

**11th Meeting of the Advisory Expert Group on National Accounts,
5-7 December 2017, New York, USA**

Agenda item: 3.1

**Update on the work of the UN Expert Group on International Trade and Economic
Globalization Statistics**

**3.1.2 Report of the Seminar on the Handbook on Accounting for Global Value Chains
Luxembourg, 6-8 June 2017**

Outcome and Summary of Proceedings

Dates: 6-8 June 2017
Venue: Hotel Sofitel Europe, Luxembourg

List of participants:

Chair: Michael Connolly (Ireland)

Members: Joao Cardoso (Cape Verde), André Loranger (Canada), Hugo Mora (Costa Rica), Jie Chen (China), Angela Hernandez Montoya (Colombia), Peter Boegh Nielsen (Denmark), Hugo Mora (Costa Rica), Thondiyil Rajeswari (India), Mohammad Gholami (Iran), Stefano Menghinello (Italy), Madina Zhakipbekova (Kazakhstan), Byeonghun Lee (Republic of Korea), Gerardo Durand (Mexico), Lamia Laabar (Morocco), Martin Luppés (Netherlands), Gerhardt Bouwer (South Africa), Georgi Georgiev Djolov (South Africa), Dunstan Morudu (South Africa), Pali Lehohla (South Africa), Prawit Ban Jong (Thailand), Bright Richard Kimuli (Uganda), Chris Ndatira Mukiza (Uganda), Michael Hardie (United Kingdom), Sanjiv Mahajan (United Kingdom), Hung Manh Duong (Vietnam)

Tjeerd Jellema (ECB), Ani Todorova (Eurostat), Mushtaq Hussain (Eurostat), Axel Behrens (Eurostat), Amerigo Liotti (Eurostat), Jose Rueda Cantuche (European Commission, JRC), Cornelia Hammer (IMF), Angsupalee Wacharakiat (IMF), Nadim Ahmad (OECD), Ivo Havinga (UNSD), Nancy Snyder (UNSD)

Experts: Steve Landefeld (UNSD consultant), Stacey Frederick (UNSD consultant), Christoph Maier (European Commission, DG ECFIN), Lars Nilsson (European Commission, DG TRADE), Victoria Petrova (European Commission, DG GROW),

The agenda is provided as an annex to this report.

Outcome

The expert group:

- ⇒ agreed that the extended GVC framework of extended national accounts and integrated business statistics will be the central theme of the handbook and that the structure of the handbook should be amended accordingly.
- ⇒ confirmed that the Handbook is based on existing standards for national accounts, balance of payments, and integrated economic statistics
- ⇒ agreed that the handbook describes a flexible and modular statistical framework based on existing data sources, data linking and some new enterprise surveys and is underpinned by firm-level and economic research
- ⇒ agreed that the intended primary audience of the Handbook consists of senior managers and data compilers of national statistical organizations (NSOs)
- ⇒ agreed that the Handbook should be useful for both developing and developed economies
- ⇒ agreed that the Handbook should speak to policy implications and describe policy implications of participating in GVCs
- ⇒ agreed that the Handbook should show how the GVC approach improves the relevance of core statistics and how the core statistics can be improved in their own right
- ⇒ agreed that the approach presented in the Handbook will require a re-structuring of institutional arrangements, which can be motivated by the policy implications of GVCs
- ⇒ agreed that firm level data could be an important additional data source to complete the story of GVCs and their policy implications, especially on employment and social indicators
- ⇒ agreed that chapters 1 and 2 of the Handbook should also cover the impact of international trade and participation in GVCs on people in terms of employment, required skills and distribution of income
- ⇒ expressed support of the GVC extended account approach presented in chapter 9 and expressed interest in comparing results from the GVC micro data approach and from an aggregate macro-approach
- ⇒ agreed that the Handbook will, to the extent possible, present examples from multiple countries throughout the Handbook to demonstrate how the framework outlined in the Handbook would produce new statistical information that can be used for policy analysis in the context of globalization and GVCs
- ⇒ agreed that the Handbook will, to the extent possible, present diagrams and schematics to illustrate the concepts presented in the text
- ⇒ agreed that it is a main aim of the Handbook to help better analyze both the real and financial sides of GVCs
- ⇒ identified the importance of large cases units within NSOs
- ⇒ agreed that the Handbook should help NSOs be able to explain the difference between official statistics and data resulting from bilateral trade reconciliations and balanced data at the international level (e.g., the OECD-WTO TiVA database)

- ⇒ agreed that there is a need to improve the core official statistics and reduce bilateral asymmetries in their own right, as well as for purposes of GVC analysis
- ⇒ recommended the formation of a standing group or cross-domain forum on economic statistics comprised of statisticians from national accounts, business statistics, and social and environmental statistics to study these issues in the long term
- ⇒ outlined a research agenda, to include items such as: price deflators; price and volume issues; further work on classifications; development of a global groups register; the effect of digitization on GVCs and related statistics; policy relevance of GVCs; communication tools for NSOs; links to the SNA2008 research agenda; and practical application of the recommendations in the Handbook
- ⇒ agreed on the need to coordinate with other working groups on technical issues, such as prices and classifications, to foster integration of the work programs of these different groups
- ⇒ agreed to identify gaps in existing working groups, such as a lack of a coordinating body on business statistics at the international level
- ⇒ agreed that outreach to constituents is needed
- ⇒ agreed on the following timeline of next steps:
 - End of September 2017 – produce first revised drafts
 - October 2017 –second round of comments from Expert Group
 - Nov – December 2017 – second round of revisions
 - January 2018 – send to other international organizations for their review
 - February 2018 – progress report to the Statistical Commission
 - March – May 2018 – final revisions and feedback
 - May 2018 – complete the draft
 - June – July 2018 – final editing and release to the public

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Opening Session

Michael Connolly, Chair of the UN Expert Group on International Trade and Economic Globalization Statistics, delivered an introductory statement.

Ms. Silke Stapel-Weber, Director National Accounts, Prices and Key Indicators of Eurostat, welcomed the participants and gave an overview of economic globalization and its many facets. She noted that for businesses, national borders do not mean much anymore. Therefore, it is important that international, regional and national agencies join hands in delineating the foreign direct investment relations in a common global and regional statistical business register and adopt common identifiers for the statistical units covered by the register. She further noted that important issues in this context include correctly identifying the national center of economic interest, which will allow for appropriately allocating value added. She also mentioned that Eurostat invests considerably in statistical infrastructure in order to have the necessary primary data available. She further elaborated that National Statistical Offices were looking for guidance on these issues of economic globalization from regional and international agencies like Eurostat and UN and considered the drafting of the joint Handbook instrumental in providing this guidance.

Ivo Havinga of UNSD noted the good collaboration thus far and congratulated the lead authors and contributors for the draft chapters submitted. He noted that he would like to relate the content of the Handbook more to the needs of the national data compilers. He also thanked Mr. Landefeld and Mr. Connelly for their expertise and contributions.

Mr. Havinga presented the national perspective to measuring GVCs and compiling SNA-based GVC satellite accounts using integrated business statistics and the large cases (profiling global firms) approach. He also noted the need to build an integrated framework to makes the links to income, jobs and financing explicit trough the integrated accounts. He highlighted the approach of multi-partner country GVC satellite accounts with a limited (3-5) countries and noted that some examples like the automotive extended accounts for Canada, Mexico and USA will be shown later. He also provided the definition of a GVC as a set of interrelated activities (from conception to end use and beyond) that cross economic territories which are coordinated by lead firms for the production of goods and GVC industry related services, for delivery to end markets, and for design, research and development, marketing, customer support and recycling. He highlighted the importance of lead firms, their governance structure of the value chain of goods and related services and the institutional context related to regulations on taxes, financing, labor and environment. He outlined the general framework, including defining and classifying relevant actors in the GVC, namely lead firms and specialized suppliers (affiliated and non-affiliated); defining and classifying a standard set of products relevant for the various GVCs; defining and classifying a standard set of business functions; identifying main partner countries and compiling the extended GVC accounts in cooperation with partner countries on a recurrent basis. He highlighted that this could be tested in the automotive GVCs in NAFTA, European Union, Asia and for specific developing countries such as Brazil, Morocco and South Africa for example.

Mr. Havinga also presented an overview of the Tableau data visualizations using UN Comtrade data with which countries can analyze their main partners in certain GVC industries, e.g. apparel and textiles, automotive, electronics, etc.

Eurostat asked if GVC extended accounts would replace the tourism satellite account, or if they would rather be an additional breakout from the tourism satellite account. Mr. Havinga noted that he envisioned building on the tourism satellite account, but expanding it to more of a multi-partner country perspective rather than a single country tourism satellite accounts with a “rest-of-the world” only covering exports and imports.

South Africa noted that this will lead to a shake-up in countries regarding how statistics are compiled, including formation of institutional arrangements between central banks and tax bodies.

Mr. Havinga agreed that this approach will require a re-structuring of institutional arrangements and legal aspects on data sharing and exchange for statistical purposes between countries, but that the sheer size of the GVC industries in macro-economic statistics including their levels, growth rates, productivity patterns, etc) and the policy demand for these GVC related statistics, tables and accounts warrant and should motivate closer statistical collaboration between countries.

The Chair introduced the representatives of three policy Directorate Generals of the European Commission and welcomed having the policy perspective and input from academic researchers. He noted that a lot of work remains to be done to integrate the extended GVC framework approach consistently in the revised drafts of the chapters.

Mr. Landefeld noted that it is important to keep hearing the policy perspective to ensure the policy questions are being addressed. He further noted that the extended GVC framework can look daunting in practice. National practices should be designed in a flexible and modular manner and should exploring more clearly the links between goods and services production. For instance, new integrated enterprise surveys or data linking could be explored, which could be more cost effective and lessening response burden through cooperation between countries in a common GVC. He noted that it is important to make a business case for it.

Panelists from the European Commission, including from DG Trade, DG ECFIN and DG GROW, discussed the policy perspective. Lars Nielsen from DG Trade explained that his unit engages in trade negotiations and analyzes how data on globalization feeds into these negotiations. He gave an overview of how DG Trade assesses the impact of EU trade agreements and how it deals with the role of GVCs and data limitations. DG Trade assesses the impact of FTAs before negotiations start; conducts a sustainability impact assessment that is more qualitative in nature once the negotiations begin; and then assesses the impact of what has been negotiated once the final text of the FTA is available. During and after implementation DG Trade also assesses the actual impact. The analyses generally make use of computable general equilibrium models based on worldwide database to estimate how an economy might react to changes in trade policies. The findings are assessed compared to a baseline in which the trade policies would not have been enacted. DG Trade relies on the GTAP model for the underlying data, which are consistent with I-O tables and incorporate trade patterns, tariffs, production, consumption, and intermediate use of services, etc. However, he noted that GTAP only provides a more aggregate view of 57 sectors, so DG Trade uses a partial equilibrium model to look at more detail, but then the linkages to other sectors is lost. He further noted that DG Trade uses econometric analysis primarily for ex-post assessments. He highlighted the growing importance of trade in services and its evolution among the four modes of supply, noting that today many goods contain services components, which are difficult to measure. He stated that services are traded more than what regular measures suggest, noting that services increase the value of a good, which result in higher customs duties.

