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Supplement to the report of the Intersecretariat Working Group on National Accounts

Prepared by the Intersecretariat Working Group on National Accounts

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Supplement to the report of the Inter-Secretariat Working Group on National Accounts

I. Introduction

1. The aim of this Supplement to the report of the Intersecretariat Working Group on National Accounts is to elaborate further on the issues that were raised in the main report. Section II of the supplement reflects on the research agenda of the 2008 SNA. An update on the publications supporting the implementation of the 2008 SNA is presented in Section III. A summary of activities during 2019 and expected activities in 2020, related to economic statistics and national accounts carried out by the member organizations of the ISWGNA and the regional commissions, is provided in Section IV. Section V provides further information on the reporting of annual national accounts data.

II. SNA research issues

2. To advance the research agenda of the 2008 SNA, a Working Group task force was established to formulate a way to resolve issues related to globalization, digitalization, and well-being and sustainability, as well as to identify additional research issues outside these three areas in the context of updating SNA. Ongoing research on practical topics to facilitate the implementation of SNA will continue as planned.

3. The task force reviewed research agenda items related to issues under discussion in the Advisory Expert Group¹, the list of issues presented in annex IV to the 2008 SNA and the research agendas related to balance of payments statistics, government finance statistics, environmental-economic accounting, and trade and business statistics. On the basis of feedback received from the task force and the Advisory Expert Group, a consolidated list of SNA research issues was established and grouped according to the following categories: globalization, digitalization, and well-being and sustainability; cross-cutting issues; compilation issues; and the long-term SNA research agenda. The long-term SNA research agenda (comprising issues not currently under discussion) is organized in the same categories as in annex IV to the 2008 SNA. The consolidated list of issues with a short description of each issue is provided in annex II to this supplement. The order of the issues is not intended to imply a prioritization within the categories in which they are presented.

III. List of manuals and handbooks on national accounts

Completed publications

(a) Practical Guidelines for Revising ESA 2010 data, 2019 Edition (Eurostat)

4. The guidelines released in 2019, have been prepared as a practical tool for compilers of national accounts based on ESA 2010. Their objective is to translate the voluntary recommendations on data revisions into specific practices that ensure that national accounts are accurate, reliable, consistent and comparable. Harmonised recommendations have been developed in the European

¹ See the conclusions of the thirteenth meeting of the AEG in annex I to this supplement.

Union for more than ten years, to guide compilers of national accounts and balance of payments statistics. A harmonised European revision policy (HERP) was put in place to ensure coordinated and consistent revisions between the statistical domains within each country and across the EU. The guidelines give recommendations on how to conduct benchmark revisions (or major regular revisions) of ESA 2010 data, while recommendations are also given for routine revisions. The guidelines also discuss metadata and communication of benchmark, routine and non-scheduled revisions. The guidelines provide good practices for the application of HERP at national level and show how these are being assessed in the context of ESA 2010 quality reporting and assessment. Last, Eurostat's revision policy and practices for ESA 2010 data are also presented.

(b) Overview of employment flash estimation methods, 2019 Edition (Eurostat)

5. The document provides a general overview of methods that are used in Member States for compiling employment flash estimates at 30 or 45 days after the quarter-end. It guides the compiler in the estimation process by following a step-by-step approach. The document discusses available source data, estimation procedures, model strategies, methods for forecasting missing data and the analysis of results. Description of countries' methodologies, links to available software and references to literature are included as well.

(c) European Statistical System (ESS) guidelines on temporal disaggregation, benchmarking and reconciliation, 2018 Edition (Eurostat)

6. In official statistics there is an increasing demand for indicators at a higher frequency than have traditionally been observed. Eurostat and the European Statistical System (ESS) developed these guidelines to help data producers derive high frequency data (e.g. quarterly or monthly) from low frequency data (e.g. annual) and to address related temporal and accounting constraints. These guidelines are aimed at those involved in the production and analysis of infra-annual European statistics (compiled by Eurostat) and corresponding country specific official statistics compiled by National Statistical Institutes (NSIs). They have been conceived both for experts and beginners. In order to rank the different methods, each issue is discussed following a structure with three parts: a description (free text presenting the problem), a list of options (various possibilities to deal with the specific issue) and a list of ranked alternatives (A, B, C).

(d) Satellite Account for Education and Training: Compilation Guide (UNECE)

7. In 2016, the United Nations Economic Commission for Europe (UNECE) published the "Guide on Measuring Human Capital" with the objective of pursuing the conceptual development of human capital measurement and with a particular focus on developing experimental human capital satellite accounts. As a follow up to this work, the "Satellite Account for Education and Training: Compilation Guide" has been developed. It establishes a framework for such a satellite account based on the expenditure related to education and training, discussing the methodology and the necessary data sources. The work was supported by pilot testing of the framework in five countries with different circumstances and organization of the education system, which lead to the developments of a rich set of practical examples and recommendations.

(e) Guidelines on accounting for global value chains (UN)

8. The Guidelines on “Accounting for Global Value Chains: GVC Satellite Accounts and Integrated Business Statistics” describe the concepts, accounting rules, classifications and accounts for the compilation of a set of multi-country global value chain accounts, the set of integrated business statistics methods and statistics needed for the compilation of the satellite accounts, and the analytical and policy framework that the accounts inform. The Guidelines offer a national and regional compilation perspective to the global value chain measures as compared to an analytical perspective. As such these guidelines build on reports and papers on the measurement of globalization by the United Nations Statistics Division, the United Nations Economic Commission for Europe, the OECD, Eurostat, the IMF, the Bank for International Settlements, country statistical offices, and researchers.

Publications in progress

(a) Handbook on National Accounting Backcasting Methodology (UN)

9. The “Handbook on National Accounting Backcasting Methodology” provides national statistical offices with appropriate guidelines and advice on backcasting. With the adoption of new accounting and classification standards, there is a high demand for methodological guidance in applying backcasting techniques to maintain coherent timeseries. As a comprehensive manual, this handbook reflects upon both the technical and the planning and management aspects of a backcasting project. The handbook discusses in detail the need for backcasted national accounts data, the design and management of a backcasting process, different methodological approaches for backcasting, quality assurance, and communication issues.

(b) Compilation of European annual and quarterly accounts including flash estimates (Eurostat)

10. The publication on “Compilation of European annual and quarterly accounts including flash estimates” presents an update of the estimation methodology of the GDP flash estimates for the European Union (EU) and for the euro area (EA). Firstly, it discusses more generally the compilation methodology of annual and quarterly European national accounts. After that the flash $t+45$ estimation methodology is delineated and linked to the compilation of later regular European national accounts. The paper shortly addresses the work on advancing the GDP flash estimates for the euro area and the EU to 30 days after the end of the quarter.

(c) Technical Compilation Guide for Pension Data in National Accounts (Eurostat)

11. Eurostat, in cooperation with the European Central bank, is updating the “Technical Compilation Guide for Pension Data in National Accounts”. The Guide is a handbook for compilers and users of data on pension schemes in social insurance. It aims at supporting National Statistical Institutes, Central banks and other compilers within the European Union, to derive position and flow data for pension entitlements. The guide is also a useful tool to help users to understand the data.

(d) Guidelines on consistency of ESA 2010 based national accounts (Eurostat)

12. Consistency of ESA 2010 based national accounts is ensured through the application of harmonised methodology and appropriate tools and procedures during data compilation. In November 2017, Eurostat carried out an in-depth analysis of consistency of selected datasets from the ESA 2010 Transmission Programme. Consistency between identical variables in different datasets was called cross-domain consistency. To address the situation with national data, the group of Directors of Macro-Economic Statistics (DMES) of the European Statistical System invited Eurostat to collect more information on pertinent issues of cross-domain consistency and set up a dedicated task force on ESA 2010 Cross-Domain Consistency in 2018 to propose improvement actions at national and EU levels by 2020. DMES asked that the list of improvement actions comprise a set of recommendations improving consistency under the current legal framework. The task force identified good practices at national level in this regard. The guidelines are being prepared with the objective to help national accounts compilers implement measures improving the numerical consistency of the accounts. It contains definitions, explanations, practical recommendations and examples of good practices under the existing framework of ESA 2010.

(e) Quality framework for distributional results on Income Consumption and Wealth (Eurostat)

13. The assessment of the quality of the estimation results of the distribution of income and consumption compatible with the national accounts data is necessary for users of these statistics to better understand how the results have been derived, and to make effective use of them in directing policy decisions. The guidelines define a quality assessment framework which provides guidance to the compilers of national estimates on how to evaluate data reliability and plausibility, and importantly, where to address their efforts to improve data quality.

(f) Compilation methods of non-financial sector accounts of the European Union and the Euro area (Eurostat)

14. The process of European integration made it necessary to compile a full set of accounts that reflect the European economy as a whole and enable better analysis and policy making at the European level. This was defined in European system of accounts (ESA) 2010, chapter 19.01. European accounts cover the same set of accounts, and are based on the same concepts, as the national accounts of the Member States to enable analysing and policy making at the European level. European accounts are compiled for both European Union and euro area with particular attention to resident units, rest of the world accounts and the netting of intra-European economic transactions (flows) and financial balance sheets (stocks). This handbook was prepared to provide more details on aggregation process of European aggregates. Its objective is to explain which data is used, how these data are processed during compilation, estimation methods and where the aggregates are used.

(g) Handbook on Culture Satellite Accounts (UNESCO/UN)

15. There is an ever-increasing interest in the measurement of the contribution of culture and cultural industries to economic activity and wellbeing. The Handbook on Culture Satellite Accounts provides guidance on measuring the economic dimension of culture using the 2008 SNA as the

overarching framework. Compiling culture satellite accounts will enable policy makers to develop and monitor progress of evidence-based policies regarding culture and cultural industries. The lead agency in developing the guidance on the Culture satellite accounts is UNESCO.

(h) Handbook on Aviation Satellite Accounts (ICAO/UN)

16. There is an increasing need for more information to assess the important role of aviation in national economies worldwide by governments, policy makers and industry. The Handbook on Aviation Satellite Accounts will provide guidance on measuring the impact of the aviation industry on the economy, including aviation's contribution to GDP, the number of jobs created by aviation, taxes and charges generated and impact of aviation on balance of payments, using the 2008 SNA as the overarching framework. The lead on developing the guidance on the Aviation satellite accounts is undertaken by the International Civil Aviation Organization.

(i) Manual on the Compilation of Information on the Distribution of Income, Consumption and Saving Across Households Consistent with National Accounts (OECD)

17. The Eurostat/OECD Expert Group on Distribution of Income, Consumption and Saving within National Accounts (EG DNA) has the objective to link results from micro-surveys to the relevant national accounts aggregates. The “Manual on the Compilation of Information on the Distribution of Income, Consumption and Saving Across Households Consistent with National Accounts” will discuss methodologies to adjust household data for national accounts such as grossing-up household survey result to the total population, aligning transactions in micro-surveys and national accounts, and imputing values in case of transactions that typically are not (well) captured in micro-data. It will also deal with the various subgroupings of households, and with extrapolation methods to arrive at more timely data. Finally, some examples of potential use for policy analysis will be shown and discussed.

(j) A Guide to Sharing Economic Data (UNECE)

18. The Guide analyses concrete examples of data exchange, identifies obstacles of data sharing and provides guidance, tools and principles to overcome those barriers and facilitate the sharing of economic data. The Guide touches upon the technical tools, but the focus is on other aspects of data sharing, such as, the necessary cultural change, cooperation, communication and legal considerations. These elements are a prerequisite for using the full potential of the technical tools developed, for instance, within the framework of the United Nations Global Platform for Official Statistics or as part of Eurostat's data sharing initiatives.

(k) ESA 2010 - Handbook on Data Validation (online only) (Eurostat)

19. This document analyzes in detail the reasons for the inconsistencies between the practical compilation of national accounts and the balance of payments, and develops some practical recommendations to resolve these inconsistencies and collect the views of the participating countries on their experiences to deal with inconsistencies in the data. The national accounts and balance of payments teams of the following countries participate in this document: Argentina, Brazil, Colombia, Costa Rica, Guatemala, Nicaragua, Uruguay, and Venezuela. The group was coordinated by the

Central Bank of Uruguay with the support of UNSD and the Statistics Division of ECLAC. The International Monetary Fund (IMF) and EUROSTAT also contributed in the initial stages.

(l) Guide on Harmonization Between Balance of Payments and National Accounts (ECLAC)

20. The latest version of the international statistical standards for national accounts (2008 SNA) and the balance of payments (BPM6) has ensured that the methodology and the underlying concepts for these two macroeconomic statistics frameworks are coherent. However, there are still large differences in the compilation practices between national accounts and balance of payments and there is a need to reconcile national accounts and balance of payment data to ensure consistency. To address these compilation asymmetries guidance is being developed aimed at strengthening the coordination of the adoption of the theoretical, practical and institutional aspects of the BPM6 and the 2008 SNA. The guidance will also make proposals based on good practices in inter-institutional coordination, based on the existing experience in the countries. The Guide analyzes the reasons for the inconsistencies between the compilation of the national accounts and the balance of payments. It also develops some practical recommendations to resolve these inconsistencies. It also gathers countries' points of view about national experiences to address inconsistencies in the data.

(m) Consumer Price Index Manual – Concepts and Methods (ISWGPS²)

21. The Manual represents an update of the 2004 Consumer Price Index (CPI) Manual, to incorporate changes in best practices and methods, to harmonize the CPI concepts with the 2008 SNA and to include more practical compilation advice. The CPI Manual has global outreach and the update should take into account that the manual targets producers and users in both developed and developing countries. The manual provides practical and methodological guidance to compilers and serves as a valuable resource for users of CPI data. A Technical Expert Group for the update of the CPI Manual (TEG-CPI) was constituted with international price index experts and compilers from national statistical offices. It provided drafting and review to assist in the update of the Manual. The Manual has been submitted for endorsement by the 2020 United Nations Statistical Commission (March 2020), after a global consultation of countries (October 2019).

