in methodology, data compilation and data dissemination and the development of an appropriate mechanism for coordinating this process. The Commission may wish to express its views on this proposal made in the final section of the report.

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* E/CN.3/2013/1.

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I. Introduction

1.   At its forty-third session in 2012, the Statistical Commission requested that a discussion be held on the future direction of international trade statistics. This request was made with reference to the discussions held at the Commission's lunchtime seminar on the challenges of official trade statistics. While the field of official trade statistics is gradually incorporating new demands for data, the rapid changes in global business models and the geographical fragmentation of the production process require a more rapid response with respect to producing more relevant data.

2.   The Global Forum on Trade Statistics was held from 2 to 4 February 2011 to explicitly confront the question whether the right numbers are being obtained for the measurement of international trade.[1] Participants at the Forum comprised not only trade statisticians, but also policymakers, economists and researchers, including a number of high-ranking officials, which underlined the importance of the topic. Their statements consistently expressed the concern that current international trade statistics are insufficient for answering the relevant policy questions on international trade. More and better statistics are necessary for trade in services. Linking of trade to other economic and social statistics is also necessary in order to better understand the position of trade within the global production processes. More information is needed about trading companies and the way they organize their governance from a legal, financial, economic and geographical point of view. The Forum concluded with the adoption of a three-point vision statement,[2] comprising the following objectives: (a) to improve the relevance of trade statistics by linking them to other economic, social, environmental and financial statistics; (b) to improve cooperation among the national organizations involved in the compilation and dissemination of international trade statistics; and (c) to improve classifications for trade statistics.

3.   Since the Forum, continued attention has been given to these topics, with more of a focus on the need to develop better information on global value chains, reflecting the international fragmentation of production and trade in value added. For instance, on 14 June 2012, Shang-Jin Wei, Professor of Finance and Economics at Columbia University, testified before the United States-China Economics and Security Review Commission on the evolving United States-China trade and investment relationship. His testimony supported the position that for the assessment of a country's true comparative advantage, of its bilateral trade balances and of the consequences for trade policies, the standard official trade statistics are inadequate and estimates of trade in value added should be used. The main argument put forward in the testimony was that official trade statistics do not account for the amount of imported inputs in the exports of goods. Consequently, using only official trade statistics for bilateral negotiations between China and the United States on goods, for which the content (and added value) originates largely from one or more

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[1] The Global Forum was organized by the United Nations Statistics Division, Eurostat, the World Trade Organization and the United Nations Conference on Trade and Development (UNCTAD) at World Trade Organization headquarters in Geneva.

[2] Available from http://unstats.un.org/unsd/trade/s_geneva2011/outcome.htm.

other countries, is inadequate.[3] Related reports with similar conclusions have been published, for instance, by the United States International Trade Commission.

4.   On 19 September 2012 in Beijing, the Organization for Economic Cooperation and Development (OECD), the World Trade Organization and UNCTAD, together with the Ministry of Commerce of China, organized a high-level meeting on global value chains and their policy implications for trade, investment, statistics and developing countries. At the meeting, the Secretary-General of OECD, Angel Gurría, noted that the growing process of international fragmentation challenges our conventional wisdom on how we look at and interpret foreign trade and investment. According to Mr. Gurría, we need to measure how much and where value is added, and to create a new statistics information system capable of capturing these global linkages. He added that OECD and the World Trade Organization had launched a major initiative to work on this issue and that they would present a data set with estimates for trade in value added by the end of 2012.

5.   At the same event, the Director General of the World Trade Organization, spoke as follows:[4]

> The high level of import intensity in export production has created an unprecedented level of interdependency among countries engaged in supply chains.[4] It is no longer just about exports: imports are essential to export. It is no longer just about "them" ... It is about "us". In order to understand the true nature of trade relationships, we need to know what each country along a global value chain contributes to the value of a final product. We also need to know how that contribution is linked to those of other suppliers in other countries coming before and after along the chain. In order to ensure that trade opening is overall job creating ... we need to know how much employment is generated through this value addition.

According to Mr. Lamy, the only way to achieve this goal is to measure trade in terms of value added. On 1 October 2012, at the Brookings Dialogue in Washington, D.C., he further explained that advances in technology and transportation have slashed the expense and uncertainty of distance and have expanded global value chains and transformed trade in the last decade.[5] Today, developing countries' share of trade is about 50 per cent compared with a global share of about one third in 2008. More importantly, the nature of trade has also changed. Today, nearly 60 per cent of the volume of world merchandise trade is trade in components. In Asia, the figure is closer to two thirds. The import content of the average export is 40 per cent, up from 20 per cent two decades ago. The country where the final assembly takes place may contribute only a small fraction of the final value of the product.

6.   The discussion on the limitations of official trade statistics has been in the agenda of the statistical community for several years now, but the testimony of Professor Wei and the speeches of the leaders of OECD and the World Trade Organization are different in the sense that in their case, the discussion was put

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[3] The testimony is available from http://www4.gsb.columbia.edu/filemgr?&file_id=7311138. Reports published by the United States International Trade Commission with a similar thrust are available from http://www.usitc.gov/journals/Added_Trade_Balance_final_7_12.pdf; and http://go.worldbank.org/R156ABXQQ0.

[4] Speech posted at http://wto.org/english/news_e/sppl_e/sppl245_e.htm.

[5] See http://wto.org/english/news_e/sppl_e/sppl250_e.htm.

forward in front of policymakers, who could request (unilaterally) to change the methodology underlying their country's international trade statistics. Maintaining relevant and internationally comparable trade statistics for the future requires a rapid and comprehensive reply from the global statistical system through the Statistical Commission.