Mr. Nielsen of DG Trade also presented the well-known iPhone example in which components come from many different countries and the value of the export from China does not accurately reflect the relatively

low value-added that China contributes to it. He highlighted the domestic value added in gross exports figures compiled by OECD. He noted that GVCs tend to be regional rather than global (the iPhone example is extreme in this case); for example, auto producers prefer to produce and sell locally (or regionally). In terms of priorities and needs, he highlighted the need to disaggregate the 57 sectors currently used in CGE models; to split services trade by mode of supply; to update elasticities; and to improve timeliness of the IO tables that are used (e.g., DG Trade is still using 2010 IO tables). He also emphasized that firm-level data is important to communicate the impact of trade policies and that he would like access to as much anonymized firm-level data as possible, including characteristics of firms, what they are exporting with whom and who owns who.

Christoph Maier from DG ECFIN presented policy perspectives and data needs in terms of implementing economic and fiscal policies while maintaining macroeconomic and financial stability. He noted that DG ECFIN is not currently a heavy user of trade statistics and GVC statistics. He noted that DG ECFIN uses official statistics as much as possible; for example, macroeconomic data from Eurostat for economic forecasting; a multi-country macroeconomic CGE model to simulate policies and to assess their impact; a national account and balance of payments data; structural and short-term business statistics; labor force surveys and social statistics. He stated, for example, that DG ECFIN often combines NA aggregates with labor force surveys on skill breakdowns. DG ECFIN's main data limitations with official statistics are the lack of very long time-series (back to 1990); lack of industry detail and asset-type breakdowns. To complement data from official sources, he stated that DG ECFIN also use ORBIS database from Bureau Van Dijk and academic data, such as EU KLEMS, WIOD and data on intangible assets and investments. He noted that problems with data from these others sources include data quality issues and acceptance in the policy process and sustainability and continuity of data production. He noted, for example, with EU KLEMS there have been several waves of calculating KLEMS but then data production stopped for some time, so continuous data production is not secure. He emphasized that outdated data can become a problem and that the expert group may face an issue with ensuring high quality and sustained production of data for its purposes.

Mr. Maier of DG ECFIN further noted other current issues that DG ECFIN is facing, such as analyzing investment (both tangible and intangible), globalization, productivity and growth. He cited the example of the Irish case, in which GDP was revised due to a corporate inversion of a large corporation along with its relocation of intangible assets to Ireland, which affected DG ECFIN's forecasts of Irish economic growth. He noted the dominance of large multinationals with large overseas operations in macroeconomic statistics of small open economies like Ireland, as well as the impacts of globalization on production, employment, distribution of income and social issues in countries and regional economic integration. He posed the question that if the declining trend in productivity visible in data for the EU and other countries is reality, or if it is a measurement problem with GVCs structures insufficiently separately treated in price and volume measures, or a combination of the two. He also mentioned other data issues that DG ECFIN faces, including a lack of hard price information (data coverage and quality) on ICT and services; lack of comparability in comparing producer prices across industries (e.g., issues with import prices and/or with price deflators); and limited availability on labor and capital input by detailed industry and capital breakdown. He noted that DG ECFIN relies on EU KLEMS data, but that there is a definite need for better data on GVCs. He summarized the issues that need to be addressed, such as the burden on respondents and data producers, resource constraints, feasibility of sustained data production, data quality, better communication and cooperation among national statisticians in different fields, more communication between NSIs to capture GVCs and related MNEs, better communication between statistics producers and users, mainstreaming academic frameworks (e.g., KLEMS) into official statistics, better metadata, and early warning mechanisms

between countries of anticipated major GVC related changes to data by sharing information identified through the profiling the large case units.

Victoria Petrova presented the perspective of DG GROW. She described DG GROW's analysis of free movement of goods and services and competitiveness of the EU economy, noting that now it is necessary to understand value added and trade in services, not just total exports. For example, DG GROW defines a GVC as when a product crosses a border twice and it needs to trace the good that is transformed and the value added. DG GROW relies on the TivA database and WIOD and has a keen interest in further advancing the extended GVC framework explored by the Handbook.

Questions to DG Trade, DG ECFIN and DG GROW:

The UK noted that academia often fills in gaps where official statistics are missing. The UK asked if the DGs do sensitivity analysis based on different economic models and datasets, and how they balance their reliance on non-official input and the validity and soundness of models used.

OECD noted that the regional nature of GVCs is important, especially in regions that are well-integrated (e.g., NAFTA), but that GVCs are increasingly becoming more global for the developing countries, especially in terms of the services contribution. OECD noted that global integration can provide stepping stone to regional integration, but that there is a myriad of reasons why regional integration does not exist in certain areas, such as regulations that may be cumbersome to trade goods and services and lack of infrastructure. OECD further stated that FDI is another complicating factor and that a GVC also reflects the foreign affiliate providing services. OECD noted that it has done work with Nordic countries on small and medium-sized enterprises (SMEs) in GVCs in terms of firm heterogeneity and the contribution of SMEs in GVCs, which builds on the work of the G-20 with the World Bank on the integration of SMEs.

OECD stated that its papers rule out measurement issues as the reason for the productivity slowdown, but noted that mismeasurement of intermediate inputs will likely result in an increased pace of a slowdown. OECD further stated that the TivA database has been updated to 2014 and expanded to 63 countries (including Morocco and Peru).

Eurostat agreed with the importance of firm-level data, but noted that European institutions are still interested in national figures and national aggregates. It noted that compilers have some firm-level data but do not normally publish it. Eurostat asked if there should be a shift towards firm-level data, and if so, how can the issue of data confidentiality be addressed.

UNSD noted the importance of SMEs in GVCs, but emphasized that not all SMEs are integrated in a GVC, so it is important to define which producers provides specialized intermediate products to GVCs.

Responses:

DG Trade responded that policy makers in trade negotiations are increasingly requesting social indicators (on labor, the environment and others), which are usually difficult to provide quantitatively, so DG Trade addresses it qualitatively based on stakeholders' consultations and sustainability impact assessments. DG Trade also reported that while there are different methodologies used to assess FTAs, all conclude that computerized CGE models are the best tool there is. Further, DG Trade explained that sensitivity analysis is performed based on different types of models (dynamic vs. static) and changing parameters, but that it fundamentally tries to explain results to policy makers as directional impacts and relative magnitude in terms of different sectors. DG TRADE also reported that it is not necessarily interested in firm-level data that may be confidential, but rather may be interested in firm characteristics, such as which firms trade versus non-traders or smaller firms that may not use provisions in FTAs. DG Trade emphasized that firm-

level data is useful for communication purposes, but that the information can be anonymized to avoid confidentiality concerns.

DG ECFIN reported that it interprets results of economic models depending on sign and direction and not so much on exact quantity. Moreover, it reported that calculations are shadowed by member states and their own models in order to control quality of results. DG ECFIN reported that it has an interest in getting access to anonymized microdata firm-level data in order to see income distributions. It also stated that labor force surveys and microdata on income and living conditions are not available to policy makers and it typically only available for research purposes.

DG GROW reported that it needs firm-level data to analyze how SMEs behave and that it has had to buy private databases to analyze employment behavior of SMEs. It also defined advanced value chains as those that include everything, including raw materials (primary and secondary), in terms of a circular economy.

Chapter 2 - Overview of the General Statistical Framework (Steve Landefeld, UNSD consultant)

Mr. Landefeld presented the current draft of Chapter 1, which gives broad-level on policy, business and other uses and Chapter 2, which is an overview of the general framework, the key dimensions, the architecture for extended national accounts and integrated business statistics, industry-specific multi-partner GVCs, extended national, regional and global accounts. Chapter 2 also covers the key aspects of extended supply and use tables, extended production accounts, extended distribution and use of income accounts, extended capital and financial accounts. The chapter also discusses GVC extended accounts and covers addressing measurement problems, addressing costs and respondent burdens, harmonizing official government, business and financial statistics, and expanding education and outreach.

South Africa asked what happens to the international comparison program in this new approach?

Mr. Landefeld responded that these tables would aid the international comparison program, but that more thought is needed. He also emphasized that the Handbook is based on existing standards for national accounts, balance of payments, and integrated economic statistics.

South Africa asked if there is an attempt in this approach to track illicit financial flows and to improve compliance efforts in order to improve the quality of trade statistics.

OECD reported that it would be useful to have some narrative framed about people, jobs and skills which could be covered in sections about trade and investment policy. OECD reported that it has a lot of information about this.

Mr. Landefeld reported that he will attempt to cover the impact on people in terms of distribution of income and possibly the movement of people around trade, and can reference OECD's work in this area.

UK agreed with OECD's comment. It also asked if a more up-to-date example than the iPhone could be used.

Mr. Landefeld asked expert group members to think about a better example than the iPhone example. Also in general, he stated that he is looking for more examples from other countries (other than the USA).

Stacey Frederick stated that she can come up with an example if she knows for what the expert group is looking.

A comment was made that the Handbook is a great opportunity for consistent use of terminology hooked on 2008 SNA and BPM6.

Mr. Landefeld reported that he wants to use terms real sector and real GDP.

India reported that the private sector is very important in national accounts and its share is increasing, especially in developing countries.

Eurostat reported that the Handbook takes the interest of the compiler from a national perspective for those GVCs that matter for the national economy; the collaboration should be stressed between compilers in other countries in which the GVCs have significant operations or holdings. Eurostat also suggested that Chapter 2 could provide motivation for a Global Business Register and reflect on the recurrent annual changes in legal structures of lead firms and their affiliates and their effect on sectoral and macroeconomic statistics. Going forward, a well-established and maintained Global Business Register could furthermore be instrumental in creating an early warning system for anticipated changes in national accounts through changes in their legal structures within and between countries.

Mr. Landefeld asked Eurostat if it could supply suggested text related to its comment. He stated that there has been much discussion related to the national perspective in the Handbook. He emphasized that everyone wants to know how they can contribute to GVCs and he wants to make sure everyone has a stake. Furthermore, he noted that countries themselves have the best interest in reconciling bilateral trade flows, like the between European countries in the EU region and the USA, Mexico and Canada.

UNECE reported that it is important to mention in Chapter 2 that the Global Business Register has the added advance in reducing response burden by collaborations between countries in profiling large MNEs with operations in different economies.

UK stated that the supply use tables and production accounts are subsumed together currently in the chapter, but that it would be nice to have a diagram or schematic to illustrate each of the extensions in the text.

Mr. Landefeld responded that there are some diagrams in Chapter 14.

UK responded that the diagrams should appear earlier than chapter 14. It further noted that Chapter 2 should mention units or classifications and artifacts of the framework. UK stated that Chapter 9 is really good as a stand-alone chapter, and possibly some text from chapter 9 could be moved to chapter 2 in order to link the concepts to the sequence of accounts. It also suggested the chapter should touch on data requirements and what additional data is needed.

The ECB reported that balance sheets and how IIP relates should be included in the discussion on core accounts.

OECD reported that R & D should be part of extended supply and production accounts, and that capital flow accounts should also be the basis for capital stock accounts. It noted that if OECD had prepared a version of chapter 3 earlier, it would have been perhaps better integrated in chapter 2.

Mr. Landefeld reported that in the USA the IO accounts are somewhere off to the side and that GDP and GNI are the aggregates that people think about and use. He agreed that you need to balance this and that flows and assets need to be included.

IMF reported that it is not totally clear what extra information you get from extending IIP and BOP in terms of measuring GVCs; for example, the link is missing between a bond issuer and who is the holder and other beneficial owners.

Mr. Landefeld agreed that it is not very well formulated at the moment, and acknowledged that perhaps “extended” is the wrong word and that rather the aim is to better analyze GVCs, both real and financial sides, which involves doing what countries are doing in response to IMF’s new regulations in terms of getting ultimate controller and debtor. He further noted that in terms of MNE viewpoint, the multinational banks that are redistributing the risks across countries are important, as is where they are earning their profits and storing their assets. He acknowledged that perhaps the introductory chapters need to do a better job of explaining that.