(n) Residential Property Price Index (RPPI) Practical Compilation Guide (IMF)

22. The RPPI Practical Compilation Guide (Guide) sets out practical advice on the compilation of a RPPI following the conceptual approach described in the Handbook on Residential Property Price Indices (Handbook). Compilers have expressed the view that the theoretical content of the Handbook could be complemented by practical guidance. Participants in training courses and missions have noted that it would be useful to address the transition from less to more sophisticated methods. In 2019, with financial support from SECO, the IMF developed the RPPI Guide, that includes a description of the data sources and step by step guidance on applying methods to calculate an RPPI; an artificial database to experiment with the methods, and an IT tool to perform the calculations. The RPPI Guide builds on lessons learned during missions and training courses delivered by the IMF Statistics Department on RPPI compilation to over 80 countries. The RPPI Guide is written for RPPI

² Intersecretariat Working Group on Price Statistics, consisting of Eurostat, IMF, World Bank, ILO, OECD, and the UNECE.

compilers in statistical offices, central banks, housing agencies or other statistical agencies. It includes practical exercises on how to compile a quarterly index using the software R. The Guide also offers a synthetic database developed in-house that users can access and download free of charge. The guide is scheduled to be released in 2020.

(o) Guide on Thematic Satellite Accounts (OECD)

23. There is a growing demand for compiling satellite accounts, in particular for “thematic” satellite accounts, which provide a more detailed description of a particular economic function or theme, including its interaction with and the impact on the economy at large. Examples are satellite accounts for education and training, health, tourism, transport, aviation, non-profit sector, ocean economy, culture, etc. A major strength of such satellite accounts is that they are fully embedded in the traditional set of national accounts data, thus making it possible to analyse the impact of certain theme-related policies on economic growth, employment, government debt and deficit, foreign trade, etc. The guide aims to clarify the key steps for the compilation of a thematic satellite account, with the objective of providing support to the people engaging in the set-up and compilation of such satellite accounts, including people working outside the field of national accounts.

Planned publications

(a) Guide on the Compilation of Institutional Sector Accounts (OECD)

24. At the 2018 G-20 Thematic Workshop on Institutional Sector Accounts, it was agreed to draft a Guide on the compilation of institutional sector accounts. The drafting of the Guide will be based on the inputs from countries on their experiences regarding sources, methods of compilation and balancing procedures. The finalisation of the Guide is foreseen in the course of 2020. Countries welcomed this initiative and supported the compilation of the manual with the provision of detailed metadata on their national compilation practices. Countries also noted that in relevant cases references could be made to publications such as Understanding National Accounts and Understanding Financial Accounts, and other available material.

IV. Summary of activities during 2019 and expected activities in 2020 related to economic statistics and national accounts carried out by the member organizations of the ISWGNA and the regional commissions

Organization	Meetings, training seminars, courses, etc.
Eurostat	As usual, Eurostat held two meetings of the National Accounts Working Group, two meetings of the Balance of Payments Working Group, and two meetings of the Directors of Macroeconomic Statistics. All EU, EFTA and candidate countries are represented in these groups. In addition, two meetings with the candidate countries only are held each year. The DGINS 2019, the annual Conference of the Director generals of national statistical offices of the European Statistical System, discussed the implications of economic globalisation for national accounts and business statistics.

Organization	Meetings, training seminars, courses, etc.
	<p>In 2019, the work on the GNI MNE pilot exercise has been finalised. GNI pilots on multinational enterprises were launched in February 2018 to achieve by the end of the current GNI verification cycle in December 2019 a reasonable understanding of the reliability of the recording of globalisation issues in GNI data. The pilots concerned 25 MNE cases. The work was conducted in close cooperation with all relevant statistical domains and authorities, including NCBs. The final GNI MNE Pilot report is available; it is proposed that the recommendations included in the report would lead to an action plan, which takes into account GNI own resource needs and next benchmark revision by 2024.</p> <p>In 2019 several task forces (TF) completed their work, namely on Intellectual property products (together with the OECD), on Employment flash estimates (which led to the publication of employment flash estimation methods for the EU Member States), and on Recording and compilation of maritime transactions in national accounts and balance of payments. An expert group on Quarterly National Accounts and a Task Force on productivity indicators were established and started working. The work of a DMES Task Force on Cross-domain consistency continued, as well as regular meetings of the expert groups on Regional accounts, Pensions, European supply, use and input-output tables, Disparities in National Accounts (with the OECD), Financial Accounts and Sector Accounts (with the European Central Bank).</p> <p>Eurostat organised training courses for European participants on national accounts and on balance of payments. An "Early Warning System", established in 2018 to ensure timely detection of restructuring of multinational enterprises and its consistent recording across countries and domains, is now fully operational. Eurostat continued to receive additional voluntary data from EU Member States in 2018 to improve data availability under the G-20 Data Gaps agenda as well as for macro-economic policy-making and capturing the globalization phenomenon. Eurostat organised a satellite event on digitalization to the NTTTS (Conference on New Techniques and Technologies for official Statistics) in March 2019. Two seminars, on cross-domain consistency and on non-financial assets, will be organised in early 2020.</p>
IMF	<p>The IMF's capacity development activities focus on improving the quality of national accounts in member countries. This includes implementing the latest national accounting concepts and methods, compiling quarterly accounts, sectoral accounts and developing high-frequency indicators of economic activity.</p> <p>In 2019, the IMF undertook over 200 technical assistance activities in national accounts to about 120 countries and conducted over 35 national accounts courses and seminars with over 1000 participants. The IMF staffs full-time</p>

Organization	Meetings, training seminars, courses, etc.
	<p>national account experts in ten Regional Technical Assistance Centers (RTACs) who provide and arrange capacity development services to over 100 member countries in Africa, the Caribbean, Central America, the Middle East, and South Asia.</p> <p>In 2018, the IMF and its partners launched the Data for Decisions (D4D) Fund. The D4D Fund is expected to provide about US\$ 33 million over five years for targeted technical assistance and training. The beneficiaries are low- and lower-middle-income countries, as they tackle challenges from a demanding international data environment.</p> <p>The year 2019 marked the second year of work under the D4D Fund. The D4D fund is organized around four modules, with its largest module focused on addressing data gaps and quality issues in national account, price statistics and external sector statistics, as well as on fiscal and debt reporting. The D4D Fund’s founding partners comprise China, the European Commission, Luxembourg, the Netherlands, the Republic of Korea, and Switzerland.</p> <p>In addition, another new multi-partner vehicle—the Financial Sector Stability Fund launched in late-2017—provides capacity development on balance sheets statistics and financial soundness indicators.</p> <p>The IMF advances its statistical agenda through the annual IMF Statistical Forum, which aims to facilitate a global dialogue on cutting edge issues in macroeconomic and financial statistics. It offers a platform to build support for statistical improvements from key stakeholders, including policymakers, data users, academics, compilers and data providers. The theme of the Seventh IMF Statistical Forum in 2019 was “Measuring the Informal Economy.” It examined the different aspects of the informal economy and explored the latest research and techniques related to its measurement.</p> <p>2019 National Accounts Training Sessions:</p> <ul style="list-style-type: none"> – African Region (15 sessions) – Asia Pacific Region (11 sessions) – Western Hemisphere (4 sessions) – Europe (1 session) – Middle East and Central Asia (6 sessions)
OECD	<p>OECD/UNECE Seminar on the Implementation of the System of Environmental-Economic Accounting (SEEA), Geneva, 20 – 21 February 2019</p> <p>Going Digital: Closing Conference, Paris, 11 – 12 March 2019</p> <p>G-20 Thematic Meeting on Institutional Sector Accounts (in co-operation with the IMF), Paris, 24 – 26 April 2019</p>

Organization	Meetings, training seminars, courses, etc.
	NBS China – OECD Workshop on National Accounts, Paris, 21 – 24 May 2019
	Eurostat/OECD Expert Group on Distribution of Income, Consumption, Saving and Wealth within National Accounts, Paris, 26 – 28 June 2019
	Meeting of the Advisory Group on Measuring GDP in a Digitalised Economy, Paris, 1 – 2 July 2019
	Meeting on Measuring Prices and Volumes in a Digitalised World (together with Eurostat), Paris, 2 – 3 July 2019
	OECD Working Parties on Financial Statistics and National Accounts, Paris, 4 – 8 November 2019
	Eurostat/OECD Expert Group on Distribution of Income, Consumption, Saving and Wealth within National Accounts, Paris, 12 – 13 November 2019
	OECD/UNECE Seminar on the Implementation of the System of Environmental-Economic Accounting (SEEA), Geneva, 13 – 14 February 2020
	Meeting of the Informal Advisory Group on Measuring GDP in a Digitalised Economy, Paris, May – June 2020 (tbc)
	G-20 Regional Thematic Workshop on Institutional Sector Accounts in Latin America (in co-operation with the IMF and Banco Central do Brasil), Rio de Janeiro, 7 – 8 April 2020
	G-20 Regional Thematic Workshop on Institutional Sector Accounts in Asia (in co-operation with the IMF), place and date to be confirmed
	OECD Working Parties on Financial Statistics and National Accounts, Paris, 2 – 6 November 2020
UNSD	The Statistics Division collaborated with the regional commissions, other regional and international organizations, and Member States to organize regional expert group meetings and seminars on national accounts and economic statistics: Economic Commission for Europe in April 2019; Economic Commission for Latin America and the Caribbean in May 2019; Economic and Social Commission for Asia and the Pacific and SIAP in June and October 2019; Economic and Social Commission for Western Asia in November 2019; Economic Commission for Africa in November 2019. A number of technical assistance missions on the compilation of SUTs were conducted during 2019 in Eswatini, Seychelles and Zambia.
	The Statistics Division expects to continue its collaboration with the regional commissions, SIAP, other regional and international organizations, and Member States in 2020 to advance the implementation of the 2008 SNA and supporting

Organization	Meetings, training seminars, courses, etc.
	statistics, in particular through a focus on building capacity in Supply-Use Tables (to support the regular benchmarking of the national accounts, and on SDMX reporting (to support the timely sharing of data between member countries and international organisations).
World Bank	<p>The World Bank continues to provide technical assistance and financial support to countries and regional institutions aimed at improving statistical capacity. While the support mechanisms are broad-based, the facilities involved are used to address country-specific (as well as regional) needs, with the aim of improving the quality of national accounts estimates (through improved estimation techniques and improved source statistics), and to implement the 2008 SNA.</p> <p>More specifically, during 2019, the World Bank provided technical assistance in National Accounts to Haiti (resident advisor), Equatorial Guinea (Resident advisor and staff short visits), Kazakhstan (staff short visits), Mauritania (staff short visits), Nepal (staff short visits), Saudi Arabia (staff short visits), and Zimbabwe (staff short visits).</p> <p>WB staff also assessed the quality of newly compiled series of national accounts in Burundi, Côte d'Ivoire, Mauritania, Niger, Tanzania, and Togo.</p> <p>Through the framework of the International Comparison Programme (ICP), the World Bank provides support for capacity-building sessions at regional workshops on compilation of expenditure-based GDP.</p>
ECA	<p>Throughout 2019, efforts have been made to carry out the third phases (Phase III) of two ECA capacity building programmes (CBPs) including:</p> <ul style="list-style-type: none"> • The compilation and application of Supply-Use Tables (SUTs) • The compilation and application of Environmentally-Extended Supply-Use Tables of Energy and Forest (EE-SUTs) <p>Including conducting a series of technical missions and organizing national workshops to the pilot countries in each of the CBPs to strengthen the technical capacity of the country teams and enable them to collect the needed data and compile the related accounts and SUTs.</p> <p>The countries involved are the following:</p> <ul style="list-style-type: none"> • SUTs: Eswatini, Seychelles and Zambia. All of them will complete the compilation of SUTs in their countries in the first quarter of 2020. • EE-SUTs of Energy: Burundi, Ghana, and Nigeria. All will have completed the physical SUTs of energy in their countries for the first time by the end of 2019. • EE-SUTs of Forest: Cameroon, Morocco and Senegal. All will have completed the physical SUTs of forest in their countries for the first time by the end of 2019. Representatives of the three countries have made presentations to report the outputs and results achieved in this area to the eighth International