7.   Against this background of calls for meeting the data gaps in the measurement of international trade, the present report addresses the relevant policy questions and urgent policy needs (sect. II). Section III describes a proposal put forth by international organizations on some longer-term goals for international trade statistics and a corresponding feasibility check conducted by the Australian Bureau of Statistics. Sections IV-VI highlight current developments in the traditional fields of international merchandise trade statistics and statistics of international trade in services and in the international classifications in those two areas. Sections VII and VIII examine newly emerging areas, specifically linkage of trade with other economic statistics, and measurement of trade in value added. One objective of this report is to demonstrate that international merchandise trade statistics, statistics of international trade in services and related statistics on foreign affiliates, foreign direct investment (FDI) and balance of payments need to be better integrated if there are to be answers to important policy questions on international trade, economic globalization and the interdependency of nations.

II.   Policy questions

8.   The fifth edition of the *Internationalisation Monitor*,[6] which was released by Statistics Netherlands on 5 December 2012, describes recent developments in international trade in goods and services, FDI, multinational enterprises, and traffic and transport. In addition, four analytical chapters provide an in-depth analysis of enterprise dynamics and the role of (increasing) internationalization in this regard. This publication also addresses related policy questions, such as the effects of globalization on economic growth, innovation, employment and sustainability, and the impact of international trade on job creation, taking into account the trading partner country or the kinds of products traded. Statistics Netherlands is interested not only in developing insights into the structure of its exporting industries, but also in gaining information on its international position, for instance, through finding an answer to the question why the 2008-2009 financial crisis affected the Netherlands less than it did most other European countries. While answers to policy questions that are nationally oriented could be found through the linking of international trade with other economic and social statistics, answers to questions concerning the impact of the financial crisis require information on global value chains and the interdependency of the international trade and the financial sectors.

9.   The policy question centring on the effect of trade on employment is of crucial importance to Governments around the world (see, for instance, the recent OECD publication entitled "Policy priorities for international trade and jobs").[7] The World Bank has released *World Development Report 2013*[8] with the telling title *Jobs*. As

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[6] *Internationalisation Monitor 2012* (The Hague, Statistics Netherlands, 2012).

[7] Douglas Lippoldt, ed. (Paris, OECD, 2012), e-publication. Available from http://www.oecd.org/site/tadicite/policyprioritiesforinternationaltradeandjobs.htm.

[8] Washington, D.C., 2012. Available from http://go.worldbank.org/TM7GTEB8U0.

an example of trade creating employment, the report highlights the development of export processing zones in Sri Lanka, which drove the take-off of the garment industry. These economic enclaves offered better infrastructure and a more favourable regulatory environment than did the rest of the economy. As a result, they attracted large inflows of FDI and became the source of a large fraction of the exports of Sri Lanka. Local producers in these zones were able to benefit from cluster effects. Outperforming competitors in many other developing countries, the industry has managed to move up the value chain, transforming factories into design centres. Several studies on the impact of trade liberalization on labour markets try to estimate the "job content" of trade and to deduce where exactly jobs are created and who benefits from trade and investment liberalization.

10.   *The impact of macroeconomic shocks*. The 2008-2009 financial crisis was characterized by an unanticipated synchronized trade collapse in all economies.[9] Having a better mapping by countries of the value added in certain industries, such as the automotive[10] and consumer electronics industries, could have helped policymakers predict the possible scenarios of the impact of the crisis as it was transmitted through various interdependent economies. Whereas the financial crisis brought a general shock to all countries, natural disasters like the 2011 tsunami, which affected Japan first, will bring more specific economic shocks to those countries that are economically related to Japan as a result of Japan's important role in the value chains of certain industries. Knowledge of the economic interdependencies with other nations in the value chain will enable Governments to better analyse the risks that their national economies are exposed to.

11.   *Stability of the financial system*. A recent International Monetary Fund (IMF) working paper[11] looked at the same issue of macroeconomic shocks from a financial perspective. Against the background of an increased focus on the stability of the financial system, the Group of Twenty (G-20) asked the Financial Stability Board and IMF to identify and close data gaps revealed by the global crisis. To meet this request, IMF and the Financial Stability Board undertook extensive consultations with users and compilers of data, and produced a set of recommendations structured around four themes: build-up of risk in the financial sector, cross-border financial linkages, vulnerability of domestic economies to shocks, and improving communication of official statistics. Perhaps most significantly, there is a longer-term vision being developed based on these recommendations. Over time, the idea is to extend the sectoral accounts to the so-called flow of funds from-whom-to-whom data, that is, data on who holds whose financial instruments within the domestic economy and with the rest of the world. The vision is ultimately to develop from-whom-to-whom data both domestic and cross-border.

12.   With consistent definitions and concepts used in the sectoral accounts and in the cross-border surveys, such data would provide an understanding of the relationship between the international financial system and the real economy. If

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[9] *Global Value Chains in a Postcrisis World*, Olivier Cattaneo, Gary Gereffi and Cornelia Staritz, eds. (Washington, D.C., World Bank, 2010). Available from http://www.cggc.duke.edu/pdfs/ Gereffi_GVCs_in_the_Postcrisis_World_Book.pdf.

[10] See Timothy J. Sturgeon and Johannes Van Biesebroeck, "Effects of the crisis on the automotive industry in developing countries: a global value chain perspective", World Bank Policy Research Working Paper, No. 5330 (Washington, D.C., June 2010).