Mr. Landefeld presented the example of the analysis of a proposed border adjustment tax in the US – basic analysis could just assume all imports would be replaced with domestic supply; but with extended national accounts, you can go beyond this rudimentary analysis because US based lead companies create profits through their affiliates in other countries that are included in the intermediate imports that make up the US exports; understanding these interrelationships in production and ultimate beneficiary ownership relations in the GVCs changes the elasticities and changes the value added impact on US exports. He further noted that from MNE data, you could see what happens to profit, compensation and employment, and you could observe a reduction in the income, reduction in US multi-factor productivity, and reduction in terms of trade and US real GDP. A broadening of GVC framework to understand the multi country relationships may provide evidence that productivity should be understood in a value chain whereby overall productivity and income of the US led and owned GVCs may improve.

He also provided the example of uses of extended MNE accounts for tax analysis; for example, corporate tax rate in US is the highest in the world and the share of US FDI in low-tax countries has increased since 1977 from 19% to 44% in 2007. He noted that to analyze proposed tax reform to lower US corporate tax rate could be done via direct or data linking. He suggested that he could also add an example of FDI transaction data compared to FDI investment position. In general, he asked the expert group to provide non-US examples.

South Africa reinforced the need to include analysis of FDI flowing into a regional Customs union, rather than into one country in particular. Again the multi-country GVC approach as promoted by the Handbook would allow such an analysis.

Chapter 3 – Extended Supply and Use Tables (Nadim Ahmad, OECD)

Nadim Ahmad of OECD presented the draft of chapter 3. He stressed that the Handbook needs to look at people, as well as firms, in order to focus on jobs, income, and skills, etc. He further noted that there seems to be a misunderstanding of extended SUTs in some of the chapters and that hopefully chapter 3 can provide more information in that respect. He emphasized that extended SUTs have a production account perspective and granularity in terms of activities (e.g., are you a trader, a multinational or not, size class, formal or informal, etc.), which are important in globalization and in terms of quality of GDP and heterogeneity and for globalization. He noted, for example, that informal firms are unlikely to be integrated in a GVC, even directly, so those firms with access to GVCs tend to become more formal. He further noted that sometimes there are reasons for a firm to remain informal but there are also costs. The ability to go from informal to formal is the ability to enter into GVCs and have higher profits. He explained that chapter 3 also explores regional heterogeneity, terms of regional integration in GVCs and disparity in income distributions at national and regional level. He noted that these inequalities create the momentum around the backlash towards globalization.

Mr. Ahmad reported that the generation of income account and the extended SUTs looks at the primary income flows within the economy, but also cross border; he extended account covers the production all the

way through and the record of IP flows as a service or as a primary income flow. He stated, for example, if Germany exports only capital goods to China and China exports goods & services to USA, while in traditional TIVA, there is zero German input to exports to USA and you don't see the contribution of capital. With the extended SUTs and extended TIVA, there would be capital stock and flow matrices by industry and you can create capital stock estimates by industry and have different view of capital contributions.

He also noted that a breakdown of traditional domestic import use into an import use table broken down by main partner countries, or maybe even regions, would allow a better view of which firms are buying which products from which countries. He noted that TiVA measures currently assume that the firms purchase products from all countries producing those products. He concluded that the framework of extended SUTs should be extended beyond just trade and production, but also demonstrate the interlinkages between countries in trade, production, investment and jobs.

UK confirmed that gross capital formation and its role of capital contributions is needed by industry, both domestically produced and imported. Such as breakdown would further advance the understanding of the interrelations and refine the productivity analysis.

UNSD reported that there is a need for more granularity on products and investment citing for example, the need to understand how the automotive industry works in terms of business processes and products and uses capital and investment by country of origin. UNSD emphasized the importance of doing a deliberate and thoughtful extension in terms of products, including capital goods and jobs that are related to 6-7 major GVCs with limited partner countries Standardization for major GVC industries should be established by the Handbook to advance experimentation and testing of GVC industry accounts that are international comparability. Furthermore, these joined compilations could be accompanied by a design of joint data collection and data sharing strategies with an effort to be more cost effective and lessening response burden. OECD reported that chapter 9 sets out nicely the extended SUT framework.

UNSD agreed that chapter 9 indeed articulates the envisaged extended system of national accounts but takes the granularity from an automobile or textile/apparel perspective, a GVC industry perspective. The proposed GVC framework takes a national and analytical perspective; noting that it is not needed to do it for all SMEs and all MNEs, but only bring into scope those enterprises that maintain specialized production and trade relations of intermediate and final goods and services for dominant GVCs in partner countries.

Canada stated that GVC satellite accounts and extended SUTs are complementary but that there are subtle differences, and that the presentation on chapter will cover this.

Mr. Ahmad noted that there is not a great deal of difference between extended SUTs and GVC approach. He stated that extended SUTs with a GVC approach are from a national perspective, which is an important component of global SUT, and that the work on GVCs is an attempt to offer an analytical global dimension for partner countries building on granularity for dominant GVCs. But he maintained that the overriding architecture is the same as extended TIVA SUTs but with an analytical GVC perspective to get more information.

Mr. Ahmad of OECD further noted that in current GDP estimates, there is no breakout of formal relative to informal sector. These extensions could be provided in an extended SUT framework. He further stated that from a policy perspective, it would be interesting to study the connection between informal firms and dominant GVCs in the countries.

South Africa requested that clear guidance is provided in the Handbook on the compilation of internationally comparable GVCs. For instance, to clarify the identification of partner countries, lead firms, input and component suppliers and providers of business functions into GVCs.

Eurostat stated that the multi-partner country perspective is very important as many of the GVCs are regionally integrated within the EU. However, it was also important to provide guidance on how regions fit into the global picture. Therefore, Eurostat proposed that the MCIO perspective taken by FIGARO and TiVA project building on extended SUTs with standard industry and product classification should also be covered by the Handbook to equally provide regional and global perspectives.

Mr. Ahmad of OECD contended that this Handbook on accounting for GVCs is about providing recommendations to countries first and foremost, but these recommendations are shaped by the need to have a global perspective. He further noted that the global perspective has less relevance for compilation guidance to countries; this global perspective was more for a handbook for international organizations. He also noted that further considerations should be given to the standard questionnaire for the collection of national SUTs – which embodies some aspects of extended tables. OECD already includes breakdowns by products of non-residents' expenditures by country and residents' expenditures abroad and imports on FOB basis, and extra information on merchanting transactions, etc., that point towards understanding the global dimension.

Mr. Ahmad of OECD stated that the aim of constructing GVCs is to arrange a range of statistics to allow us to have insight on GVCs that we do not currently have. He noted that currently when you look at petroleum sector, you see the production function of the sector and where they export to, but you do not currently see where those exports are used further down in production stream and might be exported to again; and you do not see that you might have an indirect trade relationship with another country. He emphasized the need to identify what type of data is needed at the national level to allow us to have insights into these phenomena, and to identify the granularity needed to better inform the GVC debate. He provided another example wherein a domestic firm keeps profits in the country versus a foreign-owned firm that repatriates profits back to parent; such granularity is not currently visible in traditional export data.

South Africa reported that NSOs are already compiling detailed information on dominant GVCs but not recording them in the GVC extended framework. South Africa noted that historical data will be needed to be able to create time series for dominant GVCs. National and global business registers would be practical tools to re-trace some of the historical records on dominant GVCs.

Mr. Ahmad of OECD responded that whatever information used to create SUTs are the same information one would use for an extended SUT, but just breaking down that industry into different types of granularity that are more relevant for GVCs. He noted that it should be investigated whether the extended GVC SUTs (as set out in chapter 9) could be provided on a recurrent basis to create time series. Going forward, the extended SUTs are foreseen as becoming part of the core accounts produced by NSOs.

Chapter 5 – Extended Environmental Accounts (Ivo Havinga, UNSD)

Sanjiv Mahajan of the UK provided background regarding the origin of the material for chapter 5; namely, it has been extracted from the draft Manual on Supply Use and IO Tables and Extensions and applications and will need to be amended for the GVC approach. He noted that the draft Manual on SUTs has a focus on compilation, best practices and what you can do if you can't meet best practices, as well as a big focus

on environmental dimension and linked to SUTs. He reported that UNSD has made amendments, received comments from editorial board, and most have been incorporated, with the global consultation next month. He noted that there could be two types of environmental tables – those that own the processes and generate emission in other countries versus where physical flows actually operate, noting that physical IO and physical SUTs in current and previous year prices have feedback on quality.

Mr. Havinga of UNSD provided an overview of physical flows of natural inputs, products and residuals and highlighted global multi-country physical SUTs. He noted that he hoped the chapter would also demonstrate some extensions for GVC extended accounting to energy and air emissions.

Eurostat reported that a physical SUT is much broader and more general and more demanding, and that perhaps a more reduced form could be presented in the chapter. Eurostat noted that there should be a description and explanation on how it compares to a full-fledged physical SUT framework and analytical issues you can derive from the two. It further stated that the multi-partner country physical SUT is still far from the quality levels we want – so it is important to mention but not ready to be recommended for production on a recurrent basis.

South Africa reported that it is still not up to speed on the 2008 SNA, and cautioned with recommending an environmental extension. South Africa emphasized that some NSOs are under-resourced financially and technically, and priorities should be made for producing only those extensions that contribute the quality of the core set of statistics and indicators.

The European Commission reported that this environmental extension is important but not in a full fledged chapter but rather as a topical issue on globalization taken up in chapter 13.

Mr. Havinga of UNSD took all comments on board, noting that while we have to make the step from monetary to environmental extended physical SUTs, the way we write it up is more inspirational and aspirational for countries to consider in their experimentation and testing of the GVC extended multi-partner country framework. He further noted that the social and sustainability issues related to globalization should be covered by this handbook with strong reference to the universal 2030 agenda, which are included in separate SDGs and related strategies on climate change, biodiversity and sustainable consumption and production.

Chapter 6 – Extended Capital and Financial Account

Section A – Supply Chain Financing (Cornelia Hammer, IMF)

Ms. Cornelia Hammer of IMF presented section A of chapter 6, which is currently focusing on supply chain financing, not so much about extending the capital and financial accounts. In the next iteration of the chapter this extension should be covered in more detail. She presented information about the day-to-day management of working capital by lead companies of the GVCs, including management of inventories, short-term assets, accounts receivable, relationship between buyer and seller, liabilities and accounts payable and short-term financing. Lead firms apply financial strategies for the allocation of financial and non-financial assets taking advantage of tax advantages and market proximity, when it sets up a GVC. Moreover, learning from the last financial crisis, the lack of trade financing had a real impact on physical flows of goods, which is why it is so important to look at the newly emerging mechanism in trade financing.

Ms. Hammer explained that the trade finance market has shifted a lot; from guaranteed financing obtained from banks to open accounts where the supplier assumes more of the risk. She further noted that trade

financing statistics and trade credits are not consistently compiled. She also described the newly emerging Fintechs, which are aimed at providing bank-alternative funding, particularly aimed at SMEs. These new financial organisations are not yet regulated like banks, further noting that intermediaries can sell securities asset-backed by trade receivables held by the Fintechs. Ms. Hammer reported that Chapter 6 reviews structural changes and Fintech developments and provides an overview of global multiple sourcing decisions, financing components in a supply chain context, and traditional bank and new trade financing solutions. She stated that she would like the chapter to propose a template on trade financing as a satellite dataset and possibly a methodology of fitting instruments in current frameworks and classifying different Fintechs.

She stated that current BOP and SNA do not break out trade financing and do not look at Fintech sector because it is an “other financial intermediary”. The G20 has asked IMF to look into it. She reported that the chapter will show the data gap accounted for by short term trade financing (it is in the trillions), which given its sheer size can have an impact on the real sector.

