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Items for discussion and decision: international trade and economic globalization statistics

Measurement of international trade and economic globalization

Note by the Secretary-General

In accordance with Economic and Social Council decision 2013/235, the Secretary-General has the honour to transmit the report of the Friends of the Chair group on the measurement of international trade and economic globalization. The group was established at the forty-fourth session of the Statistical Commission and was tasked with preparing a concept paper on the measurement framework for international trade and economic globalization and on the coordination of the work in that area. The report sets out the main elements of the measurement framework in terms of scope and overview of measurement issues and makes a proposal on the way forward. The Commission is invited to express its views on the proposal given in the final paragraph of the report.

* E/CN.3/2014/1.



Measurement of international trade and economic globalization

I. Introduction

1. At its forty-fourth session, held in 2013, the Statistical Commission recognized, in its decision 44/106, the need for an overarching measurement framework for international trade and economic globalization, since current production processes are spread among many countries, creating not only economic and financial interdependencies but also social and environmental ones. The framework needs to address the growing concerns regarding the limitations of current trade statistics to inform the policy debate. In order to better measure the various aspects of international trade and economic globalization, data gaps have to be addressed, best practices developed and additional conceptual development pursued. Among those aspects are value added, income and employment generated from intermediate production in global value chains, intra-firm trade, foreign ownership and control relationships, manufacturing services and transfers of intellectual property products.

2. Also in its decision 44/106, the Commission agreed to create the Friends of the Chair group on the measurement of international trade and economic globalization and tasked it with preparing a concept paper on the scope and content of the framework and on the appropriate mechanism for coordinating work in this area. The Commission requested that the concept paper take into account the different levels of statistical sophistication and of available resources of national statistical systems and make provisions for corresponding milestones for the implementation of envisioned recommendations. The Commission also requested that the group pay special attention to the topics of microdata confidentiality and the legal aspects of data collection and sharing, including data sharing across national jurisdictions.

3. The Friends of the Chair group was effectively established in April 2013 with a broad geographical membership, a balance between developed and developing countries and representation from a number of international agencies. Annex I to the present report shows the mandate and the composition of the group. The members of the group exchanged thoughts about the scope and content of the concept paper, mostly by e-mail, from May to July 2013. A draft concept paper was then prepared by the Statistics Division and the national statistics agency of Canada, Statistics Canada, and circulated at the beginning of October, in preparation for the November meeting.¹ At that meeting, the concept paper was discussed in two main sessions on the scope and the schematic framework of the measurement issues of international trade and economic globalization. The present report is organized along those lines.

4. Section II below provides more background on the global production networks, which sparked much of the discussion on measurement issues in the present report. Section III contains the views of the Friends of the Chair group regarding the theoretical scope of the statistics covered by international trade and economic globalization, and section IV describes the schematic framework that

¹ For details on the meeting of the Friends of the Chair group on the measurement of international trade and economic globalization, see <https://unstats.un.org/unsd/trade/events/2013/foc.asp>.

organizes the conceptual, measurement and data quality issues. Section V contains a conclusion and proposals for the way forward.

II. Background

5. Measurement of economic activity in the context of global value chains was the common denominator in the presentations of the international agencies during the November meeting. Eurostat and the Statistics Division focused primarily on efforts to further develop and integrate basic trade, and on related economic statistics and aligning business registers. In Europe, initiatives on this topic include streamlining and integrating trade and business statistics, as well as efforts to further develop the EuroGroup Register and build a European system of interoperable business registers. Microdata linking is high on the agenda of Eurostat. The Statistics Division actively worked with the national statistical system in Costa Rica to link the country's trade and business statistics. The promising results from that collaboration prove the point that integration of basic statistics is also possible in developing countries.