[11] See Robert Heath, "Why are the G-20 Data Gaps Initiative and the SDDS Plus relevant for financial stability analysis?", November 2012.

successful, the analyst would be able to determine the domestic exposure of the international trade sector and its cross-border vulnerabilities to the financial and non-financial institutions in another economy.

III. Trade information systems in 2020

13. As witnessed at the Global Forum on Trade Statistics, policymakers, trade analysts, economists and researchers made a strong demand for more comprehensive and integrated data on international trade and globalization in order to better understand their impact on growth, economic development, employment and the economic interdependency of countries in terms of production, consumption and investment. Information on international trade provided by statisticians should live up to these demands. A closer integration of trade statistics and the productive and financial dimensions of national accounts and balance of payments could also enhance the analytical value of these data in exploring the dynamic relationships between trade and development. However, to fulfil this task, statisticians also require the right tools, resources, institutional arrangements and political support.

14. In this context, the United Nations Statistics Division, Eurostat and the World Trade Organization developed a background note (January 2011) entitled "International trade information systems in 2020"[12] which was endorsed by the Task Force on International Merchandise Trade Statistics and the Task Force on Statistics of International Trade in Services. It sets out in detail the steps to be taken and the goals to be achieved in respect of improving international trade statistics over the next decade. Specifically, the document mentions 20 goals to be achieved by 2020. Although these goals are not officially recommended by the global statistical community, they do illustrate a possible direction for the future of trade statistics.

15. The Australian Bureau of Statistics undertook a study[13] to determine whether the Bureau would be in the position to achieve the goals referred to above. It evaluated the goals under three main headings, namely, institutional arrangements, statistical data production, and data dissemination and analysis. Regarding institutional arrangements, the Australian Bureau of Statistics is a centralized institution and therefore well positioned to encompass the full scope of the work on international trade statistics. The legal framework and institutional arrangements in other countries, like the United States of America, Germany, China and India, may pose challenges that Australia's statistical system does not face because of its centralized nature.

16. As for statistical data production, the Australian Bureau of Statistics is currently engaged in a project to move the frame for the survey on international trade in services to the Bureau's business register. However, identifying units that engage in international trade in services will remain a challenge, as there is no one source that clearly identifies these units. The move is scheduled to be completed in March 2013. The Bureau is relatively well positioned in linking businesses that trade goods to the Bureau's business register and this will extend to services. The

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[12] See http://unstats.un.org/unsd/trade/s_geneva2011/ for further details.
[13] The study was presented at the meeting of the Organization for Economic Cooperation and Development (OECD) Working Party on International Trade in Goods and Trade in Services Statistics in Paris in October 2012.

Australian Bureau of Statistics produces some information derived from the linked database but there is the potential to do more and while it recognizes the demand for information on mode of supply and foreign affiliates, it is currently not funded to collect or compile this information. Stakeholders in Australia have expressed a far stronger interest in outward rather than inward foreign affiliates. The Australian Bureau of Statistics is not convinced that foreign affiliates statistics require a high frequency.

17.   Finally, on data dissemination, the Australian Bureau of Statistics produces a combined monthly publication entitled "International trade in goods and services", and has some basic infrastructure in place that will facilitate the dissemination of international trade statistics by enterprise characteristics, but more work is required to enable this information to be produced. The Australian Bureau of Statistics believes that some of those characteristics (for example, geographical location of the enterprise) require more conceptual work. A full cost-benefit analysis of producing this information is required. A more general point made by the Australian Bureau of Statistics was that resources, provider burden, confidentiality and the challenge of producing the current set of high-quality macroeconomic statistics in a global economy combine to pose significant hurdles with regard to the realization of these goals.

IV.   International merchandise trade statistics

18.   At its forty-first session in 2010 (see E/2010/24, chap. I.B, decision 41/103, para. (b)), the Statistical Commission adopted the *International Merchandise Trade Statistics: Concepts and Definitions, 2010* (IMTS 2010),[14] which contains the international recommendations for the measurement of merchandise trade. The physical movement of goods across borders remains the conceptual basis of IMTS 2010 and is different from the principle used for the recording of transactions in international goods in System of National Accounts (SNA) and Balance of Payments (BOP) statistics, which is based on the change of ownership of the goods in transactions between residents and non-residents. This conceptual difference between IMTS and SNA/BOP leads to the reporting of different totals for trade in goods, one on an IMTS basis and another on a BOP basis.

19.   Trade in goods on an IMTS basis has its own relevance, as it indicates the amount of goods that physically enter and leave the country. IMTS data remain the basis for compiling trade on a BOP basis and are necessary as input to the estimation of trade in value added. Trade in goods on an IMTS basis also remains fully relevant from an analytical point of view, since the gross values of trade tell us how much consumers, firms and administrations have spent on imported goods and services. Moreover, IMTS data are important for any analysis requiring physical flows of goods, like the calculation of food and energy balances, environmental analysis and transportation policy-related analysis. Infrastructure planning of ports, airports, and railway and road transportation relies heavily on these imports and exports statistics.

20.   To better support information for policymaking, IMTS 2010 provides new recommendations for the compilation of imports valuation on a free on board (FOB)

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[14] Series M, No. 52/Rev.3 (United Nations publication, Sales No. E.10.XVII.13).

basis in addition to the standard cost, insurance and freight (CIF) valuation, for the recording of country of consignment in addition to country of origin and final destination, for the compilation and dissemination of international merchandise trade statistics by mode of transport, and for the recording of information about the customs procedures applied to individual transactions, which include procedures encompassing, for example, imports for inward processing, exports for outward processing, and exports after inward processing. For global value chain analyses and for the construction of international input-output tables, these new data items will be extremely useful.