Following further research, she noted that the IMF wants to bring the data gap to the attention of BOPCOM and AEG, with the intent that these trade financing mechanisms are covered in current statistical framework. Research could be undertaken using stand-alone datasets on trade financing in cooperation with WTO or UNSD. She noted that data could be sourced from ITRS or SWIFT data and dedicated Fintechs’ technology platforms, which include information on the invoice amount and trading partners on a timely and accurate basis.

UNSD asked if this facilitates GVC related trade for instance for SMEs which have difficulty in getting financing to enter GVCs, Ms. Hammer responded that this is indeed specifically relevant for supply chain financing.

Section B – Financial Aspects of Globalization (Tjeerd Jellema, ECB)

Mr. Tjeerd Jellema of ECB presented the financial aspects of globalization, namely 1) major globalization events that may impact macroeconomic frameworks; 2) how to explain the events and processes in the accounting framework and to contribute to development of global accounting frameworks with an emphasis on the financial aspects. He noted that following financial crisis, it is clear that you have to look at global level and a better integration of BOP and NA statistics is needed. He presented a pragmatic approach for an approximation of intra-MNE flows in a macro framework and elaborating it within country linkages between residents’ components of MNEs and domestic agents.

He further noted that FDI should be integrated with national accounts, as BOP does not currently capture domestic FDI relationships, only cross border. He stated that the objective would be to separate the MNE flows and positions from MNE interactions with the rest of economy, noting this could be done by introducing FDI as a functional category and by bringing in an instrument breakdown into FDI and by breaking out liabilities and assets broken out by DI enterprises, into financials and non-financials in the capital and financial accounts.

He also demonstrated a global from whom-to-whom table, which would offer insight by separating out FDI enterprises and ideally FDI subsidiaries, capturing foreign controlled enterprises and in capturing FDI type transactions by instrument separately. He noted that completion of balance sheets for FDI enterprises with the remaining functional categories as well as non-financial assets is relevant in the assessment of global production. He further stated that it is important to understand what kind of statistics we want out of this, noting that quarterly data is very different than labor and data-intensive SUTs, so there will be a

tradeoff between having something that fits nicely together and something that has high frequency, and the work to make structure of global production understood.

Mr. Jellema also noted that the issues of business registers, identifiers, data sharing and confidentiality, need to be addressed before making additional breakouts and data combinations, because you might be able to compile something but not publish it. He reported that ECB is increasingly using microdata on the holdings of securities; is investing in using mirror BOP data, and has a major project looking at bank loans on a loan-by-loan basis, but he noted that these developments are ongoing and will take more time than a year so he will need to think about how they can be taken into account in the Handbook.

UK noted that this is a very educational chapter in a very difficult area. UK also asked if part A and part B can be brought together or if they should be separate chapters. UK also proposed that chapter 6 comes after chapter 3 (as chapter 4) because they are closely linked. UK also stated that the chapter probably needs more empirical or numerical examples, or perhaps based on hypothetical numbers, which would make it easier to follow the theory in the text. UK also asked about the behavior of the risk premium and where changes in market prices are being allocated, noting perhaps that topic is more for a research agenda.

Morocco asked if illicit financial transactions can be captured (e.g., suppliers that export that do not report income so physical and financial flows cannot balance).

Uganda asked where FDI belonging to non-resident owned enterprises (if the majority shareholders are non-resident) is allocated in the tables shown.

South Africa asked if the presentation of part A of chapter 6 is an extended presentation on FISIM. South Africa stated that the two parts should be two separate chapters. South Africa also reported that Unilever published with ICC several papers about how they view their GVCs, in 2007-08, which this would be a practical example with publicly available information.

UNSD stated part A and part B are two very good starting points because they help us to understand the financial operations underlying a GVC, but noted that there needs to be a better understanding of the non-affiliate relationships in the financing and a need to do more in-depth profiling of in-depth financing of the GVC. UNSD responded that the Unilever example can be investigated, but probably a more updated example is needed. UNSD encouraged IMF and ECB to do more profiling of some of these industries, such as the automotive industry, for example, and link up with countries that are willing to share insights without breaking confidentiality.

Steve Landefeld emphasized that the group should focus on the really important accounts for the Handbook, highlighting the importance of affiliated and unaffiliated financing by type.

Stacey Frederick asked if this financing data be linked to any classification system, such as ISIC, CPC, etc.

Ms. Hammer responded that trade financing would be linked to the accounts via “other investments”, not FDI, as it is short-term operational liquidity financing between buyer and seller. She stated that she was unsure how much SPEs are involved. She also stated that both parts of the current chapter should go into handbook, either as separate chapters or parts A and B of the same chapter, noting that part A could be integrated with part B as a breakdown of “other investment”.

Mr. Jellema reported that trade financing would be included in debt instruments. He further noted that FDI is not the most important part but rather the interactions with direct investment enterprises – when they go beyond the FDI relationship and when they engage in interactions with domestic financial markets. He emphasized that non-MNE financing broke down during the crisis.

Ms. Hammer noted that it is worth having a separate template on trade financing, because MNEs sat on cash and refused to extend credit to suppliers during the crisis and have been doing so since. She further noted that FISIM is not related to trade financing, because it is an explicit service the intermediaries are performing and taking the trade receivables on their balance sheets.

South Africa maintained that FISIM is part of trade financing, according to the definition of FISIM in BPM6.

Ms. Hammer stated that they can discuss the FISIM issue later.

Ms. Hammer also reported that illicit flows are shown on the books as one asset being changed into another asset, but measurement is an issue.

Mr. Jellema further stated that the person would not declare the financial transaction of an illicit flow, only the goods transaction, so he suggested looking at bilateral asymmetries with partner countries or look for counterparty information.

Mr. Jellema further stated that trade financing is only FISIM when they are considered banks, but part A is discussing non-banks. He welcomed the Unilever reference. He also noted that there are classifications for financial data: on instrument breakdowns, institutional sector, functional classifications in BPM6, and MNEs by activity.

WEDNESDAY

Chapter 7 – The role of Global Enterprises (Stefano Menghinello, Italy)

Stefano Menghinello presented chapter 7, stressing that business statistics can bridge the micro and macro and show the different behavior of globally operating enterprises and domestically operating enterprises. He reported that ISTAT is making headway in the organization to understand the operational strategies of the global enterprises. A new way of profiling is emerging using corporate business language of business lines for production strategies and financial and tax strategies. Being able to pose the right questions in the right language and sharing the information within the statistical also ensures that statistical units of the global company are classified consistently in business statistics and national accounts, even with the frequent reclassification of its legal units for production, financing and tax purposes

He explained that statisticians should extend their interest in the ultimate controlling unit and global perimeter of control of the lead firm of the GVC to include the MNE decision process, to develop relevant classifications of statistical units to understand organization of business, and to develop a routine to track global enterprises (also independent suppliers in the GVC) with high frequency. He emphasized that global enterprise behavior is based on industrial strategy (where to locate core business activities and how they should interact) and tax-financial strategies (where to locate tax revenues and how to coordinate them internationally). He provided an example of a company that had three business lines, which were originally three separate legal entities, but then changed their business decision and collapsed them all into one legal entity. As a consequence, the three legal entities in two consecutive years consolidated their operations in single legal unit without changing their core business operations. He further proposed a new conceptual framework for profiling to classify all possible global enterprise operations, for which all activities are broken down by business lines and supporting business function activities. A profile of a global enterprise would show whether a business process is carried out internally or externally, and located domestically or

abroad. In consultation with the individual global enterprises, these profiles could be shared among partner countries with joint lead firm operations.

UK confirmed that it is key to use language that businesses understand and to emphasize the operational segments in core and supporting business functions for classification purposes. UK further noted that this chapter fits in with units of classification, which should be shown earlier in the Handbook. UK also stated that the Handbook should elaborate the new profiling framework of global enterprises taking into account the industry, tax and financial strategies. Moreover, the Handbook should consider adding recommendations on establishing a large cases/business profiling unit in NSOs with economies in which GVC(s) have a dominant role.

Canada indicated that in making the interrelationship between core and supporting functions explicit in a GVC, the existing detail of the industrial classification (ISIC) may need to be extended for the services industries (e.g. including marketing and branding services for specific GVC industries), and how the SNA should describe the relationships between the GVC related enterprise structure of affiliated and non-affiliated enterprises.

The chair stressed that legal structure is really important and it is the first thing statisticians discuss with a global enterprise in order to determine what is included and whether they are non-active or non-resident. The chair also noted that business decisions to change legal structure due to tax reasons often follow a similar pattern but companies follow different business models for their industrial strategies (e.g., a contract manufacturing model, for example).

OECD noted that various elements of the new profiling framework need additional elaboration, but noted that it is a good chapter for countries to have hands-on practical guidance that they could be implemented at the national level.

Eurostat suggested showing an example of data sharing of lead firm and their enterprise structures of a GVC in this chapter. In particular, the example should set out what information, with whom and when can be shared and how to share this information with other countries.

UNSD suggested that the chapter could also extend the understanding of control (through contractual arrangements) versus FDI/ownership between the lead firm and its enterprise structure, to explain why some business lines are part of the GVC and others are not (e.g., units that are created for financial or tax reasons). UNSD further asked if it is feasible to think about those arrangements and financing mechanisms in this chapter

Denmark reported the need to take this information into account with the business functions classification. Denmark agreed that the chapter highlights the importance of large case units. Denmark also stated that control is not only related to the legal ownership; some parts are done by sub-contractors under coordination from the controlling (lead) firm.

Steve Landefeld reported that MNEs can be important to large countries and account for a disproportionately large share of exports. He also noted that the accounting systems that are available now, like the GAAP used in USA, is very different from IFRS. He also noted that companies' books are kept on financial activities but that this chapter is focusing on production activities and thus asked how far the handbook should go down the route of forensic accounting, in terms of teasing out transfer pricing, etc. He also suggested involving Erich Strassner from BEA on their MNE surveys, which have dealt with these same issues.

Mr. Menghinello emphasized that a simple common conceptual framework is needed, which is feasible to apply in every country or purposes of profiling GVCs. He stressed that you need to have knowledge about the global company and its enterprise structure for the managed GVC before the global enterprise and its enterprises in the chain are classified statistically. He noted that he is not against the legal structure, as it is essential to define the parameters and how you build the business register, but maintained that it does not provide all of the information for the company and GVC profile. Moreover, the legal structures of global enterprises are by their nature unstable and can change from year-to-year. He reported that the idea is to use operational segments and business lines, and to be aware that sometimes operational segments and business lines are built according to end markets and not for production purposes. Therefore, lead firm consider maximizing profits for a collective product in specific end markets (NAPTA for cars) rather than individual versions/models of products in specific countries.

Steve Landefeld stressed that national accounts are designed to measure the economic performance of the economy and that economic activity should not change based on changes in legal entity. He asked if we want to begin undoing transfer pricing for IP and other things and realign economic expenditures to financial transactions based on tax decisions.

Mr. Menghinello responded that global companies prepare international financial accounting report that classify operations according to international accounting standards, which have been outlined by KPMG and other global accounting firms. He suggested to invite representatives from global accounting firms to understand their advice to global enterprises and devising a common conceptual framework for profiling

Chapter 8 - Special Accounting Topics (Michael Connolly, Ireland)

Michael Connolly of Ireland provided an overview of the guide to measuring Global Production, acknowledging that the data issues were greater than originally expected and need further clarification. He highlighted data issues with identifying and measuring center of economic interest, headquartering, intangible property transfers, change in economic ownership and contract manufacturing. He further provided standard examples of goods for processing and its measurement issues, as well as the expenditure incurred in the development of R&D assets, R&D related services such as royalties and licenses, and the R&D assets themselves. Related are the identification if the IP assets are held in the domestic economy and when they are used through contract manufacturing arrangements or sold to non-residents as royalties and license fees. He noted that net profit needs to be converted into net operating surplus, which is analogous to accounting net profit but with NNI discrepancy portion due to the difference in business and national accounting practices in measuring depreciation.