Organization	Meetings, training seminars, courses, etc.
	<p>Conference on Agriculture Statistics (ICAS VIII) held in New Delhi in November 2019.</p> <p>The above activities have been organized with the collaboration and support of the FAO, ONS UK, and UNSD.</p>
	<p>As an integrated part of the above CBPs, a Regional Seminar on Energy and Forest Accounts was held in Addis Ababa, Ethiopia in September 2019. All the above-mentioned six pilot countries participated alongside with Burkina Faso, which is a pilot country of another ECA CBP on compiling compendium following FDES. Experts and specialists from FAO, UNSD, and Statistics Finland also joined the Seminar.</p> <p>(https://ecastats.uneca.org/acsweb/FocusAreas/engfrst2019.aspx)</p>
	<p>Jointly with UNCTAD, a series of National Seminars on Trade in Value Added (TiVA) have been organized in pilot countries, including Ethiopia, Gambia, Nigeria, and Togo in 2019 to sensitize key national stakeholders the important roles played by tourism, transport, and financial services sectors as well as to impart the tools and techniques in measuring the target value chains.</p>
	<p>Throughout 2019, a series of technical assistance missions were conducted to the Member States including Cote d'Ivoire, Mauritania, Niger, and Togo to provide technical advice and assistance as well as to review the progress and results of GDP rebasing in these countries. The activities were carried out together and along with partners including the World Bank, IMF-Afritac, AFRISTAT, African Development Bank, and West African Economic and Monetary Union (UEMOA).</p>
	<p>In November 2019, as Phase II of the Capacity-Building Programme on GDP Rebasings, a Regional Seminar on GDP Rebasings was held in Addis Ababa, Ethiopia. 34 country representatives from 17 member States as well as experts from UNSD and Officer for National Statistics, United Kingdom participated in the Seminar. The Seminar included sessions of hands-on group exercise to help the participants to gain a better understanding of the rebasing techniques.</p> <p>https://ecastats.uneca.org/acsweb/FocusAreas/ESNA/GDPRebasing.aspx</p>
	<p>In 2020, Phase III of the Capacity-Building Programme on SUTs will be continued and complete by the first half of 2020.</p>
	<p>In 2020, Phase III of the Capacity-Building Programme on GDP Rebasings, i.e. national workshop and TA missions, will be continued and Member States will be invited to express their interest in GDP rebasing.</p>
	<p>In 2020, we will continue the project on TiVA in the pilot countries.</p>
ECE	<p>Joint ECE/Eurostat/OECD Group of Experts on National Accounts: Measuring Global Production, 10-12 April 2019, Geneva (see: http://www.unece.org/index.php?id=50361)</p>

Organization	Meetings, training seminars, courses, etc.
	Joint ECE/EFTA/Eurostat/UNSD Special Session for EECCA and SEE countries devoted to implementation of the Guide to Measuring Global Production, 9 April 2019, Geneva (see: https://www.unece.org/index.php?id=50888)
	Joint OECD/UNECE Seminar on the Implementation of SEEA, 20-21 February 2019, Geneva (see: https://www.unece.org/index.php?id=50357)
	In 2019, ECE together with Eurostat and EFTA completed the global assessments of Armenia, Georgia and Uzbekistan and, in 2020, will complete the assessment of Belarus and launch a new assessment in Kyrgyzstan. (see: https://www.unece.org/statcoop/ga.html)
	Joint ECE/Eurostat/OECD Meeting of the Group of Experts on National Accounts, 28-30 April 2020, Geneva (see: https://www.unece.org/index.php?id=52561)
	Joint OECD/UNECE Seminar on the Implementation of SEEA, 13-14 February 2020, Geneva (see: http://www.unece.org/index.php?id=47522)
	ECE/EFTA/Eurostat Regional Workshop on the implementation of the 2008 SNA: Strengthening institutional arrangements and harmonization of key macroeconomic statistics in EECCA and SEE countries (Second half of 2020, tbc)
ECLAC	The annual Expert Group Meeting on National Accounts for Latin America and Caribbean countries was held in Guatemala in May 2019. The following topics were discussed: status of implementation of the national accounts and global value chains, harmonization of the balance of payments and national accounts, quarterly national accounts, change of base year, national accounts requirements for the continuous survey approach of the International Comparison Program, Input-output matrix focused on the use of energy, use of administrative records in national accounts: limitations and challenges, and technological advances and national accounts.
	In February 2019, in conjunction with CAPTAC-DR, a training course was developed in Guatemala for Central American countries on price and volume indices for national accounts.
	In Guyana in June 2019, ECLAC organized a technical meeting to assist Caribbean countries in the elaboration and revision of the Special Surveys and National Accounts of the International Comparison Program. In July 2019, a training course was developed in Uruguay for the Central Bank of Uruguay on price and volume indices for national accounts.

Organization	Meetings, training seminars, courses, etc.
	<p>In August 2019, VIII Meeting of the Working Group on International Classifications, Tegucigalpa, Honduras.</p> <p>In November 2019, High level seminar on the future of economic statistics in LAC, Santiago, Chile.</p> <p>In November 2019, a training course for the Central Bank of Paraguay was developed, on the link between business accounting and national accounts.</p> <p>In December 2019, First Technical Meeting of the International Comparison Program 2020, Panama City, Panama.</p> <hr/> <p>The annual Expert Group Meeting on National Accounts for Latin America and Caribbean countries is planned in May 2020, Panama City, Panama.</p> <p>Activities in the framework of the new rounds of the International Comparison Programme will include workshops and technical assistance on national accounts data requirements during 2020.</p> <p>Upon request of member countries, ECLAC will continue providing technical assistance services on national accounts through the Regional Programme for Technical Cooperation.</p> <p>A training course is planned for the Ministry of Culture of Peru, on the cultural satellite account.</p>
ESCWA	<p>ESCWA organized a sub-regional Workshop on Supply and Use Tables during 5-7 November 2019 in Amman, Jordan. The workshop was conducted under the framework of improving the compilation of economic statistics in the aim of achieving a wider coverage, hence contributing to the monitoring of Sustainable Development Goals (SDGs), and falls under the project on Statistics and Data funded by the United Nations Development Account. According to international best practices in the area of national accounts, SUTs are the perfect framework for improving the inclusivity of GDP statistics for all economic activities, improving the consistency between all economic statistics and facilitating the coverage of informal activities. The workshop tackled the sourcing of data, construction of Supply and Use Tables, balancing and valuation techniques and the different software tools used. Country experiences and lessons learned were shared between the countries.</p> <hr/> <p>ESCWA developed a technical paper on Supply and Use Tables: Methodological Guide, and Application in selected countries Morocco, December 2019.</p> <hr/> <p>ESCWA collaborated with the Arab Monetary Fund (AMF) for Arab Stat 6th Meeting 6-7 Nov 2019 providing three contributions, on seasonal adjustment, on economic classifications, and on financial services accounts.</p>

Organization	Meetings, training seminars, courses, etc.
	<p>ESCWA is preparing a study along a DA project on Social Expenditure in selected countries, reviewing consistency with SNA definitions, and COFOG, and with Household surveys and SDGs- related indicators.</p> <p>ESCWA and UNSD continued the follow-up on the methodological work on Islamic Finance in the National Accounts in collaboration with the working group on sectorization and classification, the classification of Islamic financial instruments and the corresponding property income, sectorization of Islamic financial corporations and methods to calculate the output of Islamic financial services. An issues paper was prepared by UNSD to update on the progress of the work of the task force and the conclusions and recommendations to be shared with the AEG on National Accounts in December 2019.</p> <p>ESCWA is implementing the International Comparison Program (ICP) in the Arab region in its capacity as the Regional Implementing Agency. 12 ESCWA member countries are currently participating in the program and this number will increase in the 2020 ICP Cycle. The ICP aims at the production of purchasing power parities (PPPs), among other indicators, in order to measure the real size of world economies and welfare in the different participating countries. PPPs can also be used to monitor the progress made in the achievement of the Sustainable Development Goals as they enter in the computation of indicators under different SDG targets. ESCWA took the ICP further, adopting it as a permanent statistical program conducted regularly and producing PPPs on an annual basis and moved towards the integration of the ICP with the ongoing national statistical work programs, such as the CPI. ESCWA continuously develops innovative initiatives under the scope of the ICP, such as the computation of sub-national PPPs, the production of a Harmonized Consumer Price Index, the production of a Harmonized Machinery and Equipment Index and the introduction of big data sources in the price collection process. By undertaking these new activities, ESCWA aims at enlarging the statistical output produced at the national and regional levels and building national statistical capacities in the field of price statistics and National Accounts by conducting different training workshops. The following meetings were conducted under the framework of the ICP in 2019:</p> <ul style="list-style-type: none"> • Regional Meeting for The Treatment of Price Data and the Development of PPPs under the Framework of the International Comparison Program in Western Asia, 01-07 April 2019, Turkey • Sub-Regional Meeting for the Computation of HCPI Results for non-GCC Member Countries, 09-10 April 2019, Turkey • National Workshop for the Revision and Treatment of household consumption and non-household consumption price data for the UAE, 19-23 May 2019, UAE • Regional ICP Meeting for Production of PPPs and Development of Price Statistics in the Arab Region, 24-27 September 2019, Turkey

Organization	Meetings, training seminars, courses, etc.
	<ul style="list-style-type: none"> • Regional ICP Meeting for Preparation and Development of Price Surveys for the 2020 ICP Cycle, 30 September – 02 October 2019, Turkey • Regional ICP Meeting for the Validation of 2011 to 2017 National Accounts Data and Treatment of Outliers, 04-06 December 2019, Jordan
ESCAP and SIAP	<p>The Regional Programme on Economic Statistics for Asia and the Pacific (RPES) guides ESCAP’s activities related to economic statistics. It aims to enhance the capacity of national statistical systems of the Asia and Pacific to apply innovative methods to produce trusted, high quality and timely economic statistics for of the 2030 Agenda.</p> <p>The implementation of RPES is monitored through region-wide capacity screenings, carried out in milestone years. The regional results of the most recent capacity screening (2017) were published in 2018 and complemented with country overviews in 2019: http://communities.unescap.org/asia-pacific-economic-statistics/country-overview-statistical-capacity-2017.</p> <p>Other activities in 2019 included in-country technical assistance to Bhutan, Cambodia, Lao PDR, Maldives, Myanmar, Nepal and Sri Lanka on a variety of topics: import-export price indices, industrial classifications, economic census, tourism satellite accounts, training capabilities and national statistical systems’ reviews.</p> <p>At the regional level, statisticians and learning experts from the Regional Steering Group for RPES and the Network of Statistical Training Institutions in Asia and the Pacific worked together to finalize a recommended training package on economic statistics which can be used freely by national institutions wishing to deliver training.</p> <p>The training package were piloted by Lao Peoples Democratic Republic, Maldives and Nepal and is available here: http://54.238.231.32/ (note: temporary URL; to be available on SIAP’s website shortly: http://unsiap.or.jp/).</p> <p>The now well-established Asia-Pacific Economic Statistics Week also went ahead and was held successfully in June 2019.</p> <p>Asia-Pacific Economic Statistics Week, 17-21 June 2019, Bangkok, Thailand https://www.unescap.org/events/2019-asia-pacific-economic-statistics-week</p> <p>Eighth Meeting of the Steering Group for the Regional Programme on Economic Statistics (RPES), 21 June 2019, Bangkok, Thailand https://communities.unescap.org/asia-pacific-economic-statistics/steering-group-regional-programme-economic-statistics</p> <p>Training of Trainers Workshop on Basic Economic Statistics 22-26 April 2019, Bangkok, Thailand</p>

Organization	Meetings, training seminars, courses, etc.
	Regional Training on Tourism Satellite Accounts 9-11 December 2019, Bangkok
	National Training on Basic Economic Statistics focusing on the 2008 System of National Accounts 3-8 September 2019, Kathmandu, Nepal
	National Training on Basic Economic Statistics focusing on the 2008 System of National Accounts 28 October-1 November 2019, Vang Vieng, Lao Peoples' Democratic Republic
	National training on ISIC, 16-18 October 2019, Paro, Bhutan
	National Training on Basic Economic Statistics focusing on the Price Statistics 11-15 November 2019, Thalat, Lao Peoples' Democratic Republic
	National Training on General Economic Statistics, November 2019, Vientiane, Lao Peoples' Democratic Republic
	National training on basic economic statistics, Male, the Maldives, 17-20 October 2019
	January 2019: National summary reports on Economic Statistics capacity: http://communities.unescap.org/asia-pacific-economic-statistics/country-overview-statistical-capacity-2017
	Replication Studies on economic statistics – Writing workshop, February 2019, Bangkok, Thailand
	Twelfth Basic-level e-learning Course on System of National Accounts (2008 SNA): Integrated Transaction Accounts, 2 September – 4 October 2019 (online)
	Second Training Programme on Theory and Practices in Official Statistics for Monitoring Sustainable Development Goals (SDGs) (with National Accounts; Business Registers; Industry, Innovation and Infrastructure Statistics; Financial Statistics and Price Statistics Modules), 19 August to 29 November 2019, Chiba, Japan
	Country Training Course on Labour Accounts for Malaysia, 14-18 October 2019, Perak, Malaysia
	Launch of the Myanmar Statistical Business Register, November 2019, Nay Pyi Taw, Myanmar
	Fourteenth Management Seminar for Heads of National Statistical Offices in Asia and the Pacific: The Future of Economic Statistics, 10-11 December 2019, Chiba, Japan

Organization	Meetings, training seminars, courses, etc.
	<p>2020:</p> <p>ESCAP will continue to support the implementation of the Regional Programme on Economic Statistics (RPES) through trainings, expert forum, and technical assistance. The activity level by the ESCAP secretariat is expected to decline after June 2020 where current funding for the Programme runs out.</p> <p>In 2020, the Asia-Pacific Economic Statistics Week will transform into the Asia-Pacific Statistics Week which will welcome papers on topics related to the five action areas of the “Collective Vision and Framework for Action” – the Asia-Pacific statistics community’s equivalent to the global Cape Town Action Plan. More information is available here: https://www.unescap.org/events/asia-pacific-statistics-week-2020.</p>
	Training Course on Supply and Use Table, 20-24 January 2020, Chiba, Japan.
	Training Workshop: From Bhutan Standard Industrial Classification (BSIC) to International Standard Industrial Classification (ISIC), March 2020, Bhutan
	2nd Training of Trainers on Economic Statistics, 16-20 March 2020, Bangkok, Thailand, (jointly with SIAP)
	Asia Pacific Statistics Week, 15-19 June 2020, Bangkok, Thailand

V. Reporting of annual national accounts data

25. In accordance with the request of the Statistical Commission, the Statistics Division of the Department of Economic and Social Affairs of the United Nations regularly evaluates the availability and scope of official annual national accounts data reported by Member States and their conceptual compliance with the recommendations of the System of National Accounts (SNA).