6. The Organization for Economic Cooperation and Development (OECD), the World Trade Organization (WTO) and the United Nations Conference on Trade and Development (UNCTAD) have invested substantial efforts to estimate trade in value added using inter-country input-output models. Improving trade in value added estimates on the basis of official data requires the availability of national supply-use tables and national input-output tables. Depending on a country's economic diversification, more sophisticated national supply-use tables could be developed using relevant strata, such as the size or the export intensity of firms. For instance, for China and Mexico, there is a very important distinction between exporting firms that process under contract, other exporting firms and non-exporting firms, and aggregations of production units over those strata within input-output tables should be applied in that sense. In order to construct an intercountry input-output model, data from different countries must be harmonized, which is a complex process; one of the main issues is the need to reconcile differences in bilateral trade data for both goods and services.

7. The task force on global production of the Economic Commission for Europe (ECE) attempts to bring further clarity to the measuring of economic ownership, transfers of intellectual property products, production abroad, trade in value added and operations of large and complex enterprises. The task force develops guidance on unresolved conceptual issues and on implementation aspects. In doing so, it studies the existing practices of countries in relation to the different types of global production arrangements. The task force will finalize its guide on measuring global production in 2014.

8. The task force developed a typology of global production arrangements, defined as an interlinked production process performed in more than one country that leads to an output, where one entity, usually the principal, exerts a certain level of control over the process. Those interlinked production activities are commonly referred to as global supply chains or global value chains. The activities involved in global value chains can be grouped into broad stages of production from upstream research and design, through manufacturing, to downstream logistics, marketing and sales. A breakdown into broad stages of production is useful in order to properly

assign the kind of economic activity of principals, suppliers, contract producers and other participating units in the global production chain. Each stage of the production process includes a large number of tasks. In a global value chain, many of the tasks are “offshored”, either through an enterprise’s own affiliates located in foreign countries or through independent contractors.

9. Jobs, skills, international competitiveness and the creation of value added and income drive policy research on global value chains by the public and the private sector. That research usually focuses on specific industries for which all the production processes, such as research and development, design, components manufacturing, assembly or marketing and sales, and the relevant inputs and outputs are mapped. Enterprise statistics, including statistics on trade and investment, are then inserted on such mapping, highlighting the country’s strengths and weaknesses in particular economic sectors. Similar statistics can also be gathered from additional countries, particularly those that are regional or global industry competitors, to get a better description of a country’s position in the global value chains.

10. Trade policy analysts generally want to start with a broad view of the various industries of their economy that are focused on trade and foreign investment. The national input-output table gives them that macroeconomic overview with enough detail on interactions among the industries. For policy questions on market access, international competitiveness or the specific contributions of small and medium-sized enterprises in international trade, analysts use detailed firm-level data, usually with a focus on specific industry sectors, to supplement those aggregate statistics. Policymakers therefore emphasize the importance of using both macrodata and microdata and of establishing micro-macro links through alternative aggregations in support of addressing research and policy questions in global value chains.

III. Scope of statistics of international trade and economic globalization

11. A general consensus emerged regarding the scope of the statistics to be included in the conceptual framework for international trade and economic globalization. A distinction was made between desired statistics as a theoretical objective and the statistics currently being compiled. Theoretically, all statistics relevant to the topic are in scope for the conceptual framework, including all basic microeconomic statistics and more aggregated macroeconomic statistics, which are primarily intended to inform about cross-border transactions in goods, services and investments. Those statistics consist of integrated trade and business statistics, including their economic-financial as well as their social and environmental dimensions. The integration of those statistics is made possible by and derives its coherence from the macroeconomic frameworks of the System of National Accounts 2008² and the sixth edition of the International Monetary Fund (IMF) *Balance of Payments and International Investment Position Manual*,³ as well as certain related macroeconomic standards, such as the OECD *Benchmark Definition of Foreign Direct Investment, Fourth Edition*⁴ and the Statistics Division System of

² Available from <http://unstats.un.org/unsd/nationalaccount/sna2008.asp>.

³ Available from www.imf.org/external/pubs/ft/bop/2007/bopman6.htm.