He emphasized the importance of data sharing across national institutions and within institutions and cross border micro-data sharing. He also highlighted other issues, such as price and volume measures (related to industrial processing services, trade in services, intra-company services and IPP-related services) and economic classification.

Chapter 9 - Global Value Chain Satellite Account (André Loranger, Canada)

André Loranger of Canada presented a micro-data linking approach to build up the relevant statistics of the GVC of the automotive sector. He acknowledged that this detailed micro data approach might not be feasible for every NSO, but at Statistics Canada, they have the availability of data. He acknowledged that there are limitations in other NSOs with regard to data availability and confidentiality. He further noted that

the chapter could also present an aggregate approach taken from extended SUTs, and possibly a hybrid option, as maybe one model does not fit for everybody.

He stated that GVC accounts are not the same as extended SUTs as proposed by the TiVA programme, but that they are rather complementary and can overlap. He noted that the GVC accounts are a more flexible set of tables that highlight certain aspects of a specific GVC and go beyond the production accounts and primary distribution of income and capital. He stated that Statistics Canada envisions to build a repeatable statistical product for the GVC accounts rather than a one-off case study, which makes it different from academic studies that are one-off.

He presented an overview of satellite accounts as extensions of core SNA, in which one type is a rearranging of existing classifications, while the other would be to extend SNA concepts, like capitalizing software and capitalizing R&D. He provided examples of tourism, culture, natural resources, non-profit. He noted that the GVC account are of the first type, providing additional detail and alternative product classifications, and a multi-partner country feature that can provide more detail than extended SUTs in terms of estimates of GVC destined output. In determining the scope of the GVC industry, a distinction has to be made between enterprises that are part of the chain by differentiating between the level of specialization specific codification of the primary and intermediate inputs used by the GVC industry.

Mr. Loranger reported that Canada has designed a questionnaire for NSOs to first administer to themselves based on information from trade statistics, business survey and administrative data, noting that the aim is to map the firms involved in the GVC. He reported that once the firms are mapped, they can be re-aggregated into a satellite account which can inform GVC in the SUT. He defined a GVC as a set of end to end interrelated activities that cross economic territories which are coordinated by a lead firm that result in the production of product (good or service) delivers to market and supports its use, noting that the chapter is not focusing on the domestic chain, but the cross border GVC. He provided overview of the 7 basic steps in constructing GVC satellite account:

- 1) Selection of the product(s)
- 2) Establishing the GVC boundary
- 3) Product mapping (the HS codes)
- 4) Identify frame of GVC participating firms
- 5) Application of the GVC classification, concepts and methods for participating firms
- 6) Data collection (SUTs, IMTS, SITS, administrative data, tax data, business surveys, SBR TEC, FATS, FDI, other) and link at micro-data level
- 7) Compilation of the GVC accounts

He also presented an overview of the following tables envisioned for the chapter:

- GVC Production Account by business function
- Production Account by business function and governance (by lead firms, affiliated and non-affiliates suppliers)
- Generation of Income/Primary Income account by country
- Capital Account by economic territory
- Labor account

He described the GVC questionnaire that was designed for the NSOs of Canada, Mexico and USA to fill out to be able to share data at aggregate level with the partners. He described the project as a proof of concept to test the methods outlined in the chapter, noting that some issues seem difficult, but that he is confident they will be able to produce it.

Mexico reported that it fully supports the initiative and the micro-data approach, but emphasized that it is important to think more about challenge of exchanging information and of defining the aggregation to protect confidentiality.

UK stated that the chapter is very well-written, taking you from concepts and structure to the practical application. UK suggested that the chapter could be the structure of the entire handbook. It further stated that the distinction between satellite accounts and extended SUTs is very important, while noting that the term “satellite account” to the user sounds like it is not that important and not part of the core accounts and that term “Extended” sounds better. UK further observed that the project is reflecting the infrastructure that NAFTA has in place. He stated that the quality issues related to the measurement of the GVC approach to globalization should be further pursued in this accounting and business statistics framework, the institutional data sharing arrangements should be worked out, and acceptable alternatives evaluated (like if there is limited data availability).

UK further noted that some elements of SUTs are not applicable, like balancing, when you look at firm-level GVCs, suggesting that perhaps at firm level there should be no balancing adjustment applied. UK also suggested that there is more discussion in the chapter around detailed structures of the GVC related SUT, labor and capital stock tables about the analytical benefits of having all that data for a GVC in one place.

South Africa indicated that GVC related accounts should be promoted as how the statistical instruments that should be used to stimulate and monitor regional integration. With the increasing appreciation of the analytical benefits of the GVC related accounts for regional integration, collaborative inter country data collection programs could be envisaged that facilitate a unified approach to GVC related data collection for a significant proportion of the regional economy.

Morocco suggested that the scope of the GVC could be extended to countries in which there is only outsourcing from a lead firm in another country. Morocco noted that there are instances in which the supplier is only exporting the value of processing services and the lead firm in another country takes ownership.

OECD stated that this chapter is excellent work and the GVC project should be done, but is not convinced that it is methodologically different from extended SUTs. OECD noted that the extended SUTs are not trying to be prescriptive about granularity, but rather look at low-hanging fruit, like size class, foreign-owned or domestic owned, whether they’re exporters, while the GVC approach is looking at lead firm and supply firm, which is a different form of granularity, but that it also fits in with underlying approach of extended SUTs. OECD further noted that the table presented as the outcome is basically an extended SUT and stated that the purpose of national extended SUT is to build them together at the global level to improve TiVA. OECD stated that this example shows that the mutual benefits of collaboration between partner countries for a specific GVC, because it looks at granularity at a much more focused way. OECD reported that this approach will have the best estimates of domestic value added for exports and imports. OECD also noted that OECD itself has had a few definitions of GVCs and asked where does a GVC start; what is a domestic value chain rather than a global value chain, noting that the domestic part is just as important, as SMEs first provide to a domestic value chain before they enter into GVCs. OECD particularly commented on paragraph 59 in chapter 9, stating that SUTs *do* show GVC destined output, but that it just depends on where the starting point is and that SUTs capture exports.

Netherlands characterized chapter 9 as a good example of applying micro data linking. It highlighted two critical issues in identifying the suppliers (lead firms and suppliers) and the products (specialized versus generic) and problems with data availability on these dimensions.

Italy reported that it has started building national accounts on an extended business register with all economic variables. It thus noted that as long as micro data are built into national accounts, GVC satellite accounts can be done that are fully consistent with national accounts. Italy further asked how to measure governance when it has to do with market power, as the lead firm is not always the MNE, so you cannot make any a priori decision about which company is making the lead decisions and need to use global information like Amadeus or ORBIS. Italy also asked if the requirements can be prioritized, as it will be difficult for every country to get to the final goal, but it is important for countries to get through some steps, and maybe some countries will adopt some of the classifications.

Iran asked whether it could be clarified what preparatory work a NSO could undertake to be involved in a GVC satellite account project.

UNSD reported that it has done a lot of ecosystem work and mapping, finding ecosystems or GVC types that have assets in terms of labor and capital that provide services and products and map them, noting that existing classifications like ISIC do work, but that you need to think about economic structures with GVC lens to bring lead firm into the mapping. UNSD further noted that you do not have to map the whole world to understand your own ecosystem and that if you have less granularity, you can still go a long way based on SUTs. UNSD also noted the roles of GVC in strengthening regional integration, for instance in Africa. UNSD encouraged EU countries to also do a regional GVC satellite account like the NAFTA account for automotive industry. UNSD also expressed an interest in developing examples with developing countries, suggesting the expert group to support countries like Morocco to reach out to main partner countries like France and Spain to construct GVC.

Steve Landefeld stated that chapter 9 is a nice example of regional accounts. He noted that it would be really interesting to develop a GVC with a bottom up micro approach and a top down macro approach, because it would be interesting to see if there are large differences in the results. He noted that sometimes top-down estimates work pretty well (e.g., NAICS time series example). He shared concerns about use of the term satellite accounts and liked the notion of extended accounts that are part and integral to the core accounts.

The chair noted that this approach seems to fit better with a centralized statistical system and asked how it is working in the USA. He also asked if the Canadian approach is a micro data-linking project or more of a top-down approach.

Mr. Loranger reported that confidentiality is a big issue, particularly with the USA. He also reported that once the three partner countries start building the GVC account, they will see if the approach is feasible. Given the existing granularity in the partner country data, the feasibility of the compilation is good. He agreed that he does not like the term satellite account, but that is generally the term used for a structure outside the core SNA but using SNA concepts. He also responded that he will look into comments made by the UK and will try to look at aggregate approach in the chapter, and work at drawing out the benefits of this type of work. Mr. Loranger also responded that he will try to reflect the comments made by South Africa and UNSD. He also responded to Morocco stating that this approach is not just capturing outsourcing, but rather capturing all transactions in a GVC. He addressed Iran's question by that stating that many countries need to be involved for which preparatory work should be done by partner countries.

Mr. Loranger addressed OECD's comments by stating the approach is an extension of the extended SUT. He further noted that it shines a light on a particular GVC and is not restricted to the rigid framework of core SNA and SUTs, but that fundamentally it is just an analytical way to look at granularity. Regarding OECD's comment on paragraph 59, he stated that in the automotive GVC, some of the parts that parts manufacturers produce go towards a car, but others go to a repair market that is not really part of the GVC,

so there is an amount of output and production from SUT that is not part of the GVC. He further noted that currently the work is trying to articulate the concept and proof of concept, but that maybe in the longer term there will be a need to think about a revision of the next version of the SNA manual. He also stated that he will think more about what countries can do if they do not have the necessary data.

Chapter 10 - GVC Modules and Applications (Stacey Frederick, UNSD consultant)

Stacey Frederick presented the idea of GVC as production fragmentation and coordination, which is a reconfiguration of the way that NSOs think about the range of activities involved. For example, she cited activities that are not GVC industry-specific, particularly wholesale management, transportation and R&D codes. She highlighted that the present ISIC structure represent a mix of GVC concepts (business functions, supply chain position, and markets), which need further elaboration to support GVC accounting.

She reported that there are about 24 GVCs that have been studied in academia and most of the underlying data is available. She noted that it is often difficult to get NSOs to provide necessary detail or to understand the need for doing so and that it can be challenged for all of the different agencies involved to bring the data together. She provided an overview of the medical devices GVC case study in Costa Rica, highlighting the importance of firm characteristics of importers (to which she did not have access), the impact on macroeconomic statistics from a gradual shift in operations of lead firms in small economies and how the continuous profiling of operations of lead firms is necessary to identify early on the change in the classification of firms in the same GVC industry and how sharing of information between countries in the same GVC could assist small economies in anticipating changes in their macroeconomic statistics..

Ms. Frederick reported that present classifications of ISIC for the primary and secondary activities and employment can support GVC analysis, but that service categories of the ISIC are not granular enough to support the delineation of business functions.

UNSD noted that this presentation demonstrates how the interrelations of business operations with core activities and business functions can get lost in the present ISIC coding. The GVC lens needs to be appropriately reflected in the ISIC classification given this emerging analytical perspective. UNSD further commented that to get better granularity for purposes of maintaining the interrelations in the value chain, ISIC codes for wholesale, retail, R&D, marketing and branding may have to be extended.