21. It is also useful to reflect further on the existing recommendation on the country of origin as the partner country for imports, since it may help to determine the relative importance of countries in the global value chains, as "country of origin" signifies the country in which the last substantial transformation of the intermediate or final goods took place. The rules of origin differ among countries, but are generally based on the factor of a substantial change in the product itself (in terms of a change of code in the commodity classification) and/or the factor of a substantial change in the value of the product. In this context, global value chains analysis will also benefit from classifying data on international merchandise trade statistics in terms of intermediate, capital and final consumption according to the Classification by Broad Economic Categories (BEC), as explained in section VI.

22. Furthermore, linking the traditional customs-based trade statistics with data from the business register and with already existing data from business surveys will open up the possibility of obtaining trade-related information for many new dimensions without increasing the burden on data providers. Linking trade and business statistics allows, for example, for analysing the impact of trade on employment, wages, industry specialization, foreign investment, development of auxiliary services and general economic development at the national and especially the subnational level. It can also capture the heterogeneity that often characterizes exporting and non-exporting firms, which can significantly improve the quality of estimates of trade in value added. Section VII provides further details on linking trade and business statistics.

V. Statistics of international trade in services

23. At its forty-first session in 2010 (see E/2010/24, chap. I.B, decision 41/104), the Statistical Commission also adopted the recommendations contained in the *Manual on Statistics of International Trade in Services 2010* (MSITS 2010),[15] which reflects the updated recommendations on balance-of-payments statistics, foreign affiliates statistics, foreign direct investment statistics and the modes of supply of services in the context of the negotiations on the General Agreement on Trade in Services (GATS).[16] MSITS 2010 combines the resident/non-resident trade in services with foreign affiliates statistics within the framework of the modes of supply of services. The new Manual devotes a separate chapter (V) to explaining the four modes, in particular Mode 4.

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[15] United Nations publication, Sales No. E.10.XVII.14.

[16] See *Legal Instruments Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, done at Marrakesh on 15 April 1994* (GATT secretariat publication, Sales No. GATT 1994-7).

24. MSITS 2010 recommends the implementation of four core elements in the first phase, namely: (a) the definition, valuation, classification and recording of services transactions between residents and non-residents in accordance with the *Balance of Payments and International Investment Position Manual*, 6th ed. (BPM6);[17] (b) additional details in those services categories of the 2010 Extended Balance of Payments Services Classification (EBOPS) that are economically important to the compiling country or area; (c) FDI statistics by economic activity; and (d) main variables of foreign affiliates statistics by economic activity. For each of those core elements, MSITS 2010 recommends the inclusion of partner-country breakdowns. For services transactions between residents and non-residents, partner-country breakdowns are expected, first, at the level of services trade as a whole, and second, for each of the main services categories and for the additional economically important items of EBOPS. For FDI and foreign affiliates statistics, the aim is to report partner detail both in the aggregate and for the major economic activities. In the second phase, the inclusion of further recommended elements could be implemented, namely, more details of EBOPS, more variables of foreign affiliates statistics, the identification of trade between related and unrelated parties, the value of the international supply of services by mode and the number of natural persons covered by GATS Mode 4.

A. Manufacturing services

25. In accordance with the changes in the sixth edition of the *Balance of Payments Manual*, the most noticeable change in the MSITS 2010 recommendations concerns the introduction of "manufacturing services on inputs owned by others". For those cases in which companies are processing goods without obtaining ownership of the imported inputs or of the exported processed goods, the international transaction is now treated as an importation of services by the country of the owner of the goods. These cases are also classified under the rubric "goods for processing" or "processing under contract". The consequence of this change in statistical treatment is not only that certain transactions will now be classified under "manufacturing services on inputs owned by others", but also that the corresponding goods transactions (as recorded in the IMTS data) shall be removed from the statistics of international trade in goods on a BOP basis. To implement this new recommendation, statisticians need to distinguish between transactions in goods with a change in ownership from transactions without a change in ownership, which may pose a challenge and implies a need for additional information, since the same company could process goods both on its own account and on accounts of others. Such business practices are not uncommon in the textile, automotive and information technology industries. Refineries are also known for processing crude oil under contract. One source of additional information could be the business register if it records ownership and control relationships among enterprises engaged in trade. Even so, additional data may have to be collected on the actual contractual arrangements for the international transactions made by the foreign controlled enterprises.

26. This data-collection challenge may in fact provide an opportunity to obtain more information on the issue of trade and global production. On the one hand,

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[17] Washington, D.C., IMF, 2009.

enterprises that engage in processing under contract need to be identified and surveyed (to derive payment and other information on the exports of manufacturing services) and on the other hand, these enterprises need to be linked to the customs-based trade information to identify those goods that these companies have imported (as inputs) and exported (as outputs) as part of the production process. Such surveys together with microdata linking will increase knowledge on governance and strategic business models of companies involved in global production and will therefore improve the measurement of international trade.

B. Foreign affiliates statistics

27. Foreign affiliates statistics (FATS) and statistics on foreign direct investment are of course highly relevant to the analysis of economic interdependencies among countries. Foreign affiliates statistics are statistics on enterprises located in one country that are majority (more than 50 per cent) owned by an enterprise that is resident in another country. Business entities that meet the criteria for foreign affiliates statistics are a subset of the FDI population, but the range of foreign affiliates statistics extends well beyond those statistics traditionally compiled for FDI. Data on foreign affiliates statistics are also important for understanding the impact of FDI on a broad set of economic factors such as output, employment, value added, and trade, rather than just the investment transactions and positions that are the focus of FDI.