26. The assessment presented in the present section is based on replies to the United Nations National Accounts Questionnaire for the last five reporting periods, i.e., from 2014 to 2018. The data are either reported directly to the Statistics Division or through the ECE, the OECD, or the secretariat of the Caribbean Community.

27. Considering the responses in any of the last five reporting periods (2014 to 2018), 95 per cent (184 countries) of the Member States reported national accounts data to the Statistics Division, which include all developed countries and 94 per cent of developing countries. An analysis, at the regional level, of the reporting by developing countries shows that all Latin American and Caribbean countries reported national accounts data, followed by 96 per cent of African countries, 93 per cent of Asian countries, and 67 per cent of Oceanic countries.

28. In the 2018 reporting period, 166 Member States (86 per cent of the total number of Member States) reported national accounts data which is higher than the 163 Member States in the previous reporting period. The timeliness of data is evaluated by the number of Member States that are able to submit data for the same year as the reporting period, i.e. 2018 data in the 2018 reporting period. Of all 193 Member States, 113 (59 per cent) submitted data for the year 2018 in the 2018 reporting period, compared to 119 Member States that submitted data for the year 2017 in the 2017 reporting period, and 112 Member States that submitted data for the year 2016 in the 2016 reporting period.

29. An analysis of the national accounts data shows that 188 of the 193 (97 per cent) Member States have implemented the 1993 SNA or the 2008 SNA up to the 2018 reporting. Of those, 94 Member States have submitted national accounts data compiled according to the 2008 SNA. All developed economies and 138 of the 143 (97 per cent) developing countries have reported national accounts data according to the 1993 SNA or 2008 SNA methodology. Specifically, 52 (96 per cent) African countries; 33 (100 per cent) Latin American and Caribbean countries; 41 (93 per cent) Asian countries; and 12 (100 per cent) Oceanic countries have implemented the 1993 SNA or the 2008 SNA. The rate of implementation by the least developed countries (LDC) and small island developing states (SIDS) have been progressing significantly, respectively with 94 per cent and 100 per cent of countries and areas having implemented the 1993 SNA or the 2008 SNA.

30. The scope of national accounts data reported to the UNSD is evaluated against a standard “minimum requirement data set” (MRDS)³, adopted at the thirty-second session of the Statistical Commission in 2001, and against the “milestone”⁴ measure, adopted at the twenty-ninth session of the Statistical Commission in 1997.

31. A total of 138 Member States (72 per cent) provide six or more tables of the MRDS and 103 Member States (53 per cent) provide seven of the MRDS tables. Milestone 2 was observed by a majority of developed countries (92 per cent) and developing countries in the Caribbean and Latin America (94 per cent) and in Asia (84 per cent). 72 per cent of African countries observed Milestone 2 in the 2018 data collection cycle. Among the sub-regions, all of the Latin American and Western Asian countries have reached Milestone 2.

32. Although the term, constant prices, has been replaced with the term volume measures, the vast majority of the Member States are still using fixed base years, hence, the reference to constant prices. Data in constant prices are not available for Eritrea, DPRK, and Liechtenstein. Over 50 Member States compile constant price data using chain linked volume measures with a fixed reference year, 19 Member States compile constant prices with the previous year’s prices. There are 67 Member States that have base years older than 10 years.

³ The MRDS is defined in the reports of the Intersecretariat Working Group on National Accounts to the Statistical Commission; documents E/CN.3/2001/7 and E/CN.3/2011/6

⁴ The milestone methodology is described in the reports of the Intersecretariat Working Group on National Accounts to the Statistical Commission; documents E/CN.3/1997/12 and E/CN.3/2011/6.

Annex I

Conclusions of the thirteenth meeting of the Advisory Expert Group on National Accounts

The Advisory Expert Group on National Accounts:

1. Expressed its appreciation for the work done by the task forces, committees, working groups and expert groups and authors of the issues papers, which allows for a better understanding of the various topics for discussion.
2. Requested that the conclusions of the 13th meeting of the AEG be communicated directly, by the Chair of the ISWGNA, to the Chairs of the various task forces, committees, working groups and expert groups related to macroeconomic accounts and economic statistics.

I. Introduction

3. Took note of the mandate and governance of the ISWGNA and AEG and the working methods of the meeting.

II. SNA Research Agenda

2.1 Overview

4. Welcomed the consolidated research agenda that provides a description of the issues broken down into priority areas, namely globalization; digitalization; wellbeing and sustainability; cross cutting issues; implementation issues; and issues on the long-term SNA research agenda.
5. Recognised the need to build momentum for progress on the work and to establish a work programme with clear objectives and a concomitant time plan for key milestones.
6. Agreed to finalise the consolidated research agenda, and to establish a set of criteria for inclusion of possible additional items, in close collaboration with the ISWGNA and the three subgroups of the Task Force on the SNA research agenda.
7. Stressed the importance of meeting user demands and having a coherent message on resolving the research issues, for which coordination between the three subgroups of the Task Force on the SNA research agenda is important.
8. Noted the need for conceptually correct solutions, taking into consideration feasibility and practical implementation.
9. Requested the ISWGNA to establish a plan for finalising the research agenda issues which is necessary for the development of a concrete time schedule to address these issues, and to determine the type of update required for the SNA.

2.2 Globalization

Objectives and progress of the sub-group on globalization

10. Stressed the need to commence work on testing the new methodologies, taking into account different statistical environments of countries; and highlighted that data sharing is critical to implement some of the solutions in practice.

11. Stressed the value of cooperation across various working groups involved in the setting international statistical standards, given the need for consistency and cost efficiency in providing guidance.

12. Recognized that the treatment of retained earnings could be considered as an additional topic on the SNA research agenda and recommended that the treatment be extended to portfolio management in line with the current treatment in respect of direct investment equity holdings.

The valuation of imports and exports

13. Recognized that the proposed valuation of imports and exports at transaction prices to address practical limitation in cif/fob adjustments may need further consideration, taking into account the various requirements; such as residency; economic interest and legal ownership; availability of source data; and the balance between using the correct conceptual treatment versus practical measurement issues.

Treatment of MNEs and SPEs

14. Agreed that identifying economic ownership, residency, and control is critical for the recording and allocation of activities of MNEs.

15. Recognized the absence of consistent internationally agreed terminologies for SPEs; agreed to conceptualize and measure SPEs taking into account different perspectives and requirements related to domestic and international transactions.

16. Welcomed the efforts of BOPCOM on the delineation and measurement of SPEs in external sector statistics; and agreed that accounting for SPEs requires an internationally coordinated effort between countries and international agencies in understanding the economic activity of firm networks of MNEs.

17. Agreed that collecting information on the global activity and organisation of MNEs, in addition to information at individual country level, is critical for understanding and accounting for the behaviour of MNEs.

Update of industry and product classifications

18. Recognised that the update of the classifications, such as ISIC and CPC, should be considered in the discussion of issues included in the SNA research agenda; and agreed to provide comments in the currently ongoing consultation for the update of ISIC.

Guide to sharing economic data, main recommendations

19. Welcomed the draft guide to sharing economic data and took note of the main recommendations. Encouraged countries to review existing frameworks and take steps to facilitate data exchange.

20. Stressed the importance of data sharing, and the need of effective solutions (e.g., the use of international meetings to share information, within the limits established by the relevant legislation) to keep the relevance and credibility of economic statistics. Underlined the need to involve national accounts balance of payments compilers and business and trade statisticians in this work.

21. Agreed to provide comments during the consultation period of the draft guide.

2.3 Digitalization

Objectives and progress of the sub-group on digitalization

22. Recognized the need for urgency and agility to resolve issues related to digitalization, as users require coherent and comparable measures of the impact of digitalization on the national accounts.
23. Agreed that issues related to data collection, the use of alternative data sources, and confidentiality need to be considered.
24. Emphasised the need for partnerships in the area of data collection, the sharing of data, and information on practices as a way to move forward and cooperate.
25. Stressed that the solutions considered should be conceptually correct, while their feasibility should also be tested, which may result in second-best options as the preferable practical way forward to address the relevant issue
26. Noted the progress of the work on digital trade and the plan to finalize the related handbook by the end of 2019, which includes practical examples from countries collected by the OECD and the IMF in surveys conducted over the last three years.
27. Stressed the importance of classifications, and the need to be involved in the current work on the update of the ISIC. For each topic, data sources, concepts and classifications should be discussed at the same time. The coordination among the subgroups and other expert groups should ensure that all the relevant questions are addressed.
28. Welcomed the suggestion to produce a paper on digital platforms to summarize the work done so far.

Framework for a satellite account on the digital economy

29. Welcomed the framework for supply and use tables on the digital economy developed by the Informal Advisory Group on measuring GDP in a digitalized economy.
30. Noted the significant challenge in the compilation of SUTs/satellite accounts for the digital economy, both for developed and less developed statistical systems. The challenges include data collection, limitations of current classifications (e.g., in breaking out digital products and digital industries), coordination among data providers, availability of resources, need of assumptions with impact on the results, and the lack of updated legislation.
31. Recognized the need to quickly respond to user demands for data on the digital economy, by providing (experimental) estimates on high priority indicators.

Recording of data in the national accounts and valuation of free assets and free services

32. Agreed that there is a need for a clearer conceptual framework for recording data in the system of national accounts, and to further address questions related to ownership, classification, and institutional units.
33. Recognized the challenge not only in obtaining the information to account for data, free assets, and free services, but also issues related to the information needed to compile price and volume measures for these items.

34. Agreed that the compilation of supplementary tables might be used as an intermediate step to respond to user needs concerning the impact of including data, free assets and free services in the system of national accounts.

Crypto assets

35. Welcomed the paper on crypto assets and asked for a second written consultation of the AEG on the proposed definition, classification and recording of crypto assets.

36. Agreed that coordination with BOPCOM on this topic should continue.

Price and volume measurement of goods and services affected by digitalization

37. Noted the difficulty in the price and volume measurement of goods and services affected by digitalization, and the need for further research, as the traditional solutions used in national accounts compilation might not be suitable in this case.

2.4 Well-being and sustainability

Objectives and progress of the sub-group on wellbeing and sustainability

38. Recognized the interest from users for more comprehensive macroeconomic measures linked to the SDGs and the 2030 Agenda for sustainable development. The importance of communication was highlighted, as well as the need to consider traditional and new users of national accounts. The need for additional data sources, such as annual time use surveys or more modern ways to collect data was also mentioned.

39. Stressed the challenges in defining what should be included in the production boundary and what should be considered in extended or supplementary accounts, for example when addressing the issues such as unpaid household activities and human capital. There should be a clear delineation of what is part of the traditional economic framework and what is to be included in the extended accounts.

40. Welcomed the inclusion of the measurement of health-related issues as a priority, building on the statistical progress made in this area.

41. Concluded that: (i) the word “extended” might be preferable to “satellite”; (ii) the need for rebranding of the SNA while striking a balance between traditional and new users is considered important; (iii) the risk of overburdening the SNA needs to be managed; (iv) the employment aspect of human capital should be considered; (v) gross vs. net measures should be considered, taking into account the quality of the data on depreciation, depletion and degradation; and (vi) it would be helpful from a promotional perspective to show the potential links between the broader framework and the SDGs.

SEEA EEA revision process

42. Took note of the latest developments in the SEEA Experimental Ecosystem Accounting (EEA) revision process. It was noted that the SEEA Central Framework and SEEA EEA may be integrated in one volume by 2025.

43. Recognized the importance given by users to the environmental and climate change issues and the need to cover these issues in the system of national accounts. The need for aligning the work of

the national accounts community with the environmental-economic accounting communities through close collaboration mechanisms was highlighted to ensure coherence between the SNA and the SEEA.

44. Stressed the challenges posed by the valuation of natural resources and the need of assumptions to obtain estimates such as the treatment of economic ownership and the accounting for externalities (which may lead to differences between the SNA and the SEEA) and the differences in the production and asset boundaries of the SNA and the SEEA.

45. Reiterated the interest of the AEG to contribute to the SEEA research agenda and proposed to review relevant issues in detail at the 2020 AEG meeting.

Linking the SNA and the System of Environmental-Economic Accounting Experimental Ecosystem Accounting

46. Recognized the challenges in the valuation of ecosystem services, and the consequences for valuing ecosystem assets in macroeconomic accounting frameworks.

47. Took note that the asset boundary of the 2008 SNA includes cultivated biological resources that are controlled by institutional units, while assets that are not controlled are outside the asset boundary. This delineation of produced vs. non-produced assets is not fully clear, possibly resulting in diverging implementation across countries.

48. Took note of the two options for recording output and use of ecosystem services: (i) allocate output and use to a separate sector “ecosystem”; (ii) allocate output to the economic owner (which may be difficult to identify in some cases), while allocating the services derived from ecosystem assets for which no clear ownership can be established to a collective group of units, i.e. a kind of public sector. Most AEG members expressed support for the first option. However, there are some provisioning services already included in the 2008 SNA and allocated to specific economic units, which would create problems in applying the first option.

49. Concluded that there are several challenges to be addressed for the measurement of ecosystems in the accounts which need further discussion: (i) the distinction between produced vs. non-produced assets; (ii) the ownership of assets; and (iii) the allocation and recording of social transfers in kind.

50. Agreed to share their comments and remarks on the paper in written form after the meeting.

Accounts for renewable energy assets

51. Expressed interest in the work on accounts for renewable energy assets and noted that the SNA does not provide guidance on these assets, because the ownership of atmosphere for the generation of energy through wind or solar power was not clearly defined; noted that the asset boundary could potentially be extended with renewable energy assets, although there was no consensus among AEG members on the latter issue; and also stressed the challenges regarding the volume measurement of renewable energy assets.