South Africa asked how the mirror statistics for Costa Rica's partners compared to the data presented. Ms. Frederick stated that the Costa Rica example has one of the worst bilateral asymmetries ever seen, but that it was beyond the scope of the project.

UK reported that there are issues here for the wider handbook. UK also noted that redefinitions may be needed for IO tables, but not needed in SUTs.

UK also noted that there is a need for recommendations on the establishment of large cases units in NSOs, but noted also the role of international organizations. For instance, Eurostat could become the facilitator in data collection and data reconciliation for MNEs because MNEs are across EU but also beyond. Specifically, the UK asked what framework is in place at the international level to facilitate data collection and data reconciliation when cases such as Ireland and Costa Rica occur? Therefore, by extension, UK asked UNSD to provide a centralized hub in collaboration with Eurostat for such data sharing and data reconciliation worldwide.

Steve Landefeld observed that the progressive transition in production in a single GVC as cited in the Costa Rica example will not have a significant impact in a big economy like the USAUK reported that you will

see it in smaller economies, but noted that currently nothing is done internationally to ensure consistent and coherent treatment of such operational decisions in GVCs. Therefore collectively these asymmetries could have impacts on large economies as well as small economies, which warrant a collective resolution and early warning system. .

OECD reported that in the recent OECD-Eurostat high-level meeting, Eurostat reported that it is going to install an early warning system to alert all concerned countries if a restructuring or relocation is going to take place. OECD acknowledged that for some countries, the information will not matter a lot, while it will for others. OECD further noted that the warning mechanism is not intended to exchange data, which is premature, but rather to exchange information about events that might be happening.

Steve Landefeld noted that it is illegal in the USA to exchange information about relocation of a firm without the full consent of the firm. Therefore, he emphasized the need to understand the legal institutional arrangements for information and data sharing which are not in the public domain.

Eurostat reported that it is setting up an early warning system, which will be a closed system of exchange where 1-2 national representatives, the ECB and the OECD will get early knowledge of information about changes in MNE activities. It stated that there have been one or two test cases in which there was an exchange of data and the system will be ready for deployment relatively soon.

UK stated that the details of the occupational classification could indeed be supportive and instrumental in understanding the nature and the change in the nature of the operations of the legal units in the GVC. (related to Ms. Frederick's presentation).

Chapter 11 - Firm Heterogeneity and Microdata Linking

Section A - (Martin Luppés, Netherlands)

Martin Luppés of the Netherlands gave an overview of the present structure of chapter and an overview of the effect of globalization on official statistics and the concept of international orientation. He noted that the current system is based on type of trader and ownership, which misses dimensions on stratifications of services, innovation/R&D (type of innovator), and type of investor. He further observed that integrating TEC and STEC at the firm level would offer more information. He asked the expert group if paragraph 2 (on the concept of international orientation) be combined with paragraph 3 (on types of firm heterogeneity).

He also presented basic microdata linking of the statistical business register, trade in goods and services and SBR, which covered conceptual issues of manufacturing or ICT enabled services, methodological issues of small samples, and coverage, among others. He observed that micro data linking is about combining characteristics of the enterprise for ownership and control and type of trader and combining different sources on social dimension (LEED), trade dimension (TEC) and ownership dimension (FATS). He reported that the Netherlands have included tax data on enterprises, jobs and persons in their microdata linking and use some commercial data for FATS and EGR and Big Data. He emphasized that it is important to first find the proper research question and then come up with the data linkage.

He also reviewed issues surrounding microdata linking and proposed that there be a separate paragraph on exchanging SBRs, creating consistency of classifications and addressing some compilation issues, as well as some discussion on the distributed micro data research (DMDR) approach, sampling and weighting, and analysis.

Section B - (Peter Boegh Nielsen, Denmark)

Peter Boegh Nielsen of Denmark reviewed business functions, international sourcing, and factoryless goods producers. He noted that business functions are understood by firms and are mainly a tool to capture “outsourcable” services elements and that any business function can be the main activity and can hence be related to a NACE category. He also gave an overview of definitions of international sourcing and noted that they have split business functions into goods and services. He reported that there is a European survey on international sourcing on domestic employment by business function, domestic sourcing and international sourcing by business function, motivations and barriers for international sourcing and relocation of business functions. He further reported that Denmark tested a question on its 2012 survey on factoryless goods producers and found a number in Denmark, with the next survey scheduled for autumn 2017.

Mr. Luppés presented some input for the research agenda, including the role of services; digital trade; dynamics of enterprise groups; and matching with commercial data, such as the Thomson mergers & Acquisitions database, and other sources like Bureau van Dijk, ORBIS, etc.

Italy noted that this chapter has some overlap with chapter 7, although this chapter focuses on what is feasible and the role of experimental data in official statistics. Italy observed that NSOs should invest more in experimental data.

Eurostat stated that the chapter should give more focus on Big Data and the use of the SBRs in national accounts. Eurostat reported that this chapter can also link to firm heterogeneity, business statistics and national accounts.

UNSD noted that someone high up in the corporation makes these industrial strategy decisions about business functions and may not be the same person filling out the business function survey. UNSD asked if this can be integrated with structural business surveys even if they have a different sample structure.

Steve Landefeld asked if the survey captures transactions beyond the immediate counterparty. He also observed that R&D definitions are geared to engineering, but many important activities are coming out of design or finance instead.

The chair asked what the interaction is with colleagues working on SUTs.

Mr. Luppés reported that the problem with microdata linking is not in the data itself but in the legal constraints surrounding it; the independency of the NSO is very important and NSOs should have the mandate to integrate all the microdata necessary to fulfill statistical needs. He further stated that the Netherlands is just starting to look at the potential of Big Data (i.e., on mobility statistics and international trade and transport), but more is possible for cross border transactions and should be taken onboard in the development programs of NSOs. He noted that there should be more work on linking firm heterogeneity and national accounts, which should also be part of the chapter. He further observed that in the Netherlands, results from surveys and impact on national accounts are discussed monthly, which serves as a small early warning system within the NSO.

Mr. Boegh Nielsen proposed a set of experimental indicators that could be derived from micro data linking for reporting in the ESSNet on globalization, but it is unclear where those stand. He also reported that the Nordic countries are utilizing a lot of administrative data, including for the micro data linking of social data with business statistics in Denmark.

He responded to UNSD’s question that initially the enterprise group was the statistical unit to report on the business function surveys but in the last survey round the domestic MNEs was selected to report on the

business functions of foreign affiliates, which led to a response from the head of the enterprise group. He further noted that they received information from these surveys about what functions are sourced directly by the MNE internationally and less about what they source domestically and what is sourced later on internationally (beyond the immediate counterparty). He further noted that they use Frascati manual on R&D.

OECD reported that its Nordic TiVA project with OECD is excellent example of collaboration in microdata linking and model project for combining and feeding into the macroeconomic statistics..

Chapter 12 - Bilateral Asymmetries, Data Sharing and Global Group Register (Nancy Snyder, UNSD, and Amerigo Liotti, Eurostat)

Nancy Snyder of UNSD presented chapter 12, the motivation for which is to focus on reconciling trade, business and FATS statistics for major GVCs and major partners. She gave an overview of the main methodological reasons underlying trade asymmetries and some methods to resolve them. She also gave an overview of reconciling FATS statistics, reviewed some examples of data sharing and bilateral reconciliation studies, and some initiatives at the international level.

Amerigo Liotti of Eurostat provided an update on the status of the Euro Groups Register and some experimental data that Eurostat will soon publish. He also gave an update on the status of a Global Groups Register (GGR) undertaken in collaboration with UNSD, including updates from the Global Legal Entity Identifier Foundation (GLEIF). He stressed that GGR will not be an enlarged EGR. Rather than being based on sharing of official statistics, the GGR will source information from various sources, including international profiling work, GLEIF and web-scraping.

Italy reported that it is glad to hear the experimental from EGR data are being published. Italy noted that there is already a list of European and non-EU MNES and a database of large company restructuring. Italy asked if there will be a commercial advantage for business to register with GLEIF.

UK stated that data sharing and reconciliation should be brought to the fore in the Handbook. UK also stressed that the EGR (and GGR) should be live and dynamic and up-to-date and that this should be possible, given technology available. UK also observed that other sectors, especially internet activity, do not get covered well in traditional data sources. UK also asked how to appropriately capture the complex worldwide networks of MNEs with a range of governance structures in a group register?

Mexico reported that many data users ask INEGI about official trade statistics produced by INEGI versus the OECD TiVA database and that it is difficult to explain the difference to users. Mexico reported that the results of trade asymmetry reconciliations should be called “experimental” data, and that their use would depend on the user and what they hope to do with it. Mexico stressed that it is important to address these issues in the chapter. Mexico also suggested that the chapter should include techniques used to reduce asymmetries in the bilateral reconciliation studies conducted by the OECD Working Party on Trade in Goods and Services, as well as the lessons learned, which can apply to other countries. In particular, Mexico cited the special case of re-exports (especially USA’s re-exports to Mexico), which merits special attention in the chapter.

OECD reported that it will send UNSD the background information on the bilateral reconciliation studies it has conducted. OECD stated that the chapter should describe how OECD balances IMTS and SITS for purposes of TiVA. OECD also noted that the modular approach it uses is intended to convince countries

to own the reconciled data as their own, noting that OECD would like to extend these bilateral reconciliations globally.

OECD further noted that it has an International Transport and Insurance Margins Database, based on countries' estimates for CIF/FOB, which are used as inputs in their reconciliations.

Steve Landefeld stated that it is important to reconcile these data in their own right, not just for GVC purposes. He also emphasized that sub-aggregates can be used to reconcile data and in data sharing, so there is not always the need to always go to confidential microdata level.

Morocco asked if a GGR can capture each part of an MNE.

Ms. Snyder thanked OECD for its contributions and will look at the additional background material on the reconciliation methods. She stated that the revision to the chapter will include a section reviewing the bilateral reconciliation studies done in other countries and the lessons learned, as well as a review of OECD's techniques for reducing asymmetries. She noted that the chapter will also explain that the TiVA data and the results of bilateral reconciliations are experimental data and that NSOs will need to explain to users the difference between them and the official NSO statistics. She further stated the need to elaborate more on the re-exports issue, as it is complicated and needs further clarification. She acknowledged that it is difficult to capture internet activity on traditional trade in services surveys, which goes beyond trade statistics.

Mr. Liotti underlined that update and maintenance of EGR and GGR should seek useful synergies, with GGR being more close to experimental statistics than to official statistics. Notwithstanding the GGR would provide more timely information on company structures which are presently lacking. He noted that applying for LEI is quite expensive at the moment and that GLEIF is considering possibilities to reduce its prices. Also better participation of administrative bodies releasing LEIs would go in the right direction. He noted that the GLEIF database is free of charge and updated daily.

THURSDAY

Discussion on Research Agenda and other considerations for the Handbook (Michael Connolly, Ireland)

Price and volume indexes related to GVCs

UK noted that one method to address with deflation is a balanced approach, whereby GVC industry specific SUTs are built in current prices and subsequently converted into previous year prices, while the alternative (a single deflation type process that is unbalanced) is to take the micro level data related to the GVCs, and then select appropriate deflators along the chain. UK observed that there are pros and cons to both ways.

Steve Landefeld reported that it is important to look at quality-related and exchange rate related issues with import prices, and estimates about their effect on GDP. He noted that there is lots of research in this area and the USA is about to adopt new method.