⁴ Available from www.oecd.org/daf/inv/investmentstatisticsandanalysis/fdibenchmarkdefinition.htm.

Environmental-Economic Accounting 2012.⁵ Important statistical and conceptual organizing tools in that respect include the supply and use tables and input-output tables of the national accounts. Those basic and macroeconomic statistics are complemented by relevant analytical tools and related indicators, such as the intercountry input-output models from which trade in value added estimates are derived or the industry-specific indicators derived from global value chains mapping.

12. Within the desired statistics, a distinction must be made between those that fall within the authority and responsibility of national statistical systems and those globalization statistics that fall outside such authorities and can only be obtained through data exchange agreements between countries or extracted from an international platform. For instance, detailed outward foreign affiliate statistics and outward processing statistics fall within that category, as do many details of enterprise group statistics. Private sector databases, for instance, those with data on global enterprise groups, also fall outside the scope of national statistical agencies.

13. In practical terms, however, the scope refers to all statistics that national statistical systems are currently able to compile. For instance, statistics on international merchandise trade include the values and physical quantities of imports and exports of goods, compilations of which are broken down by harmonized system commodity category, by partner country, by mode of transport, by customs procedure and, in the European Statistical System, by importing or exporting industry. National statistical systems also compile data on the trade in goods and services on the basis of balance of payments; statistics on international trade in services by extended balance of payments services classification and by partner countries; foreign affiliates statistics by industry categories and by partner country; and foreign direct investment (FDI) statistics by industry and partner country. Whereas those statistics are conceptually integrated within the accounting frameworks, more work is needed on establishing that integration at the data production level. A high-quality business register is essential for establishing the link between business and international trade and investment statistics. Moreover, statistics of large multinational enterprises are particularly important given their central and leading role in global value chains and thus economic globalization.

IV. Schematic framework of measurement issues

14. A schematic framework is being developed to examine the conceptual, measurement and data quality issues related to international trade and economic globalization. The proposed framework identifies extensions that go beyond the scope of the existing core accounts to increase either depth, that is, from macrostatistics to microstatistics, or breadth, that is, to include studies on internationalization statistics, which national offices can compile from bilateral relations, and on globalization statistics, which can be compiled by combining statistics from two or more countries and which would involve statistics of all countries in the case of a global input-output table.

⁵ White-cover version available in English only from http://unstats.un.org/unsd/envaccounting/White_cover.pdf.

15. These extensions in depth or breadth cover items that have often found their way into international standards as recommended supplementary items or as new initiatives proposed by national policy departments, researchers or by international agencies. Often, the items have emerged in response to the recognition that core accounts simply do not address all of the issues associated with internationalization and globalization. Examples of the extensions are modes of supply, alternative aggregations and details in input-output tables, global input-output tables, or detailed outward foreign affiliates statistics. An example of the proposed schematic framework is given in annex II to the present report.

16. This broad organizing framework received general support but gave rise to a number of comments. It was noted that the analysis of global value chains goes beyond the scope of work for a national statistical agency and that it would be useful to highlight where official compilers would have to draw the line. Where it was viewed that the current schematic seemed to favour macroeconomic accounting frameworks, it was suggested that it be modified to include basic statistics. In that way, the schematic could better highlight the link between macrodata and microdata. A number of items were explicitly suggested for inclusion into the proposed schematic framework, such as:

- (a) Measuring challenges associated with global production;
- (b) Adding statistics on research and development, intellectual property products, outward foreign affiliates statistics and special-purpose entities;
- (c) Creating a new taxonomy for business functions;
- (d) Linking the harmonized system and broad economic categories for the intermediate consumption of goods;
- (e) Including a fully consistent trade matrix at the international level;
- (f) Identifying global value chains outside multinational enterprise networks;
- (g) Developing appropriate stratifications among firms and industries by country, such as export intensity, enterprise size and class, foreign ownership or processing activities;
- (h) Conceptually developing cross-border consolidation by nationality for large multinational operating enterprises;
- (i) Needing to better distinguish the prices of basic goods, goods including services and goods including intellectual property products and mark-up.