52. Noted that clearer guidance is needed on the recording of renewable energy assets and related services and agreed that a written consultation on the proposals in the paper would be conducted after the meeting.

III. Update of the 2008 SNA

Update procedure for the System of National Accounts

53. Noted the SNA update procedure established by the Statistical Commission in 1999 and agreed that the types of amendments (editorial, clarification, interpretation and change) are still relevant for the discussion of an update of the 2008 SNA.

Summary of emerging issues from globalization, digitalization, well-being and sustainability

54. Noted that some recommendations may lead to changes in the SNA, while other recommendations could be considered as interpretations or clarifications.

55. Requested the sub-groups of the task force on the research agenda to categorize each issue as to whether recommendations will most likely lead to a clarification, interpretation, or a change of the key concepts and definitions of the SNA.

56. Noted the need to reflect the work done so far in the next report to the Statistical Commission, and requested the ISWGNA to present a high-level planning with key milestones of the outputs of the work of the subgroups, the finalisation of the consolidated research agenda, including the categorization of issues, an overarching strategy towards updating the 2008 SNA; and that a potential SNA update will require substantial resources and contributions, both in kind and in cash, from countries.

57. Stressed the need to formalizing the collaboration arrangements with other working groups to address the harmonization among the several statistical areas and related economic statistics manuals and classifications.

58. Agreed that an incremental update of the SNA poses risks in terms of the SNA coherence and international comparability, but that the provision of further guidance for the various research issues can be made available on an incremental basis. This would also allow countries to experiment with implementing the new guidance, which would make the actual implementation of an updated SNA much smoother.

Options to consult users on a potential SNA update

59. Noted the need to involve users on a potential SNA update, and the possibility of using different channels for their consultation (e.g. existing meetings, written consultations, national and regional events, and a global user conference).

60. Recognized the challenge in collecting and organizing relevant contributions and agreed that a targeted audience of national accounts and related macroeconomic accounts users should be consulted, focusing on conceptual and practical issues that are relevant to that specific group, and called for a clear communication on what is expected from the users.

61. Stressed the need for using digital channels, such as webinars; other modes of written consultation over the internet; the possibility of using meetings of the user community not directly related to macro-economic statistics (e.g. meetings on the 2030 Agenda); the need to organise regional meetings for developing countries, recognizing that funding to attend such conferences may be limited; and using national channels to liaise with users.

62. Welcomed the above proposals but viewed a global users conference as not cost effective.

Friends of the Chair Group on economic statistics

63. Noted the work of the Friends of the Chair on economic statistics related to the coordination of updating the system of economic statistics, and the statistical infrastructure, institutional arrangements and the governance arrangements for the system of economic statistics.

64. Requested to be informed on the feedback received from the regional consultative meetings with the heads of NSOs and regional agencies on the update of the system of economic statistics.

65. Welcomed the initiative of the Friends the Chair on economic statistics, recognized that coordination and communication between various expert groups on economic statistics could be enhanced using existing mechanisms and agreed to respond to the consultation questionnaire through their respective offices.

Re-branding the SNA - Some thoughts on how we can use the next update to better communicate the SNA to our users

66. Recognised that the brand recognition of the SNA is perceived to be strong, although currently less effectively communicated.

67. Stressed the need for a more user-friendly terminology but also recognised the challenges in finding a common terminology which would fit all users.

68. Recommended that a fourth sub-group of the research agenda task force be established to provide guidance on the branding of the SNA and a communication strategy for the update of the SNA

69. Agreed with the proposal to develop a digital version of the SNA, and a need to significantly invest in the enhancement of the current SNA website, which would need to provide a one-stop access to inter alia the international standards for compiling national accounts, guidance on the compilation of national accounts, implementation tools, ongoing research, information on relevant meetings and conferences, a discussion platform, etc. In this respect, reference was made to the SEEA website, while it was also recognized that the development and maintenance of such a portal would require significant (financial) resources.

Update on classifications (ISIC Rev.4, HS, BEC, business functions, SITC)

70. Noted the ongoing work related to the family of classifications (ISIC, HS, BEC, and SITC).

71. Stressed the importance of coordination between the SNA update and the updating of the classifications, particularly the ISIC (statistical units to be considered, treatment of FGPs, application of new technologies etc.) and CPC.

72. Requested the ISWGNA to prepare a response to the consultation on the update of ISIC Rev. 4 in consultation with the AEG.

IV. Implementation of the 2008 SNA

Progress with the implementation of the 2008 SNA and a nuanced approach to assess compliance to the 2008 SNA; A framework for recording and communicating revisions

73. Noted that only about 94 countries have implemented the 2008 SNA, expressed concern about the scope and timeliness of national accounts in quite a number of countries, and stressed the importance of having relatively recent benchmarks or base years, the latter being considered much more important than incorporating SNA concepts that are less relevant for a specific economy.

74. Stressed the need for standardized metadata and guidance on revisions, to increase the transparency for users and the importance of having more objective information on the compliance of countries' national accounts with the international standards (e.g., scoreboard on conceptual adherence), building on the already available frameworks such as the MRDS, SDDS and DQAF.

75. Recognised that the relevance and the practical feasibility of the various parts of the system of national accounts is not the same for all countries, and these differences may need to be reflected in some way when assessing compliance.

76. Noted the need to strengthen collaboration among the international organizations, to explore ways to exchange information on the implementation status of the (2008) SNA, thereby acknowledging the importance of not overburdening countries with requests for metadata.

77. Stressed the need for a better communication on revisions, including the development of strategies for different groups of users, and recognized the importance of terminology in framing revision (e.g., replacing the term revisions with the term updates).

Implementation of Quarterly National Accounts and High Frequency Indicators – a status report

78. Noted the status of implementation on quarterly national accounts and the work done by international agencies in supporting the implementation of quarterly national accounts and high frequency indicators.

79. Recognized that the development of quarterly national accounts and high frequency indicators depends on the statistical infrastructure and the priorities of users.

Impact of IFRS 16 on leases

80. Noted the potential impact of IFRS 16 on leases on the data available from financial statements for the monitoring of relevant transactions and positions in the system of national accounts.

81. Requested a written consultation to provide further guidance on this topic.

V. Other Issues

Draft guide on thematic satellite accounts

82. Welcomed the guidance for the development of thematic satellite accounts, and the ten steps in defining thematic supply and use tables.

83. Stressed the lack of resources in national statistical offices to address all the requests to develop satellite accounts and the need to prioritize the development of satellite accounts, but also recognised the importance of satellite accounts in broadening the community of users of national accounts.

84. Recognized the advantages of involving subject matter experts in developing and compiling satellite accounts.

Measuring the Informal Economy

85. Noted that the Seventh IMF Statistical Forum on Measuring the Informal Economy will take place in Washington DC, 14-15 November 2019.

Information items

86. Agreed to provide written responses to the agenda items for which there was not enough time for discussion at the meeting: Developments in business and trade statistics; Briefing on the meeting of the IMF Government Finance Statistics Advisory Committee; Main methodological changes and consultation on the draft Consumer Price Index Manual: Concepts and Methods; Islamic finance; and Manuals, handbooks.

Annex II

SNA research agenda

A. Introduction¹

1. The consolidated list of SNA research issue is based on the feedback from the SNA research agenda task force and the AEG. The order is not intended to imply a prioritization within the categories. Following the introduction in Part A, the priority areas for the research agenda are presented in Part B in five sections. Sections I to III list the issues related to Globalization, Digitalization and Well-being and sustainability; Section 4 is a list of cross cutting issues; Section 5 present relevant compilation issues. Part C reflects issues on the long-term SNA research agenda in the categories presented in annex IV to the 2008 SNA.

B. Priority research issues

I. Globalization

1. Economic globalization has created new opportunities for businesses to organize their production chains more efficiently. This has increased the complexity of compiling economic statistics as it is more difficult to break down production activities on country-by-country basis. As a result, the measurement of key economic indicators, including gross domestic product, has been affected. Emerging global production arrangements pose challenges to business and macro-economic statistics, business registers and economic classifications. These challenges include implementation of the principle of economic ownership, especially in relation to intellectual property products, and the recording of cross-border transactions in goods and services in compiling national accounts and balance of payments statistics.

1) A typology of global production arrangements

2. Update the typology of global production arrangements with emerging types of global production arrangements and to test the usefulness of the existing typology on the basis of new case studies. The typology facilitates the international comparability by helping national accountants and balance of payments compilers to determine: a) The roles of the various actors in a global value chain; b) Who are the economic owners of inputs, outputs and assets along the production chain; c) The nature of transactions taking place inside the global value chain. Further work is needed on the global production in the domain of services, particularly the business models followed by so-called international service arrangers and international value chains of services.

3. Updating and advancing the typology require that national accountants and balance of payments compilers continue to closely cooperate with economic classification experts, business register specialists and experts in the field of the most relevant source statistics (e.g. business surveys, foreign

¹The document 'System of National Accounts: Development since 2008' provides information on all issues that have been discussed and agreed upon since the 2008 SNA was released, as well as issues that are currently under deliberation and provides useful background document when analysing the SNA research agenda. The document is available at: https://unstats.un.org/Unsd/nationalaccount/docs/SNA_Since_2008.pdf

affiliates statistics (FATS), foreign direct investment (FDA), international merchandise trade statistics (IMTS), statistics of international trade in services (SITS), research and development (R&D)).

2) Factoryless goods producers and recording of their transactions

4. Factoryless goods producers (FGP) are producers outsourcing their manufacturing activities but owning the underlying intellectual property products (IPP) and controlling the outcome of the production process. This type of arrangement is becoming more and more widespread and it raises the issues of: (a) the delineation and classification of factoryless goods producers; and (b) the correct recording of transactions between those producers and contractors. If determined to be a merchanting type transaction, since FGPs value creation reflects the inclusion of IPP (including brand value) it would be preferable to at least separately identify merchanting transactions where the value creation largely reflects distribution activities from those where the value largely reflects IPP, perhaps adopting new terminology.

3) Merchanting

5. The merchanting of services payments should be re-routed through the service recipient. The proposed treatment assumes that the receipt of the services changes the productive capacity of the recipient, which would be reflected, in part, in the market value of the equity of the recipient. Where the third party facilitates the provision of the service and receives a commission, this should be treated as the provision of an “other business service” by the third party, provided to the payer of the commission. Where the third party bundles the services with other services, or transforms them before provision to the final recipient, then these services would be treated as an import of services by the third party from the service provider and an export of services to the final recipient

4) Special Purpose Entities and identifying economic presence and residency

6. The use of special purpose entities (SPE) structures has increased in a context of multifaceted and flexible multinational enterprise (MNE) structures to obtain benefits from different legal and tax regimes which allows them to maximize profits after taxation. Identifying separately SPE activities is essential for market analysts and policy makers to analyse cross-border interconnectedness and understand the associated risks.

7. In a context of increasing globalization, SPEs have evolved beyond those structures anticipated in the current statistical manuals. While originally SPEs were mostly set up by financial institutions, they have evolved to include nonfinancial specialized entities established by MNEs to manage intellectual property rights, research and development, trade, and other activities as part of the group-wide financial and profit maximization strategy. Considering the evolving nature of SPEs, there is a need to develop further guidance on SPEs beyond what is in the current statistical manuals.

8. While there is not an internationally agreed SPE definition across all statistical domains the IMF’s BOPCOM Task Force on SPEs (TFSPE) proposed an international definition of SPEs in the context of cross-border statistics so that cross-country comparable data can be collected (BOPCOM 18/03). This definition has been adopted by BOPCOM and initial data collection will begin by the end

of 2021 (for reference year 2020). The ISWGNA's Task Force on the SNA Research Agenda: subgroup Globalization could study the extent to which a modified version of the proposed definition could be used for domestic-to-domestic relationships (such as those between central government and state-owned SPE-like enterprises).

9. A review of whether SPEs can be considered as separate institutional units from their parent companies may be needed. Currently, the residence of an SPE is determined according to the economic territory under whose legal jurisdiction the entity is incorporated or registered. If the entity is legally located in the same economy as its parent, the entity is (usually) combined with the parent and not recognized as a separate institutional unit because it does not satisfy SNA criteria for an institutional unit. However, if the entity is legally located in an economy different from its parent- by convention- the entity is recognized as a separate institutional unit. Some have called for a review of the residency principle as applied to SPEs and instead to reclassify the SPE to the economies of their parents.

10. As discussed in Moulton and van de Ven , there are two related reasons why the international standards currently treat SPEs as being resident in the economy in which they are legally registered. Firstly, only this treatment would be consistent with the actual cross-border cash flows resulting from economic transactions. Secondly, rerouting the transactions of SPEs would require a massive international exchange of individual data between statistical offices, which is not possible given existing legal constraints.