28. Generally, two basic approaches to compiling foreign affiliates statistics, which are not necessarily mutually exclusive, are followed. The first approach entails surveys conducted by a national statistical agency or central bank that request information directly on the operations of resident affiliates of foreign enterprises and foreign affiliates of domestic enterprises. The second approach, which can be used only for inward investment, identifies from existing data on resident enterprises the subset of foreign-controlled enterprises. With either of these approaches, links to existing data on FDI are likely to exist. Where there are surveys of foreign affiliates, business registers used for collecting FDI data would typically be used to identify foreign-controlled affiliates for which foreign affiliates statistics variables could also be collected.

C. Outsourcing of business functions

29. Finally, a relatively new approach in the context of measuring international trade in services is the international sourcing of business functions, which will improve understanding of how businesses organize themselves and operate internationally. In their search for efficiency gains and low labour costs, companies are increasingly moving business functions that are currently performed in-house or are domestically outsourced to either non-affiliated or affiliated enterprises located abroad. This typically results in jobs being moved abroad, thus affecting employment and economic activity domestically. In two recent studies (conducted in

2007[18] and 2012), a number of European countries tried to measure the international sourcing of business functions. An important feature of the study was the breakdown of activities carried out by the enterprises into a number of core and support business functions. The core business function constitutes the primary activity of the enterprise. Support business functions, also called ancillary activities, are carried out in order to permit or facilitate production of goods or services. Support functions include services such as distribution, marketing and sales, information and communications technologies (ICT), administration and management, and research and development. An international classification of business functions is being prepared by a technical subgroup of the United Nations expert group on international economic and social classifications.

30. In conclusion, the new developments in the field of trade in services statistics will help provide a better understanding of how businesses operate internationally, especially with respect to the measurement of manufacturing services on inputs owned by others, the measurement of foreign affiliates statistics and FDI, and the measurement and analysis of the international sourcing of business functions.

VI. Classifications for use in international trade statistics

31. As indicated in the introduction to this report, one of the requests made by participants at the Global Forum on Trade Statistics was that improvements be made in the classifications of international trade statistics. The relevant classifications for the recording of international trade are the Harmonized System (the latest edition is HS 2012), the *Standard International Trade Classification, Revision 4*,[19] the Central Product Classification (CPC) Ver.2, the Extended Balance of Payments Services classification (latest version EBOPS 2010) and the *Classification by Broad Economic Categories* (revision 4).[20] These classifications are all *product* classifications indicating the good or service being delivered (with the Broad Economic Categories also including the end use of the product). For foreign affiliates statistics or the linking of trade and business statistics, the economic activity should also be recorded, as classified in the *International Standard Industrial Classification of All Economic Activities* (ISIC), Rev.4.[21]

A. Harmonized System (HS)

32. The Harmonized System classification is used by customs administrations around the world for registration of imports and exports of goods and is maintained by the World Customs Organization. The Harmonized System is updated in a five-year cycle, during which subheadings reflecting an increasing amount of world trade are considered for division into new subheadings, other subheadings are proposed by special interest groups, and subheadings reflecting little world trade are

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[18] See Statistics Denmark, Statistics Finland, Statistics Netherlands, Statistics Norway and Statistics Sweden, *International Sourcing: Moving Business Functions Abroad* (Copenhagen, Statistics Denmark, June 2008). Also available from http://www.cbs.nl/nl-NL/menu/themas/ dossiers/globalisering/publicaties/publicaties/archief/2008/2008-international-sourcing-pub.htm.
[19] Statistical Papers, Series M, No. 34/Rev.4 (United Nations publication, Sales No. E.06.XVII.10).
[20] Statistical Papers, Series M, No. 53, Rev.4 (United Nations publication, Sales No. E.03.XVII.8).
[21] Statistical Papers, Series M, No. 4, Rev.4 (United Nations publication, Sales No. E.08.XVII.25).

considered for deletion. As mentioned above, the latest edition of Harmonized System was released in 2012 and contains, notably, a number of new subdivisions for food and agricultural commodities and for those commodities that need monitoring for environmental purposes.

B. Extended Balance of Payments Services and CPC

33. The classifications currently used for trade in services are EBOPS 2010 and CPC Ver.2 or regional versions thereof, like the Classification of Products by Activity (CPA) in Europe. EBOPS is derived from the BOP services components with more detailed services categories within each of those components. The content of those services categories is described in BPM6 and MSITS 2010. The services categories in CPC are more detailed than the EBOPS categories and are described in the CPC Ver.2 manual, including explanatory notes. The CPC categories do not directly correspond to the EBOPS categories, but a correspondence table has been created, which maps detailed service products of CPC to service categories of EBOPS. The correspondence table is available in draft version on the website of the Task Force on Statistics of International Trade in Services, which is hosted and maintained by the United Nations Statistics Division.

34. For many years, the detail produced for statistics of international trade in services was practically equivalent to the detail recommended for statistics on trade in services in the current account of the Balance of Payments. To a large extent this is still the case. However, policymakers have gradually shown more interest in a greater level of detail in trade in services, as was clearly expressed at the Global Forum on Trade Statistics. The EBOPS classification was developed to provide this further detail within the main services components of the BOP. The compilation of trade in services statistics through EBOPS requires the collection of data from businesses for a large part of the service categories, supplemented by household or border surveys for other categories like travel. For an integrated economic statistics approach, a business survey requesting data on a full range of services (or administrative data on businesses) is recommended. In such a case, CPC could guide data collection.