17. A number of additional issues arose from the discussions that were not considered issues to be included in the schematic framework, including: (a) adding a dimension to the schematic that would indicate the percentage of countries that already compile those statistics; (b) clarifying the relevance of trade in value added for developing countries; and (c) needing to move away from a stove-pipe approach of data compilation towards an integrated statistical production process covering all business statistics.

18. This schematic framework could be used for multiple purposes. It could be fleshed out in considerable detail in order to compile a comprehensive list of initiatives to be used as a basis for collecting information on country statistical

initiatives, including frequency and timeliness, so as to better understand the status of statistical development by country and the feasibility of international work with respect to country data availability. It could also be overlaid with the main policy questions associated with those initiatives, both standard and emerging, so as to better understand and prioritize work, nationally and internationally. Lastly, it could be used to support the coordination of international working groups and be enhanced by cross-referencing to those particular groups and their respective initiatives. In other words, the schematic framework could be used to report on the status of a country's existing statistics and new initiatives in relation to the work of international organizations and committees.

V. Concept paper: structure and coordination

19. The structure of the draft concept paper, which was presented at the meeting of the Friends of the Chair group in November, consisted of five main sections, namely: (a) an introduction; (b) an overview of concepts and measurement issues described in research on global value chains and global production; (c) a schematic framework and description of basic statistics and their measurement issues; (d) the common approach to integrating basic statistics through macroeconomic accounting frameworks and use of derived indicators for evidence-based policymaking; and (e) coordination.

20. From the discussions, a new structure of the concept paper emerged as follows:

(a) Introduction, including global value chain analysis, trade policy and a guide to measuring global production;

(b) Conceptual framework, including all basic underlying and macroeconomic statistics, which are primarily intended to inform about cross-border transactions in goods, services and investments; these statistics consist of integrated trade and business statistics, including their economic-financial as well as their social and environmental dimensions; the integration of such statistics is made possible by and derives its coherence from the macroeconomic frameworks;

(c) Schematic framework, which brings structure to the various conceptual, measurement and data quality issues of international trade and economic globalization; and which identifies extensions that go beyond the scope of the existing core accounts to increase either depth, from macrostatistics to microstatistics, or breadth, to include internationalization and globalization studies;

(d) Work programme, including the prioritization of work on the various conceptual, measurement and data quality issues;

(e) Coordination, including the division of work among the existing working groups, and seeking their collaboration in the delivery of work packages.

21. Regarding the issue of governance and coordination, either country-led or inter-agency bodies report to the Statistical Commission. Country-led mechanisms include the city groups, the United Nations expert groups and the United Nations committees of experts, which differ in terms of formality and management level. The city groups, such as the Oslo Group on Energy Statistics, the Voorburg Group on Service Statistics or the Wiesbaden Group on Business Registers, are informal

groups of experts primarily from national statistical agencies. Participation by representatives is voluntary, as is the existence of the group itself. If there is insufficient interest in the group then it soon ceases to exist. The United Nations expert groups and the United Nations committees of experts are formally established through the Statistical Commission with the participation of countries and international agencies. Country participation is balanced with representation from developed and developing economies from all regions. Examples of expert groups include the Expert Group on International Statistical Classifications and the Expert Group on International Merchandise Trade Statistics, while the United Nations Committee of Experts on Environmental-Economic Accounting⁶ is an example of a committee of experts. Whereas the representatives in the expert groups are senior experts in each field, those in the committees of experts are generally senior managers, given that the committees consider issues of strategic and managerial nature regarding coordination, methodology, data reporting, capacity-building and emerging issues. In its work, the committees are supported by technical working groups.