5) Economic ownership of Intellectual Property Products (IPPs)

11. A strict recording of international transactions on a transfer of economic ownership basis (as opposed to legal ownership) can be challenging in the following cases:

a) The parent may assign legal ownership of IPPs to SPEs which otherwise do not contribute to the MNE's production activities. National accountants will not easily be able to deviate from such legal arrangements. Usually they will be forced to follow reported earnings on IPP investment, despite the fact that these SPEs may not be considered as the economic owners according to the 2008 SNA principles. These "artificial" IPP services need to be identified in the national accounts or balance of payments, for example by presenting them in supplementary tables, to inform users about the significance of these flows (see issue 1 above).

b) Recent work of the IMF's Task Force on SPEs put forward a proposal to collect supplementary information on SPEs for a reduced number of BOP and IIP components beyond direct investment activities. As transactions in goods would be relevant for merchanting SPEs, a separate line for net merchanting by SPEs is included. Regarding services, four distinct components of services have been included in the reporting list where SPEs can be of relevance: transport, financial services, charges for the use of intellectual property, and other business services. National accounts compilers should also consider whether the supplementary information meets their needs or whether additional information may be necessary. An additional complication is the intellectual property products (IPPs) and the

measurement of 'intangible production', where the generation of mobile assets involves little or no physical presence (which is also tied to what constitutes a resident institutional unit under issue 1).

c) Even when MNEs do not use SPEs as the legal owner of their IPPs, the principles of economic ownership of IPPs are difficult to apply inside multinational enterprises. The intangible nature of IPPs means that once they are produced their ownership and use are not easily observed since IPPs are not physically constrained and are non-rivalrous in nature. In other words, where IPPs are produced, used, and owned do not necessarily occur in the same country. This provides significant freedom for MNEs because the use of the IPP by one part of an enterprise group does not prevent the simultaneous use by another part and that the legal ownership of IPPs can be placed anywhere amongst the group. Various options for recording of IPPs have been discussed. Currently, the guidance states to record a change in economic ownership when a financial transaction between two institutional units occurs, which corresponds to a change in legal ownership.

d) The recording of what entity is the economic owner of the intellectual property product also has implications for how the related charges for the use of the intellectual property is recorded. Since intellectual property (e.g. R&D) is often considered corporate property, payments for its use may not always be observed separately and may instead be shown as distributed or retained earnings from Foreign Direct Investment.²³

e) Lastly, the typology of global production as discussed in the Guide to Measuring Global Production uses ownership of IPPs as one of the criteria in classifying certain global production arrangements. Implications on the recording, especially for factoryless goods producers, needs to be borne in mind when determining the economic ownership of IPPs (tied to issue 1 & 2 of this paper).

6) CIF/FOB recording of imports and exports

12. The CIF/FOB recording of imports and exports in the national accounts and the supply-use tables is in practice difficult due to data limitations. It is argued from conceptual viewpoint that the CIF/FOB recording seems to contrast the actual economic state of affairs and should therefore be replaced by a recording of goods imports and exports at actual transaction values. While the 2008 SNA introduces several important improvements, compared to its predecessor (1993 SNA) with respect to recording of imports and exports at a strict transfer of ownership basis (e.g. goods sent abroad for processing, merchanting), the required FOB recording seems to deviate from its general recording principle of actually observed transaction prices. The 2008 SNA recording of CIF/FOB may lead to mistakes in the trade balance when such recordings are not according to actually observed transaction values. CIF/FOB recording adjustments are not according to the general SNA principle of recording on ownership transfer basis as they require adjustments of services flows as actually observed. The

² <http://www.unece.org/index.php?id=42106>

³ Some have even called for the payments for the use of IPPs to be recorded as income rather than payments for services.
<http://www.iariw.org/copenhagen/lynch.pdf>

asymmetries in international trade and CIF/FOB valuation of imports and exports need further work and should be included in the research agenda as a priority issue to be resolved in cooperation with balance of payments statistics experts.

7) Price and volume measurement related to globalization

13. Price and volume measurement in light of globalization is should be adapted to some of the key characteristics of the output of global producers. Inevitably this work will require the engagement of price statisticians. Representative producer prices indices (PPA) as laid down in the Producer Price Index Manual (PPIM) 2004 and the Export and Import Price Index Manual (2009) are essential in this context. Global production may involve (imports and exports of) goods and services which have different characteristics than those typically produced for the domestic market. The following list of goods and services should be part of a future research agenda on price and volume measurement in the context of global production:

- a) Industrial processing services;
- b) The output of principal and contract producers in an FGP arrangement;
- c) Trade services in connection to merchanting;
- d) Head office services;
- e) Other intra-company services;
- f) IPP related services (specifically R&D); and
- g) Inventories held abroad.

8) New data sources needed to measure global production

14. The changing accounting conventions between the 1993 and 2008 SNA, and differences between the fifth and sixth editions of the BPM, with respect to recording processing of goods owned by others, merchanting and FGPs are well understood. However, the required modifications in data collection are not always straightforward. Reconciling IMTS statistics with the imports and exports required in national accounts and balance of payment involves several steps for inward and outward processing, merchanting and factoryless goods production, each with its own data requirements. Depending on circumstances in individual countries, these data may not be readily available and adjustments in data collection are recommended. More specifically, the additional data needs relate to:

- a) Identifying import and export of goods in IMTS statistics which are not subject to transfer of economic ownership (goods sent abroad for processing or repair) and which should not be recorded as imports and exports in the national accounts or balance of payments. In addition to processing other corrections in IMTS may be needed, particularly when shipped goods are not subject to change in ownership (e.g. goods sent for repair).

b) Identifying purchases and sales of goods abroad which need to be recorded as imports and exports in the national accounts and balance of payments, but which remain unobserved in IMTS statistics, as these goods do not physically cross the borders of the domestic economic territory.

c) The design of business surveys should be such that the principle of ownership, and not that of territory, is used as a key concept in questions on inventories held by the surveyed unit. Changes in inventories of goods held abroad need to be recorded in supply and use tables. Similarly inventories held abroad need to be recorded in the national balance sheets. The explicit recording of inventories held abroad (apart from domestically held inventories) is also recommended for measuring trade margins correctly (excluding holding gains or losses).

d) The data collection on international trade in services is a challenge in many countries. It is advised to include explicit questions about intra-group services in international trade in services surveys, depending of course on the relative size of MNE activities and related output or consumption of intra-group services. Respondents of MNE affiliated companies could be asked to report payments as contributions from affiliated enterprises for management services, which are not reported under any other heading. The refined classification as presented in MSITS 2010 provides a solid point of departure. The funding questions in the R&D survey are considered a second-best alternative to obtain information on R&D related international trade flows.

15. In many countries, a sound coverage of the items above requires expanding the scope of existing surveys. Aspects of global production may be difficult to measure with existing sets of source statistics, or may even remain unobserved altogether (e.g. transactions in goods under merchanting, inventories held abroad). Yet, many NSIs are facing strong constraints in this regard. The optimal use of existing data may be the only feasible way forward. One important step in this direction is data validation by bringing together, and reconciling, the results from business surveys, merchandise trade statistics and the international trade in services statistics. This should preferably be done on the basis of an integrated business register that allows bridging the statistical business register and the customs register. It is also recommended to utilize existing customs data or information from the tax authorities to the fullest extent.

16. This is more of a measurement issue; however practical constraints may have an impact on guidance.

9) Nationality concept / Extension of IIP on a nationality basis

17. There is need to (re)consider whether it is useful to introduce a nationality concept (domestic companies versus foreign companies) in BOP/IIP. Such a distinction is likely to serve user needs (in particular at national level) in a globalized world. There have been discussions on the definition of the residence criteria, however no discussion on managing the duality residence/nationality within the BOP- IIP framework. More generally, evidence of the complementarity of the two concepts

(residence/nationality), notably to analyze financial stability as well as better understanding the passage from GDP to GNI or the value of conventional IIP.

10) New methods to measure global production

18. Large and complex enterprises units (LCU), which were set up in recent years by several NSIs can be efficient in collecting and compiling data on the largest and most complex MNEs in a consistent and effective way. Typical LCU activities include integrated data collection (including register data), data compilation and consistency analysis. In the context of further improving the performance of LCUs, the sufficient cooperation mechanisms and collaboration among producers of statistics, both nationally and internationally need to be developed. Issues related to global production may oblige NSI's to combine efforts in completing their views on MNEs and global production and international trade more generally. The following areas of further development are relevant:

- a) The development of common international business registers for the most complex MNEs (such as the Euro Groups Register) will assist in assigning the economic activities of the enterprises on a country-by-country basis in a mutually consistent way. Such registers may become the platform supporting the production of statistics on globalization based on micro data and may assist in identifying the economic relationships and transactions taking place between the various member units of an MNE. The Guidelines on Statistical Business Registers (UNECE, 2015) provide recommendations and practical guidance on establishing and maintaining statistical business registers, targeting both developed and less developed statistical systems. The Guidelines also give some instructions on how to handle MNEs and enterprise groups in a systematic way. However, further work to address issues related to globalization and particularly aspects of global production is needed and has been brought into the future research agenda on statistical business registers.
- b) Improving the recording of intra-company services flows of MNEs in international trade in services statistics could be a joint effort by NSIs. The IPP ownership decision tree shows that the producers of IPPs are much easier to identify than the users. When the producing and consuming units of intra-company services are not situated in the same country, the observation and recording of international flows of intra-company services should preferably be coordinated between the NSIs, at least for the largest MNEs, in order to avoid asymmetries in trade statistics. Confidentiality policies and existing restrictions to data exchange have to be taken into account. Further work is needed to explore the possibilities for exchanging micro data between NSIs strictly for statistical purposes such as data validation. International organisations should consider what role they could play to facilitate this process.
- c) There is a need for a permanent forum where country experts could share information and experiences on measurement issues related to global production arrangements. Globalization will continue to lead to new global production related issues that have not been examined so far. Such a forum could support stocktaking of new cases, identifying best practices and further harmonization of accounting practices.

19. This is more of a measurement issue; however practical constraints may have an impact on guidance.

11) Analysing global value chains and trade in value added amplifies the need of high-quality statistics on global production in national and international accounts statistics

20. One key requirement of carrying out input output analysis for measuring trade in value added is reconciling trade statistics with input-output tables at bilateral level. Key in this process is avoiding (or otherwise eliminating) asymmetries in trade statistics. In addition, the analysis of global value chains requires that national statistics build in a global dimension from the outset. This could be done by developing aggregations, not only on the basis of industrial classification, but also on the basis of business functions, for example by showing separate sub-groupings of processors, FGPs, foreign owned firms, etc. Doing so would allow countries to construct supply-use tables, broken down by these new groupings, that would certainly have a higher degree of homogeneity, compared to aggregations which focus only the industrial classification of firms, where there exists considerable heterogeneity. This supplementary classification, which is expected to help identifying the business functions along the global value chain, is an issue for future research.

21. This is more of a measurement issue; however practical constraints may have an impact on guidance.

22. Examine the possibility of breaking down BOP goods and services account by enterprise characteristics, such as industry, nationality (foreign owned/domestically owned) and firm size. To increase the relevance of the current account (including both goods and services as well as primary income) for the analysis of globalization, information on the characteristics of the enterprises involved in these transactions is highly useful.

II. Digitalization

23. In recent years, macroeconomic analysis has become increasingly challenging due to rapid quality improvements and product innovations. Although many of these changes are driven by globalization and increased international competition for labour and management, the most prominent driver is technological innovation. The effects of this innovation include sharply lower prices and increased efficiency in computers, cell phones, and the Internet; new goods and services; innovations in financial markets and new methods of payment; and reductions in costs and improvements in quality and efficiency associated with the use of technology. This new phenomenon is often described in terms such as the Internet age, the information technology (IT) revolution, Internet economy, the digital economy and the sharing economy.

24. The understanding of the size of digital economy can help in understanding changes in the economy and ultimately also better understand the role of digital economy for development. This relies on a sound statistical measurement of the digital economy which has intrinsic challenges that are being discussed by national accounts experts at national and global level. In addition, the rising popularity of Big Data presents the statistical community with a potentially rich data source for tackling the measurement challenges posed by the digital economy.

12) Satellite framework for the digital economy.

25. Attempts to measure the digital economy and efforts to derive various indicators contained within it have been limited to delineating a range of industries and products and labelling them as “digital”. However, the proposed digital supply and use tables aims to capture, in a more systematic way, the production chains and value added of the units involved within the digital economy. This includes activities of digital intermediary platforms, the producers that rely on them, online only retailers (digital trade and e-commerce) and producers as well as businesses that provide free digital services such as social media. It also provides details on how the digital supply-use tables would operate; including more precise definitions on the digital industries and products distinguished. The proposal attempts to strike a balance between what is practically possible and statistically informative. Not all data required to populate the cells will be available immediately, but much will be, allowing countries to begin to create internationally comparable estimates of activity within the digital economy.

13) Household production and consumption of digital products

26. The pervasiveness of Internet access by households has blurred the traditional boundary between household production for market purposes, own account production, consumption, and leisure. Households are increasingly involved in transactions which previously would have been carried out through an intermediary. In other words, households are increasingly engaged in activities that would previously have been included in GDP. Although the scale of this ‘digitalized’ participation activities is likely to be significantly less than those for other non-market services outside the SNA production boundary, the inclusion of estimates would remain distortive and would require a subjective view on the price of the activity.

27. The sharing economy has resulted in the increased household participation in the form of unincorporated enterprises in informal activities. This raises questions on how to delineate dual use consumer durables and fixed assets. A specific example would be an individual using his car both for personal use (which would count as a consumer durable) and to drive for a ride sharing company (which would count as a fixed asset). The SNA does not provide prescriptive guidance on how durables should or should not be included as investment when they are also used for production purposes. A better understanding of how economies make the relevant distinction and the source information used will be needed to understand the impact on the national accounts.

14) Free digital products and services

28. The digital economy has spawned free digital products which may be produced by volunteers, by consumers themselves or by platforms which are funded by advertising revenue and the collection of user data. The increase in household welfare from these products may not be adequately measured in the national accounts. Thus, there is a need to develop indicators of welfare from these products which are outside the boundaries of national accounts. These indicators could address issues such as the impact of digitalization on the welfare of different segments of the population, and how digitalization has changed the way households use their time. Households have been receiving free

goods and services even before the advent of the Internet. An example is free media services (television and radio) financed implicitly via advertising. However, digitalization has sharply increased the scale of free or subsidized products. It has also created new complexities such as financing via the acquisition of Big Data in addition to the traditional model of financing via advertising.