C. Classification by Broad Economic Categories

35. The main purpose of the Broad Economic Categories is to provide an analytical framework for the international comparison of trade and production statistics dealing with products, especially the comparison of the end use of these products classified according to intermediate consumption, capital formation and final consumption. The Broad Economic Categories was first developed to tabulate international trade statistics, but could also be used for production statistics and prices. Its current structure comprises a mix of economic and end use categories at its top level, namely, food, fuels and transport equipment, as well as industrial supplies, capital goods and consumer goods. For the sake of analytical clarity, it would be more desirable for the economic and end-use categories to be completely separated.

36. Even though the distinctive feature of the Broad Economic Categories is classification by end use, it has been proposed that the first level of the revised

Broad Economic Categories should comprise broad and relevant economic categories. It is through these sectors that the end-use categories derive their meaning and interpretation. For instance, capital formation is different for the economic sectors of construction, transport and information and communications technologies (ICT), and it is meaningful to see those differences when making international comparisons. Similarly, economies differ widely in respect of the intermediate consumption of energy, transport, ICT and textile goods and services. Since the classification of the end use of goods is not precisely the same as that of services, especially in the case of capital formation, the second level of the proposed revised Broad Economic Categories consists of goods and services, and the third level of end-use categories. As mentioned, the specific details are still under discussion.

VII. Linking trade and other economic statistics

37. Traditionally, international trade statistics and business statistics have been treated as separate statistical domains, reflecting the viewpoint of both data compilers and data users. Different data sources, methodologies and classifications complicate data linking. Despite the obvious differences, trade and business statistics have common features, starting of course with the fact that in the end it is businesses that make decisions on international trading and on other kinds of international business arrangements, such as FDI, establishing foreign affiliates and outsourcing business functions. Linking trade and business statistics will offer new insights with political and analytical relevance, in particular in the context of analysing the impact of globalization on the competitiveness and economic success of businesses.

38. One promising approach to procuring information on businesses involved in international trade entails microlevel data linking, which has several attractive features. The business register and the IMTS trade data are compiled mostly from administrative sources and do not require additional data collection. The linking will combine the detailed trade data with the economic variables available in the business register, such as the economic activity of the enterprise, number of employees, turnover, and ownership and control relationships. Moreover, other existing business surveys (on FDI, research and development and structural business statistics) and other administrative data on businesses can be linked as well so as to expand the scope of statistics related to businesses. The linking provides the basis for the creation of a number of policy-relevant indicators, such as those developed in the Eurostat-OECD Trade by Enterprise Characteristics (TEC) database.

39. The quality of statistics based on register linkage depends to a large extent on the matching rates between source data sets. Matching rates can be expressed in terms of both trade value and number of enterprises matched. Within the context of the Trade by Enterprise Characteristics project, the data-collection rounds have so far shown that, in most cases, the matching rates are excellent, in particular when measured in terms of trade value. Reasons for unsuccessful matching of businesses are the use of different identification codes, differences in terms of the scope of the business population (for instance, agriculture businesses, public administration and private individuals are sometimes excluded from the business register) and differences in respect of the updating of registers.

40.   Linking trade and business statistics is not an issue purely for developed countries. For example, the national statistical office of Costa Rica, with the support of the United Nations Statistics Division, has started to link its detailed customs-based merchandise trade statistics with its business register. The first results are encouraging, showing high matching rates for exporters and moderate rates on the import side. This linking is expected to deliver standard output tables in the longer term. In the short term, results will be fed into a project led by the Ministry of Foreign Trade that is designed to upgrade the exporting industries of Costa Rica in the global value chains.

41.   In addition to data preparations for the TEC database, several countries members of the European Union (EU) have engaged in a microdata linking project in which not only international merchandise trade statistics but also structural business statistics, foreign affiliates statistics, FDI statistics and statistics of international trade in services, are linked to the business register. This provides a more complete framework for analysis of the relation between trade and global production. Moreover, the new EU regulation on business registers makes the recording of control relationships between an enterprise and its parent company mandatory. In the so-called EuroGroups Register, Eurostat consolidates such information from the national business registers and builds up the structure of the largest multinational enterprise groups operating in EU. The implementation of the EuroGroups Register will offer new possibilities for register linkages. For trade statistics, it allows traders to be linked directly to enterprise groups, domestically controlled or foreign-controlled, making it possible to calculate key globalization indicators in a harmonized manner, without additional data collection.

42.   While at the national level, microdata linking offers an abundance of possibilities for analysing international trade and economic globalization, at the international level it would be useful to have a standard set of indicators for country comparison. In this context, OECD in October 2012 organized a special workshop on linking trade and business statistics to determine at what level of detail new indicators on trading firms (importing and exporting) could be created so as to provide as much disaggregation as possible (in terms of ownership, industrial classification and size) while at the same time satisfying national confidentiality constraints. More generally, since confidentiality is a problem for any kind of microdata linking, the global statistical community may wish to develop some type of guidance on how best to deal with this.

43.   In this context, reference should be made to the recently developed *Guidelines on Integrated Economic Statistics*.[22] Economic trends like globalization, the financial crisis and worldwide fiscal challenges underscore the importance of the production by countries of timely, accurate and consistent data within an integrated framework. Information on real gross domestic product (GDP), inflation, balance sheets and international trade is essential to assessing cross-country effects and coordinating effective monetary, fiscal, regulatory and trade policies.

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[22] United Nations publication, forthcoming.