22. Inter-agency groups are set up by the Statistical Commission to enhance cooperation among international organizations working in the same field. Examples of such groups include the Committee for the Coordination of Statistical Activities, the Inter-Secretariat Working Group on National Accounts and the Task Force on Statistics of International Trade in Services.

23. The Friends of the Chair group exchanged views about which form of coordination would be best for the work programme on international trade and economic globalization without reaching any firm conclusion, although it was generally believed that the coordination proposal should eventually be a country-led mechanism. It was clear that further consultation with the existing governing bodies in this area of work would be necessary.

VI. Conclusions and way forward

24. The Friends of the Chair group concluded that one more year would be needed to finalize a comprehensive concept paper, including a proposal for a programme of work and a coordination mechanism. In terms of the next steps, the group will need to confirm and consolidate the conceptual framework and incorporate the work done by the ECE task force on global production. It will then have to translate the conceptual work into the schematic framework and complete it by incorporating all basic statistics and conceptual, measurement and data quality issues, including issues of microdata sharing and confidentiality. From this overview, the Friends of the Chair group will then be able to derive a medium-term programme of work and set priorities for the short term, such as linking trade, FDI and business statistics, producing national input-output tables, preparing inputs for global input-output tables and reducing discrepancies in bilateral trade in goods and services. It will also be able to use such an overview of priorities to make suggestions on the coordination and division of work among the various expert groups and task forces. It was further agreed to organize a conference in the third quarter of 2014, at which the concept paper could be presented and working groups could present the outcomes of their work.

⁶ See <http://unstats.un.org/unsd/envaccounting/ceea/>.

25. As mentioned above, a draft concept paper was prepared and submitted to the Friends of the Chair group at its November meeting. While the paper was useful to guide the discussion, it was seen as a work in progress that needed to be further completed around a fully detailed schematic framework. The group proposed that a conceptual framework, prioritized programme of work and corresponding coordination mechanism be presented to the Commission at its forty-sixth session, in 2015.

VII. Points for discussion

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

(a) **Initial proposals by the Friends of the Chair group regarding the scope of the conceptual framework and the schematic framework of measurement issues given in sections III and IV of the present report;**

(b) **The proposal by the Friends of the Chair group that it continue its preparation of the concept paper on the measurement of international trade and economic globalization and present a report, including a conceptual framework, programme of work and coordination mechanism, to the Commission at its forty-sixth session, in 2015, for its consideration.**

Annex I

Terms of reference and composition of the Friends of the Chair group on the measurement of international trade and economic globalization

Terms of reference

1. With reference to Statistical Commission decision 44/106, the Friends of the Chair group on the measurement of international trade and economic globalization was established to prepare a concept paper:

(a) On the scope and content of the measurement of international trade and economic globalization, taking into account:

(i) International trade statistics, foreign affiliate statistics, foreign direct investment statistics and the measurement of outsourcing of business functions and of other cross-border interdependencies;

(ii) The existing frameworks and guidelines, notably the System of National Accounts,^a the *Balance of Payments and International Investment Position Manual*,^b and the Guidelines on Integrated Economic Statistics;^c

(iii) Research and studies by Eurostat, the Organization for Economic Cooperation and Development (OECD), the International Monetary Fund (IMF) and various working groups;

(b) On an appropriate mechanism for coordination of the work in this field.

2. In preparing the concept paper, the Friends of the Chair group should take into account the different levels of statistical sophistication and of available resources of national statistical systems, make provisions for corresponding different milestones for the implementation of envisioned recommendations and pay special attention to such topics as microdata confidentiality, the legal aspects of data collection and sharing and the interconnectedness of cross-border relations in trade and related financial aspects.

3. The Friends of the Chair group will be moderated by the national statistics agency of Canada, Statistics Canada, with the Statistics Division assuming the role of secretariat.

4. The Friends of the Chair group will report on its work to the Statistical Commission at its forty-fifth session, in 2014, including on the process followed in the development of the concept paper.

The task of the Friends of the Chair group will be finished with the completion of the concept paper and the final report to the Commission.