29. Conceptual difficulties emerge when considering the creation of ‘public goods’ using labour provided for free, and where financing is typically only provided by donations (Wikipedia and Linux are two well-known examples). The activity of creating these assets is (correctly) not included in GDP and the assets have a zero value, although the assets are valuable to users. A better understanding of the economic benefits (and impact) through satellite accounts, in particular to households, but also to businesses would enable an assessment of the potential consequences on estimates of multi-factor productivity that occur when paid for assets is substituted by free assets.

15) The role of data and the SNA asset boundary

30. Data have always had a central role in business decision making. Businesses strive to gather data on customers, to improve products and processes to enhance productivity, improve performance, and increase profitability. As storage and acquisition costs decreased and processing capacity (software, IT hardware) increased this led to an explosion in data accumulation. The simple fact that the data is in electronic form allows it to be analyzed for insights and decision-making at an unprecedented scope and scale. In some sense data itself has been transformed: it has become digital data. This digital data has allowed for new information/knowledge creation that could not have been done if the data were not in digital form. Consequently, digital data is becoming another factor of production and Bean (2016) states that it is analogous to physical and intangible capital.

31. The 1993 SNA introduced the notion of databases, with further clarifications provided in the 2008 SNA that specified that databases should reflect only the value of the underlying database management systems and the costs associated with the digitisation of data. This recommendation reflected the view that the underlying value (information content) associated with the data itself should not be capitalised because to do otherwise would indirectly open the door to the capitalisation of knowledge), , and as such, their contribution, as a factor of production, is de facto invisible in the accounts. Recent years have seen an explosion in the generation of data, and the use of data, notably in advertising-based business models, raising questions about the ‘invisibility’ of data in the accounts. There is a need for guidance on the treatment of data as part of the asset boundary or not; if it is a produced or non-produced asset; and the valuation of data

16) Price and volume measures related to digital products

32. The digital economy has increased the ability of consumers to purchase customized goods and services. This makes it more difficult to control for quality differences when comparing prices. A more important challenge is how to capture the price changes arising from the shift to the digital economy so as to produce better quality GDP volume measures. For example, to the extent that Airbnb rooms are of higher quality than comparable hotel rooms, the use of a price index that only

captures hotel rooms will fail to capture the switch to cheaper Airbnb rooms and underestimate the total volume of accommodation services.

17) Crypto assets

33. With the rapid development in issuance and use of crypto assets for transactions, there is a need to develop guidance on the treatment of crypto assets and of compilation techniques, including data sources. Further research is needed on the recording of crypto assets with particular emphasis on their use as medium of exchange or store of value. Recording guidance currently developed for crypto assets are considered as interim, pending clearer future developments of crypto assets (e.g. regulatory measures).

III. Wellbeing and sustainability

34. The SNA provides the overarching framework for the measurement of the macroeconomic activity via a set of interlinked coherent accounts. By its very nature the SNA sets boundaries around what is inside the System and what is outside of it – defining what is the ‘economy’. These boundaries have real world impacts for informed decision making and should be open for debate as society and the needs of users evolve. It is widely recognized that official statistics need to better inform on issues of wellbeing and sustainability, for example:

a) The United Nations Sustainable Development Agenda identifies goals which build economic growth while addressing a range of social needs

b) The Stiglitz-Sen-Fitoussi “Report by the Commission on the Measurement of Economic Performance and Social Progress” called for statistics to close the gap between aggregate production data and citizen’s well-being

c) Many international organizations (e.g.. OECD, World Bank, IMF, G20) have adopted an Inclusive Growth approach which seeks to generate growth through inclusion

35. Guidance need to be developed to provide clearer links between material wellbeing, including for example distributional measures, and broader issues of wellbeing and sustainability. The latter could be further elaborated by developing a broader accounting framework, e.g. by combining the current framework with statistics on unpaid household activities, environmental-economic accounts, health and education. In addition, appropriate terminology (and branding) need to be developed to facilitate the integration of measures of wellbeing and sustainability with the core accounts and cooperation between those developing and preparing accounts in different fields to ensure the optimal use of resources.

36. As wellbeing and sustainability are all-encompassing themes and can’t be neat defined we need to have some principles to help us determine which domains to be included in the SNA research agenda. Suggested principles:

- a) Continue SNA focus on the economy - the economy contribution to wellbeing rather trying to measure wellbeing itself
- b) Ensure we have a household focus – informing outcomes for citizens
- c) Links to externalities – there will always going to be important measures outside of the SNA, need to link through to important issues even if they aren't included in the boundary (i.e. SEEA approach)

18) The broader framework for wellbeing and sustainability

37. It is considered of the utmost importance to develop metrics that cast a wider net on the monitoring of the well-being of people and the sustainability of societal developments. As (sustainable) well-being is a multidimensional phenomenon, it may not be possible to capture it in one catch-all indicator, and one thus has to agree and rely on a set of indicators which monitor the most relevant aspects. There are several ongoing initiatives in this area. The OECD Better Life Index is an example, in which eleven areas of (sustainable) well-being are being monitored: housing; income; jobs; community; education; environment; civic engagement; health; life satisfaction; safety; and work-life balance. But also the set of indicators developed for monitoring the Sustainable Development Goals (SDGs) can be grouped under this umbrella.

38. In trying to define a broader framework, the goal is to take all of this one step further, by developing a broader accounting framework that supports the monitoring and analysis of the interrelations between the various aspects of wellbeing and sustainability, thus providing a better understanding of the trade-offs and the win-wins between the various domains, and moving away from the primary focus on economic growth as the one and only indicator of progress.

39. This way of thinking about linking various areas of statistics has been developed and implemented in the area of environmental-economic accounting (SEEA 2012 Central Framework), but there are other promising initiatives as well. Furthermore, in the area of education and training, and in the field of unpaid household activities, more detailed guidance has been drafted and disseminated quite recently.

40. As a point on the horizon, one would like to see the development of an overarching accounting framework, in which statistics on economic, societal and environmental issues are integrated (not necessarily monetised), and in which one can easily drill down into micro-datasets. It is clear that this can only be a long-term goal, also requiring the development of a suitable conceptual framework. As a more realistic goal for the nearer future, one could envision the regular compilation of certain thematic satellite accounts, such as the ones mentioned above. Having accounts for the environment, health, education and unpaid household activities, or time use more generally, compiled on a regular basis for a substantial number of countries would definitely support the monitoring and analysis of quite a number of well-being aspects. In doing so, it is not necessary to compile all accounts at a quarterly or annual basis. Some accounts, for which structural developments are the primary focus, one could think of a compilation every 2-3 years, depending on user demands and the availability of source data.

41. In developing such a broader framework, one should also acknowledge the importance of communication, especially related to the terminology that is currently being applied. Referring to the traditional set of national accounts as being the “central framework” or the “core” set of national accounts and referring to the measurement frameworks for other areas as being satellite accounts, is not particularly helpful. One therefore also needs to rethink terminology and the content of what’s currently being referred to as the central framework. Vanoli proposes, for example, to refer to the current set of national accounts as the System of National Economic Accounts (SNEA), and to include a much broader set of accounts in the central framework of national accounts. In doing so, he also presents a concise conceptual foundation for the broader set of accounts, with reference to four spheres and their related information systems: economy, people, nature and society.

42. The System of Environmental-Economic Accounting (SEEA) 2012 Central Framework provides an accounting framework in which environmental issues are linked, in a consistent and integrated way, with the economic activities as recorded in the current SNA. As such the SEEA provides an excellent example for defining supplementary tables for the broader framework within the context of national accounts. One of the discussion items in this area would be whether to simply include the whole SEEA Central Framework into the broader framework for measuring wellbeing and sustainability. Or should, in the context of defining a broader framework of national accounts, priority be given to some of the accounts defined in SEEA?

43. In any case, the above also warrants a more in-depth discussion about some broad potential paths for the future of the System of National Accounts as a set of international standards:

- a) Experimentation and flexibility – expansion through satellite accounts and supplementary tables where SNA includes a generalised chapter on “satellite accounts and other extensions”; with topic specific guidance contained in separate handbooks.
- b) Coherence and rigour – a family of standards: build on SNA-SEEA precedent by designing a family of standards covering the broad domains economy, environmental, human, and social.
- c) Towards measuring progress – expand the current SNA to cover a fuller range of wellbeing and sustainability topics beyond the current market economy focus.

19) Distribution of household income, consumption, saving and wealth

44. There is a clear need and expectation to go beyond measuring the size or growth of the economy and better inform on who is benefiting – how the benefits of economic activity are being distributed. A significant amount of work has already been invested in putting more focus on household (adjusted) disposable income, in addition to economic growth. This includes de-compositional analyses on which factors drive differences in economic growth versus the growth of real household disposable income, including its distribution across different household groups.

45. Significant investments have also been made in linking micro data on the distribution of household income, consumption, saving and wealth with the equivalent national accounts aggregates, leading to consistent distributional measures within the framework of national accounts, e.g. the work

done by the OECD/Eurostat Expert Group on Disparities in National Accounts (EG-DNA), by the European System of Central Banks (ESCB) Expert Group on Linking Macro and Micro Data for the Household Sector (EG-LMM), and the World Income Database (DINA). Several countries have also put considerable efforts in advancing in this area, and some already compile and disseminate distributional results. As a consequence, much experience has been gained in this area, and excellent guidance on sources and methodologies is available.

46. From a conceptual point of view, this area can be considered as a “simple” breakdown of the household sector into a number of subsectors, be it based on income quintiles/deciles, composition of the household, or the type of income received. Annex 1 of the 2008 SNA already includes suggestions for the breakdown of the sector, based on the type of income received. Having said that, a number of questions have been raised in relation to the measurement and recording of household transactions and positions. An example concerns the allocation of social transfers in kind to individual households, e.g. in relation to health and education. Furthermore, the recording of non-life insurance raises questions in the case of smaller groupings for which premiums and claims do not cancel out. Questions are also raised about the exact treatment of institutional households.

47. From a more practical point of view, breaking down the households’ sector requires additional details on intra-household transactions and positions, such as those related to income and capital transfers between households, and transactions in second hand goods.

48. Finally, there is also a communicational aspect to this line of work. A key point here for the statistical community is to clearly understand and communicate the differences and relative strengths and appropriate uses between distributional results based on national accounts concepts and measures of inequality and poverty based on micro-based sources. These two bodies of work can inform one another in terms of quality and coverage.

20) Education and human capital, labour and productivity

49. As the economy evolves (driven mainly by advances in technology), employment outcomes and the future of work have become an increasing concern of governments and societies. Changes in the arrangements of the production process (via globalisation, digitalisation, etc.) have real world impacts on the nature and availability of work and jobs. The role of the human capital content of labour is also growing. In turn these changes in the labour market drive changes in incomes, living standards, and wellbeing for many citizens. Understanding changes in the relationship between the production process and employment, including its human capital content, is thus critical for policy makers.

50. Despite labour being one of the two factors of production within the SNA production model, and being a fundamental component of the economic system more generally, it is not currently articulated as a separate account within the SNA. Unlike capital, there is no labour account to enable analysis of the stock, utilization, rates of return and so forth of labour within the production process. The study of productivity continues to develop with research initiatives including KLEMS; total factor productivity; quality adjusted measures of labour; human capital and so forth. Significant changes in the 2008 SNA, such as the capitalization of R&D, came about largely through the study of the role of

capital in productivity growth. Having an explicit discussion of labour in the SNA would facilitate the research and analysis of productivity measurement.

51. Productivity is the key driver of real income growth, and real income growth is in turn the main determinate of material living standards. A major contemporary puzzle is the failure of recent advances in technology to translate into wage growth and increased real incomes for many citizens. Informing this puzzle must be one of the critical measurement challenges of our time. More fully articulating the role of labour within the economy can only help with this study.

52. A related issue concerns the role of education and human capital in the production process, the labour market and its impact on people's income and wellbeing. Significant advances have been made on how to record and measure the increasing role of education and human capital, such as those included in the UNECE Guide on Human Capital⁴, in which ample guidance is provided on the compilation of satellite accounts on education and training, and also the development of satellite account on human capital, including methodologies for measuring investments in and stocks of human capital, and how to record all of this in the SNA.

53. A further elaboration of the above issues into a set of tables that supplement the traditional framework of national accounts could support the analysis of the production process and people's wellbeing in various ways. Assuming that a full integration of human capital measures into the SNA is not feasible and desired, this line of work is not expected to have an impact on the fundamentals of the current framework of national accounts, but it may lead to additional details and clarifications in the standard set of national accounts (e.g. more details on labour input), and it may also result in supplementary tables providing more detail (e.g. on expenditures on education) and/or alternative measures (e.g. on investments and stocks of human capital).

21) Health and social conditions

54. Governments are under pressure to deliver the services expected by citizens, there is pressure on budgets across the globe driven by aging populations and technology advances (particularly in health care). Issues of productivity and outcomes in health and education are at the forefront of minds in most governments. The valuation of these non-market activities is a long-standing issue that needs to be addressed continuously. Also, building on work of the Atkinson Review and research by national statistical agencies, there is a clear need to have more guidance on the volume and price measurement of non-market output. It should also be considered whether there is an appetite for the SNA to more explicitly look at outcomes and not only outputs.

55. In this respect, it is also important to further elaborate the role of health and education in the context of wellbeing. Education has already been addressed in the previous item, but also in the case of health it is considered critical to design supplementary tables which provide a link between the traditional set of national accounts, including the measurement of outputs, and the outcomes of the

⁴ "Guide on Measuring Human Capital", UNECE, New York and Geneva, December 2016. Available at: https://www.unece.org/fileadmin/DAM/stats/publications/2016/ECECESSTAT20166_E.pdf.

process of producing health services. Here, reference can be made to the considerable work that has been done on the development and compilation of health satellite accounts.