VIII. Trade in value added

44. On 15 March 2012, OECD and the World Trade Organization announced that they had signed a letter of understanding with a view to developing statistics on trade in value added.[23] The two organizations will, inter alia, produce a publicly available database of trade flows estimated in value-added terms. The measurement of trade in value added should help lead to a better understanding of the interdependencies of today's national economies, and support of the design of better policies and better trade regulation worldwide. According to OECD and the World Trade Organization, the fact that exports increasingly embody intermediate inputs sourced from abroad renders it difficult to identify the real contribution that a given export may make to an economy's material well-being, whether in terms of income or of employment. Moreover, conventional trade statistics are not necessarily able to determine those sectors of the economy where value added originates. In developed economies, a large share of the total value added generated by manufactured exports originates in the service sector. Disentangling the domestic value chain into its sectoral components can therefore shed new light on the sources of international competitiveness and the direct and indirect employment impacts of trade.

45. The concept underlying measuring trade in value added is not a particularly contentious one. Any given export can theoretically be decomposed into value-added contributions from different domestic industries and different foreign industries. By its very nature, the measurement of trade flows in the context of the fragmentation of world production requires a coordinated international approach to building a framework and methodology, based on underlying official statistics that have widespread recognition and approval. This forms the basis of the OECD-World Trade Organization initiative. The two organizations wish to promote the development of input-output and supply-use tables that recognize the heterogeneity characterizing firms that trade internationally (in particular multinational enterprises and their affiliates) and firms that produce goods and services mainly for the domestic market.

46. In this context, it is important to note that measures of trade in value added are estimates produced based on a number of assumptions. While these underlying assumptions will necessarily limit how far the estimates can be used as the basis for trade policy agreements, they do shed an important light on the potential for the introduction of counterproductive policy measures through use only of gross statistics. The long-term goal is to capitalize increasingly on microdata, using the initiatives highlighted above, and, in particular, the development of high-quality supply-use, input-output and bilateral trade statistics (services and goods) to improve the quality of estimates of the trade in value added. Under the OECD-World Trade Organization initiative, OECD has created a technical advisory group to ensure that there is widespread agreement on the nature of the assumptions on which the creation of a global input-output table would be based.
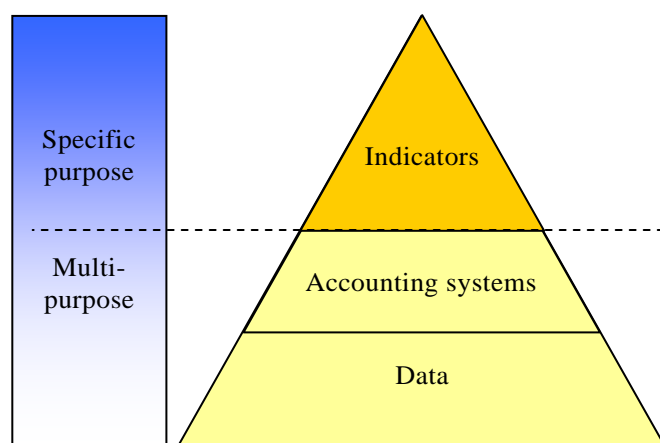
IX. International cooperation

47. The international statistical community created many task teams to solve specific problems associated with goods for processing abroad, to revise the

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[23] See http://wto.org/english/news_e/news12_e/miwi_15mar12_e.htm.

classification by broad economic categories, and to advance the work on more general issues like the impact of globalization on national accounts and the implementation of IMTS 2010 and of MSITS 2010. These working groups can be roughly divided into those that approach the statistical issues (of international trade and economic globalization) from a microeconomic and basic data compilers perspective, those that follow an approach that is based more on macroeconomic accounting and those that are developing indicators for specific policy purposes. This division into three categories is in line with the scheme for the infrastructure of statistical information, as used in the European Statistical Programme 2013-2017 (see figure).

Infrastructure of statistical information

A. International trade and basic economic statistics

48. At the **data** level of international trade and basic economic statistics, these working groups are attempting to enable advances in the areas of international merchandise trade statistics, statistics of international trade in services, foreign affiliates statistics, FDI statistics, business registers data, structural business statistics and statistics on research and development, and in the related classifications. At the international level, this category includes, inter alia, the following groups:

- Task Force on International Merchandise Trade Statistics

- United Nations Expert Group on International Merchandise Trade Statistics

- Task Force on Statistics of International Trade in Services

- United Nations Expert Group on the Compilation of Statistics of International Trade in Services

- Technical Subgroup on the revision of the Broad Economic Categories

- Technical Subgroup on the classification of business functions

- Wiesbaden Group on Business Registers

- Economic Commission for Europe Task Force on Business Registers

- OECD Working Party on International Trade in Goods and Trade in Services Statistics
- Eurostat working group on trade and business statistics

49. Some of the recent work undertaken by these various groups includes the implementation of IMTS 2010 and the development of a compilers manual by the Task Force on International Merchandise Trade Statistics and the United Nations Expert Group on International Merchandise Trade Statistics, the implementation of MSITS 2010 and the development of the compilers guide by the Task Force on Statistics of International Trade in Services and the United Nations Expert Group on the Compilation of Statistics of International Trade in Services, the revision of the BEC by the dedicated Technical Subgroup and the development of international guidelines by the Task Force on Business Registers. Coordination of work among these groups is necessary, since the scope of work on the problematic issues of international trade statistics overlaps the scope of work of the various groups. The Task Force on International Merchandise Trade Statistics and the Task Force on Statistics of International Trade in Services have held joint meetings recently, but the coordination of the work of all these teams has not been carried out systematically.