South Africa noted that the International Comparison Program, which measures goods and services around the world, could factor into this research.

Global Business Register

UNECE stated that a top priority will be the GGR, which would be very important in analyzing MNEs and GVCs. It reported that a Eurostat Task Force could take up some of these issues. UNECE also asked if the factoryless goods producer issue could be advanced in some way.

Other issues to be covered by the Handbook

UK also emphasized that the Handbook needs to better explain the impacts of GVCs on society and on income distribution. UK stressed that the group needs to focus not only on what they are, how they come into existence, how to measure them and the data needed, but also how accounting for global value chains contribute to the interpretation of GVCs.

Italy suggested that there should be a long-standing research agenda oriented towards policy applications to keep non-technical audience interested. Italy also emphasized the important role of technology and how it affects the sourcing of services, including financial services.

Eurostat stated that digitalization is changing the business models of enterprises. There is a risk that the new business structures are not captured sufficiently in the business register. Eurostat agrees that the group needs a research agenda that is more conceptual, but also a second stream of research in offering practical compilation guidance to assist countries in implementing the recommendations of the the Handbook.

Mexico emphasized that apart from a research agenda also further work is undertaken in providing international guidance in explaining clearly to users the new statistics about globalization, the results of bilateral reconciliation studies as “experimental statistics”, the results of TiVA and the new extended SUTs for GVCs. Canada reported the need for NSOs to build deflators on services because they are also needed to properly deflate GVCs, while acknowledging this issue may be more appropriate for the expert group on prices. Canada also stated that the expert group should discuss classifications more and talk to the organizations that create those classifications (e.g., Canada is using business functions classification they

use in their surveys for their GVC study). Canada further noted that the Handbook should assist users in navigating and interpreting the various statistical products on globalization.

India suggested that the research agenda of the Handbook should include linkages with the research agenda of the SNA 2008 as many countries are still unable to implement various globalization aspects of SNA 2008 (e.g., measuring trade financing and R&D).

South Africa also stated that the Handbook needs to be more explicit around the different policy implications of accounting for global value chains and how they can be used in planning. South Africa also emphasized the need for better institutional arrangements between NSOs and national policy bodies.

ECB highlighted the importance of getting dynamic information about GVCs, not just various snapshots in time from surveys and extended SUTs. It further noted that there are two aspects in the accounting for global value chains to be considered – the measurement of the structure of the business lines and its short term changes. Moreover, the “smile curve” of value additions of the various business functions of a GVC shows us that the value added can be concentrated in activities related to services rather than manufacturing. Also the lead time of a GVC should be considered related to setting up new business lines by undertaking research, developing new supply lines, and determining the financing arrangements for capital formation and trade. Given these dynamics, the ECB asked about the need to consider the timeliness of GVC statistics (e.g., are we looking at GVCs from 2010 in the year 2020) and the relevance of being able to address today’s questions on globalization with today’s data.

UK stressed that Chapter 2 of the Handbook is critical for setting the scene and defining the framework of extended SUTs and accounts and integrated business statistics for GVC accounting. UK further noted that the Handbook must be explicit about the types of globalization statistics measured by the framework like the domestic value-added component of exports..

Italy suggested that in Chapter 1/2 of the Handbook the complexity of globalization should be set out is and how the extended framework captures this complexity in the extended national accounts and integrated business statistics.

Ms. Frederick stressed that the Handbook should be clear about when conventional representations of industries accounts and representations of GVC specific industries. She noted that the GVC literature describes activities that occur within a GVC specific industry rather than being separate industries themselves (as such combining the representation of a collective of goods and services producing activities) for which additional details in services industries like wholesale, retail and R&D need to be added. She further noted that extended national accounts should offer these GVC industry related representations to analyze these GVC industries at the right level, including the occupational and capital stock details

UK stated that while the starting point for the statisticians is the general description of the economy through legal units, policy users are interested in cross-industry and cross-product data, whether it is tourism, sport or creative industries. The UK further cited the success with the ICT classification and highlighted that sometimes a functional activity can become an industry itself.

UK also suggested the future of the expert group needs a terms of reference, because some of the items in handbook are future research items.

Eurostat reported that the expert group needs to establish a research agenda, even if some of it is taken up by other groups, especially so that this group can have a possibility to comment and have input. Eurostat also reiterated that there is a lot of remaining work to be done on classifications and units.

Netherlands reminded the expert group that the Handbook should reflect that fact that it is always about people and that the research agenda should reflect the social dimension through the link with jobs.

Canada emphasized the need to identify the target audience of the Handbook; if the audience is the NSOs, the Handbook should focus on the measurement issues and to guide NSOs where to start in measuring GVCs. Canada stated that its experience is that policymakers know very little about the statistical system and do not have a very good handle of wealth of information that NSOs have. Canada stressed that it is the job of NSOs to educate policymakers on what they have. Canada stated that manual is the right way to guide NSOs, but is not to educate policymakers. Rather more modern methods are needed for policy makers, like videos and twitter. Canada emphasized that the Handbook should not try to kill every bird with one stone because the product may become diluted.

Steve Landefeld reported that chapter 1 or 2 has something about the education of users. He concurred that the Handbook may not be of immediate interest to policymakers. As a way forward, he suggested to expand the present references about the importance of outreach and education campaign.

South Africa agreed that the audience needs to be defined, but maintained that both the technical and communication aspects need to be addressed in the Handbook, in particular in demonstrating the policy implication for socio-economic development. South Africa reported that it is not sure whether the chapter on the extended on environmental accounts should be in the handbook because there are other manuals where this is treated.

Eurostat agreed that the audience is NSOs, but stated that it is also clear that some communication campaign towards the policymakers is needed; at least a simple and supplementary communication note to explain what is in it for them.

Eurostat also reported that work on an extension that would bring link between the multi-country tables and the environmental tables is occurring within Figaro, so maybe one solution is to integrate environmental tables in chapter 13.

IMF noted that the handbook is not just for advanced economies but also for developing economies. She also suggested adding an executive summary of some sort to explain what we hope to achieve with the Handbook and how it relates to other work.

UNSD reported that it will develop a longer list of the policy implications based on the delineation of applications started by Steve Landefeld in Chapter 14.

Steve Landefeld reminded the expert group that at the last meeting in New York, it was agreed that the audience was meant to be high-level executives and that handbook was not meant to be a technical manual. He reiterated that we want the Handbook to be accessible and fairly high level so other readers like Council of Economic Advisers or the Conference Board can understand it. He also stated that the Handbook should show the improved relevance of core statistics and how the core statistics can be improved in their own right.

The chair summarized that the Handbook should establish a future research agenda covering both the technical aspects like accounts and tables, concepts and definitions, classifications and statistical units that are specific to the statistical framework, and policy aspects like upgrading, income distribution and social impacts of GVCs that are specific for policy framework. The chair also acknowledged the need to integrate digitization better in the Handbook and to think more about the balance of statistics and policy application taking into account the target audience of this Handbook. The chair further noted that classifications play a prominent role in this Handbook (BEC, business functions, GVC industry related products and industries

and the factoryless goods producer), and therefore the Handbook may be able to advance the international classifications in these areas.

Editorial Guidelines

Mr. Landefeld stated that the editorial guidelines are still as follows:

- Use links to other materials and build on existing standards and guidelines and point users where to go for more details.
- Suggest alternative methods. Show multiple solutions for countries with different systems.
- Demonstrate usefulness of data linking and sub-aggregate data linking as opposed to micro data linking.
- Avoid duplication cross chapters, but chapters should be able to stand alone.
- Have balanced references (e.g., with TiVA tables, not only reference to OECD but also reference academic literature and policy analysis), which could broaden the audience as well.

He also added another editorial guideline:

- To the maximum extent possible where chapters allow it, try to link back to the proposed central framework for global value accounting – to an extended national account and BOP framework – to ensure that the handbook has an organizing framework based on the national accounts.

Broad Timeline

Mr. Landefeld outlined the following timeline:

- By the end of June, everyone can make comments or further comments on this first round on the Wiki.
- July – September – revisions are made
- End of September – produce first revised drafts
- October – on the wiki, second round of comments from Expert Group. Members are encouraged to not wait until the second round (and make their big comments in the first round).
- Nov – December 2017 – second round of revisions
- January 2018 – send to other international organizations the current drafts for their review
- Expert Group members are encouraged to keep their home countries and constituencies in the loop (policy agencies, academic experts, etc.)
- February 2018 – progress report to the Statistical Commission
- March – May 2018 – final revisions and feedback
- May 2018 – finish our draft
- June – July 2018 – final editing

Outreach for the Handbook

South Africa expressed the need to promote country outreach and to keep national and regional constituents informed. South Africa, for instance, reported that it will inform its national and regional constituents very soon by calling a regional meeting for which it may invite some expert group members to South Africa.

UNSD welcomed the suggestion for outreach by South Africa and concurred that outreach should take place not just in Africa led by South Africa, but also in other regions. UNSD reported that it will reach out to UNECE to work with its region and the members of the expert group for covering the regions of Asia and the Pacific, West- Asia and Latin America and the Caribbean.

Considerations for an UN Committee on Economic Statistics

Canada asked how the existing expert group should move forward. He observed that the tasks the group was given by Statistical Commission was to write the Handbook and to consider improved coordination in the area of economic statistics. He suggested that, moving forward, the coordination model adopted for the environmental-economic (UN CEEA) expert group could work, where there is wide participation from many developed and developing countries of which some countries are members of the Bureau of the Committee. It is the Bureau that drafts the initial agendas and work plans for the Committee and drives the implementation of the agenda with the Committee meeting annually to monitor progress and emerging issues and decide on new initiatives of the Committee. Canada further recalled that at the first meeting of this expert group on international trade and globalization, there was already an initial discussion about creating a new UN body for economic statistics for improved coordination between macroeconomic and business statistics.

South Africa asked whether a new city group could be established to advance the research agenda that could support the work of a new Committee like the London Group is supporting the research agenda of the UNCEEA. It noted that the effectiveness would depend on the enthusiasm of the participating countries of the city group itself and the leadership of the chair of the city group.

Italy noted that there previously was an OECD Globalization group but it was discontinued. He observed that a group at the global level about globalization itself is still lacking.

Mexico suggested that a series of regional workshops should be organized in explaining and advancing accounting for global value chains and the recommendations of the Handbook.

UK noted that units and classifications and asymmetries are not the work of this expert group, but it is our responsibility to highlight the issues and point out quality issues of the inputs due to issues such as asymmetries, processing services and merchanting, etc. UK further noted that work on GVCs in regions around the world has been going on for years, but this work was normally led by academics who do not have access to the microdata. UK emphasized that the impact of this Handbook is huge and will change what the international and national statistical community does, for which a clear framework need to be established by an official body to prevent people from doing their own thing.

Eurostat stated that it is very clear that the ramification of this Handbook needs to be continued with a standing expert group, citing the UNECE group at regional level working on globalisation issues Eurostat noted that there needs to be a cross-domain forum at the global level where national accountants and business statisticians work together. Their terms of reference may possibly cover the social next to the economic and environmental-economic dimension in the future.

UNSD reported that it will look into a committee on economic statistics based on the request of the Statistical Commission. He recognized that accounting for global value chains has made the case that an integrated framework for business and trade statistics and national accounting is needed, for which a committee may be needed to drive the reconciliation between macroeconomic accounting and business and international trade statistics. This reconciliation should encompass the integration of the economy with the

environment and the society as advances by the 2030 Agenda. UNSD also that while the domains of national accounts, environmental-economic accounting, international trade, classifications and prices are appropriately represented by working and expert groups, a separate expert group/committee may be needed for business statistics at the global level to coordinate methodological development, data compilation collection and dissemination and capacity building. This committee on business statistics could also cover the completion of the classification on business statistics and review the granularity of the services classification of ISIC for GVC accounting and the finalization of the handbook on business registers and related work on the GBR.