^a Available from <http://unstats.un.org/unsd/nationalaccount/sna.asp>.

^b Available from www.imf.org/external/pubs/ft/bop/2007/bopman6.htm.

^c Available from <http://unstats.un.org/unsd/nationalaccount/ies/>.

Composition of the Friends of the Chair group

Moderator: Canada

Member countries and agencies:

Europe: Denmark, Ireland, Italy and the Netherlands

America: Colombia, Costa Rica, Mexico and the United States of America

Africa: Cabo Verde, Morocco, South Africa and Uganda

Asia: China, India, Iran (Islamic Republic of), the Republic of Korea, Thailand, and Viet Nam

Agencies: Eurostat, IMF, OECD, the United Nations Conference on Trade and Development, the World Trade Organization, the Economic Commission for Europe and the Statistics Division

Annex II

Example of the schematic framework for measurement issues of international trade and economic globalization

<i>Scope</i>	<i>Internationalization (domestic and bilateral cross-border)</i>			<i>Globalization (multilateral global)</i>
Statistical dimension	Existing standards: implementation of core recommendations of international manuals	Enhanced standards: implementation of enhanced country bilateral data	Extensions to existing standards	Beyond existing standards
Balance of payments trade in services statistics (manual and compilation guide) International trade in services statistics (2010 manual and compilers guide)				
Conceptual issues	<ul style="list-style-type: none"> • Economic ownership • Charges for the use of intellectual property • Merchanting of services 	<ul style="list-style-type: none"> • Multi-territorial enterprises • Transfer pricing • Modes of supply 	<ul style="list-style-type: none"> • Intra-firm trade • Allocation of charges for use of intellectual property by country 	<ul style="list-style-type: none"> • Global input-output table • Trade in value added
Compilation issues	<ul style="list-style-type: none"> • Manufacturing services (credit) • Charges for the use of intellectual property products • Breakdown by partner country 	<ul style="list-style-type: none"> • Manufacturing services (debit) • Breakdown by economic activity • Modes of supply 	<ul style="list-style-type: none"> • Intra-firm trade by services and economic activity • Reconciling bilateral differences 	<ul style="list-style-type: none"> • Intra-network trade in services by economic activity
International merchandise trade statistics (2010 international merchandise trade statistics and compilers manual)				
Conceptual issues	<ul style="list-style-type: none"> • Country of origin/consignment • Outward processing/re-imports 	<ul style="list-style-type: none"> • Intra-firm trade • Transfer pricing 	<ul style="list-style-type: none"> • Reconciling bilateral differences 	<ul style="list-style-type: none"> • Global input-output table • Trade in value added

<i>Scope</i>	<i>Internationalization (domestic and bilateral cross-border)</i>			<i>Globalization (multilateral global)</i>
Compilation issues	<ul style="list-style-type: none"> • Imports free-on-board • Imports by country of consignment 	<ul style="list-style-type: none"> • Bridging international merchandise trade statistics and balance of payments goods transactions 	<ul style="list-style-type: none"> • Reconciling bilateral differences 	<ul style="list-style-type: none"> • Intra-network trade in goods by economic activity
Balance of payments trade in goods statistics (manual and compilation guide)				
Conceptual issues	<ul style="list-style-type: none"> • Economic ownership • Embedded charges in goods for the use of intellectual property 	<ul style="list-style-type: none"> • Multi-territorial enterprises • Transfer pricing 	<ul style="list-style-type: none"> • Intra-firm trade 	<ul style="list-style-type: none"> • Global input-output table • Trade in value added
Compilation issues	<ul style="list-style-type: none"> • Goods input for manufacturing services (credit) • Merchanting of goods 	<ul style="list-style-type: none"> • Goods input for manufacturing services (debit) 	<ul style="list-style-type: none"> • Reconciling bilateral differences 	<ul style="list-style-type: none"> • Intra-network trade in goods by economic activity