B. International trade and macroeconomic accounting

50. The groups focusing on international trade issues from a macroeconomic accounting perspective include the Intersecretariat Working Group on National Accounts, the Economic Commission for Europe Task Force on Global Production, the OECD Working Party on National Accounts and the Eurostat Task Force on Goods Sent Abroad for Processing. The Task Force on Global Production is working on a handbook that will cover such topics as developing a typology of global production arrangements, clarifying the principles of economic ownership (of goods), economic ownership issues of intellectual property products inside global value chains, merchanting of services, and recording of production abroad. As indicated by its title, the Eurostat Task Force also treats the topic of goods sent abroad for processing. Reflecting the observation made in paragraph 49 above, the coordination between these two groups is carried out on a more-or-less voluntary basis.

51. Moreover, the issue of goods for processing is being discussed not only within the above-mentioned (macroeconomic) task forces, but also by the (basic data) groups: United Nations Expert Group on International Merchandise Trade Statistics, United Nations Expert Group on the Compilation of Statistics of International Trade in Services and the OECD Working Party on International Trade in Goods and Trade in Services Statistics. Of especial concern is the fact that coordination among the basic statistics groups on the one hand and the accounting groups on the other hand is often lacking. An overarching coordinating mechanism is needed, since in the current (informally coordinated) set-up, it is very likely that information is not systematically shared among these groups and that, in consequence, different — and possibly conflicting — guidelines are issued on the same topic.

C. Initiatives for developing new indicators for international trade

52. Two main initiatives for the development of new indicators in the area of international trade have already been mentioned, namely, the OECD-World Trade Organization initiative to develop measures for trade in value added, and the Eurostat-OECD Trade by Enterprise Characteristics (TEC) project for the development of indicators derived from the TEC database. Indicators that have been developed within the context of trade in value added include: import content of exports, value added induced by export, and value added induced by unit of export. Indicators from the TEC database include, as mentioned earlier, exporting industries broken down by foreign ownership, enterprise size class and export intensity.

53. The OECD Working Party on Globalisation of Industry also falls within the scope of the present section, as it focuses on the development of globalization indicators and indicators for the measurement of global value chains. In this regard, OECD published *Measuring Globalisation: OECD Economic Globalisation Indicators 2010*.[24] The areas covered by this handbook include capital movements and FDI, the economic activity of multinational enterprises, the internationalization of technology, and international trade. The globalization indicators help identify the economic activities of countries that are under foreign control and, more particularly, the contribution of multinational enterprises to growth, employment, productivity, labour compensation, research and development, technology diffusion and international trade. These indicators shed new light on financial, technological and trade interdependencies. In addition, this publication includes indicators linked to the financial crisis, portfolio investments, environmental considerations and the emergence of global value chains.

54. The input for the calculations of the indicators developed for trade in value added, TEC and the globalization handbook is derived from basic economic statistics and macroeconomic accounting. Again, a coordination mechanism needs to be in place to guarantee that the efforts of the various groups working on data, accounting and indicators are well aligned. The establishment of a high-level governing committee for the coordination of the work on international trade and economic globalization seems to be needed.

X. Conclusion

55. This report has provided an overview of the policy questions associated with international trade statistics in the context of a fragmented production process, which currently involves many countries in the global value chains and creates interdependencies among countries, with economic, financial, social and environmental dimensions. The report has described new developments in the areas of international merchandise trade statistics and statistics of international trade in services and in the corresponding trade classifications, as well as noted the 20 goals for 2020, as informally proposed by international organizations and evaluated for applicability and feasibility by the Australian Bureau of Statistics. Finally, the report has examined new initiatives for linking trade and business statistics and estimating trade in value added, and discussed the efforts of the many task teams engaged in moving elements of this field forward.

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[24] Paris, September 2010.

56. The existing measurement frameworks for International Merchandise Trade Statistics, Statistics of International Trade in Services, Balance of Payments and the SNA do not fully encompass the measurement of economic interdependencies, exposures and vulnerabilities of countries through the global value chains or through operations of multinational enterprises. The report has highlighted a number of the phenomena that are difficult to measure and for which data gaps exist, including manufacturing services on input owned by others, intra-firm trade, ownership of intellectual property products and other economic interdependencies inside global value chains. While there are many international task teams working in various areas of international trade and economic globalization, an overarching framework for, and systematic coordination of, that work are lacking. In this respect, it may be noted that Eurostat has started to develop a measurement framework for statistics on global value chains and economic globalization.

57. The report concludes that the development of an overarching measurement framework for international trade and economic globalization is necessary so as to better meet the needs of data users, such as policymakers, trade negotiators and the business community. This framework would cover economic interdependencies of nations related to international trade, foreign investments, multinational enterprises and the outsourcing of business functions, and could also cover economic interdependencies arising from financial, environmental and social cross-border relations. The development of this overarching framework will need to be guided by a corresponding new governing structure. The existing groups should continue their important work; however, an appropriate mechanism needs to be put in place to assure coordination and consistency in methodology and data compilation based on this overarching measurement framework for international trade and economic globalization.

XI. Points for discussion

58. **The Commission is invited to express its views on:**

(a) **The need for an overarching measurement framework for international trade and economic globalization which would cover economic interdependencies of nations related to international trade, foreign investments, multinational enterprises and the outsourcing of business functions and could also cover economic interdependencies arising from financial, environmental and social cross-border relations;**

(b) **The need for an appropriate mechanism for coordination of the work on international trade and economic globalization;**

(c) **The creation of a "friends of the chair" group, consisting of Member States and international organizations, to be tasked with preparing a concept paper on the scope and content of the framework, and the appropriate mechanism for coordination of the work in this area.**