The chair noted that this expert group cannot take at every issue, noting in particular that access to finance is a broader issue; that cross border asymmetries have always been an enormous problem and there is ongoing work needed to structurally address them; and that the deflation issues related to globalization flows should be tackled. The chair underscored that the expert group does not need to solve everything and should focus on what is practical, whereby existing expert groups such as the Ottawa Group should take on the deflation issues

UNSD concurred with the need to identify and coordinate with the other working and expert groups to foster integration of the work programs of these different groups and influence them to pick up on these topics. UNSD also suggested identifying gaps, such as a lack of a coordinating body on business statistics at the global level. UNSD further noted that this expert group should develop a full research agenda building on its expertise in accounting and business statistics and share this research agenda with the existing working and expert groups.

Lead Authors' Summary of Comments

Steve Landefeld summarized the following comments and remaining work on Chapters 1, 2 and 14

- Will aim for better consistency and language, but will argue for a little bit of use of different language for different constituencies because business statisticians do not use the same language as national accountants.
- Will keep it accessible, so will tend to use a broader vocabulary
- Will explain it from the top-down not bottom up
- Will include assets and liabilities in all of the tables
- Will try to express all the perspectives regarding the meaning of extended accounts.
- Will address what a national perspective means.
- Will add more explicit links to national accounts and a breakout in GVC specific industry accounts, like the automotive example.
- Will cover basic unit of measurement and classification issues in chapters 1 and 2 in order to have a simple motivator up front and then deal with them in detail later
- Will think about how to address the application for regional integration
- Will try to update the iPhone example a new domestic content case, with Stacey Frederick's assistance. has offered to help come up with one.
- Will address why tracking portfolio investment and FDI components of MNCs are important, and what roles tax rates and subsidies have on MNCs.
- Will add distribution of income to the chapter.
- Will expand section on communication with users on global measurement.
- Looking for more specific examples of how these accounts could be used. Expert Group members were asked to contribute more non-US examples.

Ivo Havinga presented comments on Chapter 5 – Extended environmental accounts

Mr. Havinga agreed that it may be overly ambitious to include this chapter separately in the Handbook with a full elaboration of tables and extended tables. However, he maintained that GVCs do think about the environmental implications in terms of their brand, so would like to find a place like Chapter 13 where the environmental next to the social aspects can be addressed with references to the SEEA documentation.

Cornelia Hammer and Tjeerd Jellema presented comments on Chapter 6

Ms. Hammer stated that she would like to keep trade financing separate from the other section focusing on extended capital and financial accounts, but does not have a strong opinion if they are separate chapters. She

- Will give numerical examples that will make it easier to understand
- Will incorporate more about Fintech (from a separate paper she is working on)
- Will connect with the Global Forum on Supply Chain Financing in November and get insight into what they are doing and possibly get a case study
- Will produce a second draft that goes more into capital and financial accounts and DGI.

Steve Landefeld asked to incorporate the IMF's perspective on these issues, post-financial crisis.

Ms. Hammer stated that she would like other departments in IMF to be involved in the chapter, but that this may take place after September.

Mr. Jellema stated it is important to anchor the discussion of an extended framework for capital and financial accounts and balance sheets in the national accounts framework. He stated that he will collaborate closely with IMF to get all perspectives in the chapter. He will also look more at business functions in relation to production of goods; financial functions which may or may not be well reflected in the existing business function classification; and the issue of geography and tax engineering. He will also look at the extent that micro data is available on particular parts of a GVC and whether it would be possible to break out certain parts of the financing of the GVC, using more aggregate data where that level of detail is not available. He stated that he will report back on what can be done within the proposed timeline.

Stefano Menghinello presented comments on Chapter 7

Mr. Menghinello reported that there were some comments on placement of the chapter, noting that it will depend if the Handbook covers concepts first and then tools and methods later. He will await guidance on the restructuring of the Handbook.

He further reported that he will write new paragraphs about the impact of global enterprise on short term and structural statistics and national accounts and provide a lot of examples, perhaps using a business case approach or examples of generic companies (e.g., if a company does something, how will it appear in the business statistics). He further stated he will try to introduce a bridge between company behavior and short-term statistics. He noted that at the end of the chapter, he can present how the conceptual framework can be interpreted and used in a dynamic context and to highlight the need for a large cases unit.

He further stated that the chapter presents an imperfect conceptual approach partially because classifications are stable but business models change a lot. Canada noted that the business framework is not well linked to standard classifications, so that the aim should be to present an analytical framework to organize the knowledge, rather than to classify.

Steve Landefeld suggested that the chapter thinks more about how to link the new analytical structure to the old so that a consistent time series can be presented.

Michael Connelly presented the comments on Chapter 8 – Special Accounting Topics

Mr. Connelly reported that he will try to avoid duplication in the chapter and try to only introduce new issues. He will also make some things clearer, like depreciation.

Andre Loranger presented the comments on Chapter 9 – GVC Satellite Account

Mr. Loranger reported that he will add a section on the benefits and advantages of the GVC extended account approach and what it brings in terms of analytical value. He will also highlight the differences between this approach and others, in particular outlining differences between a generic extended SUTs and GVC extended accounts. He will also add more detail on the aggregate approach. He will also add more explanations on how you map to the classifications, particularly the product, industry and business functions classification.

He will also address the hurdles or obstacles you might face when trying to produce GVC extended accounts, such as lack of data and data imputation, and what some alternatives might be. In particular, he will look at using SUT or IOTs for data imputation and IO balancing when dealing with micro data.

He will also look at the possibility of producing estimates for the case study under both methods – a GVC micro data approach and from a GVC macro approach to see how different they are.

Stacey Frederick presented comments on Chapter 10 – GVC Modules

Ms. Frederick reported that it would be useful to pull in all the different data, but is not sure it is possible. She reported that the Chapter will probably be more a case study in a set of countries, but likely not with Costa Rica, Vietnam or Morocco, which were originally envisioned.

Steve Landefeld underlined that the points Ms. Frederick made in her presentation are fundamental to the understanding of a specific GVC industry framework, how they can be populated by existing data and how existing product and industry classifications should be extended to provide a functional representation of a GVC industry in a multi partner country table and accounts.

UNSD reported that chapter 10 is its responsibility and noted that this Chapter should be closely coordinated with Chapter 9. He envisions that practical case studies from Ms. Frederick and examples from developing countries should complement the work on the NAFTA case study on the automotive industry. He further indicated that he would welcome a case study for the European automotive GVC, like the NAFTA case, if the time schedule will permit it. He also noted that he would hopes to extend to the work being done in South Africa if it fits in the timeline.

Canada reported that PIPES established a common infrastructure for surveys for provincial economic statics that are linked to the SBR and tax data, which was a pre-condition for the GVC study, which can be incorporated in chapter 10.

Martin Luppés and Peter Boegh Nielsen presented comments on Chapter 11

Mr. Luppés reported that he will add more about the importance of the role of additional of microdata linking, experimental data, and how Big Data is used with firm heterogeneity issues. He will also address questions on the business population and how it is integrated in the samples. He will also link this chapter back to chapters 1, 2, 7, 9 and 14 and try to get a more specific description of integrated business statistics in the framework of extended SUTs.

Mr. Boegh Nielsen will expand the section on the integration of micro and macro statistics and have an example of introducing firm heterogeneity into the TiVA model. He will also look at more emphasis on the integration of social statistics and maybe add some examples. He would also like to include cases from non-European countries on microdata linking, perhaps from Costa Rica and USA.

He also reported that the development of classification of business functions is being done in parallel, which will be reflected in the final version of the chapter. He will also look more into the correspondence between the business function classification with existing classifications, especially on occupations. Such correspondence should further the understanding business models and the various activities undertaken by legal units in the business lines of the large cases units.

Nancy Snyder presented comments on Chapter 12

UNSD will add a section reviewing the bilateral reconciliation studies done in other countries and the lessons learned, as well as a review of OECD's techniques for reducing asymmetries. UNSD will also add a section emphasizing that the TiVA data and the results of bilateral reconciliations are experimental data and provide guidance in the Chapter to explain to users the difference between these experimental and the official statistics. UNSD will also elaborate more on the re-exports issues, as it is complicated and needs further clarification.

OTHER ISSUES

Steve Landefeld emphasized the importance of examples throughout the Handbook, to demonstrate to policymakers why these data can make a difference; e.g., you did it one way and get this result, and you did it this other way and get this result.

Eurostat reported that OECD delegated Eurostat to write a chapter 13 about TiVA, Figaro, and NAFTA. DG JRC volunteered to write a chapter 13 with Eurostat, not as a stepwise explanation of how to build extended SUTs, but more about the challenges and experiences from around the world. It could also link to chapter 14 by adding volume measures and income distribution.

UK suggested that Chapter 6 should come before the discussion on environmental issues. UK also stated that chapters 2 and 3 need to set the scene in terms of the framework, units and classifications. UK also suggested that Chapter 9 can provide the structure of the entire Handbook. UK suggested that more emphasis is needed just after the framework about how to compile a GVC and the difference between a satellite account or extended SUT. UK further recommended that Chapter 6 comes before chapter 7, followed by case studies.

UK emphasized that the discussion of depreciation in chapter 8 is really important, especially current costs and historic costs.

UNSD will discuss the chapter ordering and structure of the Handbook individually with the various authors following its consultations with the Chair and Steve Landefeld

The Chair encouraged the use the Wiki for comments and reminded lead authors to incorporate comments in the revised drafts.

Steve Landefeld congratulated Mexico on all the comments they have already made, which is reportedly due to the fact that INEGI has all of the relevant groups with INEGI reviewing the drafts.

UNSD will look into the establishment of a permanent working group/committee on economic statistics and the composition of the members of the group/committee.

UNSD further noted that the Statistical Commission already gave instructions to UNSD to create a standing committee/expert group on business statistics to meet the immediate void of a coordinating mechanism on business statistics, business registers and business classifications. UNSD noted that such a group on business statistics would build on the work of this expert group. UNSD further suggested the possibility of having a pre-meeting of the group on business statistics in Rome this year, to be followed by the first formal meeting in Mexico next year.

UNSD noted that a lot of members of the expert group have expressed the need for a permanent group to bring together national accounts and business statistics and social and environmental statistics to work on globalization, which fits with the 2030 agenda and towards integrating economic statistics. UNSD acknowledged that in the national accounts community, which is small and very specific, an expert group and an Inter-Secretariat working group has worked well, in which the international organizations guide work on manuals and implementation and the expert group responds to questions and provides input. UNSD also cited the example of the UN Committee on Environmental-Economic Accounting which takes the lead on harmonizing and coordinating the work on methodology, data, capacity building and promotion through its Bureau, technical committees and London Group. Canada noted that we need a group like the one for Environmental Accounts given the diversity of stakeholders in the broader area of economic statistics. UNSD acknowledged the need to discuss this new committee on economic statistics more broadly with countries and agencies before putting it up for consideration by the Commission.

CLOSING

The chair thanked the hosts and Steve Landefeld in his role as editor. The chair noted that significant progress has been made since the meeting in Aguascalientes. The chair thanked all participants for their contributions, noting the good discussions on the policy perspective and practical applications, which gives relevance to the work.

UNSD stated that the next meeting may be organized in Rome by the end of the year, to be followed by a meeting next year in May at INEGI, Aguascalientes, Mexico. Also the first outreach meeting may be organized by South Africa for the Africa region.