56. Again, this line of work most probably won't have an impact on the fundamentals of the SNA, although a couple of issues could potentially lead to a reconsideration of current guidance. In respect of the latter, one can think of the measurement of the output value of non-market services. Also further guidance on the volume/price split could lead to changes in some of the recommendations in the 2008 SNA, although these may probably be considered as clarifications or interpretations.

22) Unpaid household activities

57. The line between formal economic activity, informal activity and household activity continues to be questioned and to provide measurement challenges. While these issues are longstanding, recent developments in digital technology have led to a heightened interest and new questions on the role of unpaid household activities in the measured economy. In the past, lengthy discussions have taken place on the drawing of the SNA production boundary to exclude services generated by households for their own final consumption as well as services provided through volunteer activities. Whilst this issue has come up in several specific circumstances, a general reflection needs to be made again on whether the production boundary should be extended for these unpaid services. The Report by the Commission on the Measurement of Economic Performance and Social Progress, more commonly referred to as the Stiglitz-Sen-Fitoussi Report, also acknowledges this point of critique, and has included a recommendation (number 5), to “broaden income measures to non-market activities”, in which the latter refer to unpaid household activities. Furthermore, recently international guidance on valuing “unpaid household service work”⁵ (UNECE, 2017) has been finalised.

58. It goes without saying that extending the current production boundary with unpaid household activities would have massive implications on all national accounts aggregates. Whatever the results of such a discussion, even without an extension of the production boundary, there is a clear need for developing a standardised framework, or supplementary tables, for the recording of the above services in physical and monetary terms. In physical terms, having a consistent set of data on time use, that monitors the trade-offs between paid work, unpaid work (e.g. child care, taking care of the elderly, various types of volunteer work) and the capacity for leisure activity, can provide significant insights in people's choices and quality of life. Such information can also advance the agenda of compiling (experimental) results and supplementary aggregates.

59. Other issues that may need further consideration in this context include the following:

- a) the need for improved (possibly alternative) data sources on time use and consumer durables;

⁵ “Guide on Valuing Unpaid Household Service Work”, UNECE, New York and Geneva, December 2017. Available at: <https://www.unece.org/fileadmin/DAM/stats/publications/2018/ECECESSTAT20173.pdf>.

- b) the relationship with the provision of “free services” that have become available due to the digitalisation of the economy (Internet, social media, etc.);
- c) the treatment of household volunteer work, among which the creation of freely available asset created by communities of people (Wikipedia, R, etc.);
- d) the compilation of experimental results

23) Valuation and delineation of natural resources

60. The valuation of natural resources poses significant measurement challenges that need to be addressed in order to ensure international comparability. The valuation of natural assets based on the net present value (NPV) method relies on the assumption that the commodity markets are in equilibrium, implying that the market value of the asset can be set equal to the sum of discounted (expected) future income, or resource rent, associated with the exploitation of the asset. However, as commodity prices show large swings, there is significant uncertainty about their future development and thus the value of the asset. Further research is needed to address volatile asset values where the valuation of natural assets exclusively relies on current commodity prices as being equivalent to the expected value of future incomes.

61. Whilst the SEEA follows the SNA in promoting the use of market valuation of stocks and flows which are "near-market", some stocks and flows are neither "market" nor "near-market" (such as water stocks and flows) and further guidance is needed for their valuation. Techniques to be used could include "mimicking markets" or deriving "proxy exchange values". This has a close linkage with discussions in the SNA context of valuation of mineral reserves (not currently extractable) and water resources. The valuation and recording of other assets, such as those related to stocks of renewable energy resources, may also need further elaboration, especially given the large-scale growth in these resources in the recent past and in the future. Furthermore, in the context of accounting for ecosystems (see below), some questions have been raised about the delineation of natural biological resources in the current SNA. This especially relates to the criterion of resources being managed, or not, by economic agents.

24) Accounting for depletion

62. The depletion of non-renewable natural biological resources, in particular natural timber and aquatic resources constitutes an important flow in the existing SEEA 2012 Central Framework. The current SNA includes the concept of depletion of a natural resource with respect to its use in production, to be recorded as another change in the volume of assets (see para 1.47). Further research and discussion are foreseen on the practical measurement of depletion (which is linked to the valuation of natural resources, see above) and its role in the SNA sequence of accounts and main aggregates. The discussion could also include depletion of (non-renewable) mineral and energy resources, and conceptual issues on how to define the depletion of renewable resources.

25) Losses

63. There are a number of issues related to “losses” which are not fully described in the SEEA and need to be further clarified. Notable examples include energy and water losses during the chain from original source to consumer. Whilst the SNA accounts for the recording of losses of inventories (see the Annex to SNA Chapter 6), the guidance could be further elaborated, particularly as it impacts the recording of transactions within and between industries and households.

26) Accounting for ecosystems

64. The ecosystem accounting framework incorporates ecosystem services by extending the concept of production to include natural processes. The result is that ecosystem services become additional outputs within the national accounting system alongside the set of goods and services defined in the current SNA. Having been recognised as outputs produced by ecosystem units, one could consider recording these ecosystem services as being transacted within the accounting system. As such, the ecosystem accounting framework aims to treat ecosystem services and assets in a manner that is as analogous as possible to the treatment of produced assets and standard goods and services as described in the SNA. There are, however, several issues that still need further discussion, such as recording ecosystem services within a broad extended sequence of institutional sector accounts; the need for a clear articulation of the underlying economic assumptions and associated implications; guidance on valuation for non-monetary and imputed transactions; the valuation of ecosystem assets; and how measures of ecosystem degradation can be attributed to economic units (based on costs borne or costs caused).

IV. Cross cutting issues

27) The relationship of SNA and IASB

65. The International Accounting Standards Board is an independent, privately funded accounting standard-setter. The Board members come from nine countries and have a variety of functional backgrounds. The IASB is committed to developing, in the public interest, a single set of high quality, understandable and enforceable global accounting standards that require transparent and comparable information in general purpose financial statements.

66. The IASB works with national commercial accounting standard-setters to achieve convergence in accounting standards around the world. Nearly one hundred countries currently require or permit the use of IFRSs (International Financial Reporting Standards) or have a policy of convergence with them. The development of IFRSs reflects the changing needs and circumstances of the global economy in ways that can be directly relevant to the use and requirements of the SNA. The adoption of IFRSs by corporations can have a major impact on corporate accounting and the data available from corporate accounts.

67. The IASB works in a three-stage process to develop a new standard. The first is a draft with an invitation to comment (ITC); the second is an exposure draft (ED) also inviting comment; the third is the new standard. At each stage the background to the issue is clearly explained and the reasons are

given for the choice recommended. In both the first two stages comments are invited from any interested party. The development of a regular dialogue between the national accounts community and the IASB would be a way to assure the needs of national accountants were represented to the IASB and national accountants were aware of the possible developments in the data sources. Already during the 2008 revision consultation of IASB standards and their counterpart for public accounting standards (the International Public Sector Accounting Standards Board, IPSASB) has been extremely beneficial. It is therefore desirable that a dialogue be established and maintained with the IASB with a view to amending the SNA to follow new accounting standards when appropriate.

68. One area of developing interest in international accounting, relating back to the question of multinational enterprises, is that of mergers and acquisitions. The text in chapter 21 draws on information in the OECD Benchmark Definition of Foreign Direct Investment. IASB work in this area should be monitored to see if these recommendations need amending.

69. There is therefore a need to compare SNA with the latest IFRSs and discuss if some IFRS aspects should be brought into the SNA.

28) Statistical units

70. One of the challenges brought about by the rapidly changing nature of production and particular the ways in which enterprises produce goods and services has cast a spotlight on the SNA's preference for the use of the establishment as the preferred unit to compile industrial statistics, and in particular, supply and use tables. To investigate this issue, an ISWGNA Task Force on Statistical Units has been established to take stock of the 2008 SNA recommendations on statistical units (including institutional units), and to reflect on whether or not the recommendations on statistical units need to be adjusted in the future. The Task Force is expected to provide a clear view of what needs to be measured in the economy in order to identify ways to improve the definitions, if necessary, and taking into consideration: current country practices; regional accounts as well as productivity measurement.

The treatment of establishments in the SNA

71. At the present there are two reasons to have the concept of establishment within the SNA. The first of these is to provide a link to source information when this is collected on an establishment basis. In cases where basic information is collected on an enterprise basis, this reason disappears. The second reason is for use in input-output tables. Historically, the rationale was to have a unit that related as far as possible to only one activity in only one location so that the link to the physical processes of production was as clear as possible. With the change of emphasis from the physical view of input-output to an economic view, and from product-by-product matrices to industry-by-industry ones, it is less clear that it is essential to retain the concept of establishment in the SNA.

Consolidation of enterprise groups

72. Many enterprises operating within an economy are linked with other enterprises by complete or partial common ownership and a shared management structure to form an enterprise group.

Enterprises also often share common ownership and management with foreign affiliates. It is common for enterprises within an enterprise group to trade with each other, sometimes exclusively, as when they perform an intermediate stage in a vertically integrated production process, and share the outputs and costs of ancillary production. They may also share the outputs and costs of research and development activities. Given their close ties it may be sometimes desirable to consider an enterprise group as a single entity and to consolidate the accounts of its members. (This is already the practice in some other statistics such as AMNE, FATS and Bank for International Settlements (BIS) consolidated presentations.) Members of an enterprise group are usually engaged in different activities and sometimes in more than one sector, and so consolidation could affect aggregates, such as industry value added, and sectoral balance sheets. It is therefore probable that the most likely way forward would be by way of supplementary tables.

73. Separate consideration needs to be given to the case where some parts of the group are non-resident.

29) Trusts

74. The SNA recommends that trusts be treated as quasi-corporations. In some cases, though, when one is used in effect as an SPE for a corporation, it is not considered to be a separate institutional unit but is merged with its parent, so long as they are both resident in the same economy.

75. No detailed description of trusts is given, though some may be owned by households and NPIs as well as by corporations. Further clarification on the nature of trusts and when their assets should be treated as belonging to separate units and when merged with the assets of their owners would be helpful.

30) Broadening the fixed asset boundary to include other intellectual property assets

Innovation

76. The fixed asset boundary of the SNA has been expanded to include the output of research and experimental development (R&D) that meets the general definition of an asset. It is evident that R&D captures part, but not all, of the innovation process. It may exclude many expenditures by the production and engineering departments of an enterprise. These same departments may also be responsible for identifying a potential new product and referring it to the R&D department to develop the science behind it. In addition, an enterprise may incur other expenditures before a new product goes to market. These include market research to determine the demand for a new product and marketing expenditures to promote it.

Marketing assets

77. Marketing assets include brand names, mastheads, trademarks, logos and domain names. Marketing is a key driver of brand value and big corporations invest heavily in building and supporting their brands by advertising, sponsorship and other measures to build a positive image with customers. The SNA treats marketing assets as being non-produced and the expenditures incurred in

their creation as intermediate consumption. They appear in the balance sheet only when they are sold. The major reason for not treating marketing assets as fixed assets is due to the difficulty of measuring their value.

Human capital

78. Apart from any staff training required in bringing a new product to market, innovation expenditures are disembodied from the people undertaking the innovation. Therefore they exclude to a large extent the “investment in human capital”.

79. Human input is the major input in most production processes, and the value of that input is to a large extent dependent on the knowledge that humans bring to the production process. It is well recognized that an educated population is vital to economic well-being in most countries. Despite the fact that there are major conceptual and practical problems with identifying the value of an educated labour force, there are repeated requests to address this issue within the SNA framework.

80. Following the publication of the Guide on Measuring Human Capital, and experience in some countries in producing human capital measures, there is therefore a question if the SNA capital boundary should be extended to include human capital as an asset.

31) Leases to use or exploit natural resources

81. Part 5 of chapter 17 deals with the treatment of licences and permits to use a natural resource. Because the treatment for individual resources was developed independently there are some inconsistent treatments recommended.

82. In the case of a natural resource that has an infinite life and whose use in production does not affect the nature or value of the asset, the owner may allow the resource to be used for an extended period of time in such a way that, in effect, the user controls the use of the resource during this time with little if any intervention from the legal owner. In the case of land, the SNA recommends that the agreement between the owner and the user constitutes a sale of the land. In the case of a lease of the radio spectrum, the SNA recommends that the permission to use the spectrum does not change the ownership of the spectrum but constitutes a non-produced asset under the heading contracts, leases and licences. In the case of permission to use the atmosphere or a water body as an environmental sink, the SNA recommends that the payment be treated as a tax.

83. In the case of a natural resource that is subject to replenishment and which can be used indefinitely providing the use is restricted and the owner extends or withholds permission to continued use of the asset from one year to the next, payments by the user to the owner are recorded as rent. No adjustment is made to the value of rent recorded as to whether the use is in fact sustainable or not. If it were not sustainable, part of the payment should be seen as being compensation for the non-sustainable use.

84. In the case of a natural resource that is not capable of replenishment on a human time-scale and the use in production eventually exhausts it, the owner may permit the resource to be used to

extinction. In this case the SNA recommends that economic ownership of the natural resource remains with the lessor while the lessee pays royalties recorded as rent. Only the lessee and not the lessor undertakes production. This means that the reduction in the value of capital due to production is recorded in the balance sheet of the owner as another change in volume of assets. The link between the rundown in the value of the assets and its use in production is lost. As in the previous case, the fact that part of the rent paid is compensation for the reduction in the value of the asset is not recognized.

32) Treatment of Private-Public Partnerships

85. The 2008 SNA retained a somewhat open position on the statistical recording of Public-Private Partnerships. Following greater experience of statisticians in dealing with these operations, and evolution in the structure of these operations, the statistical treatment can be revisited. BPM6 has no reference on PPPs, while the External Debt Statistics Guide 2013 refers to PPPs in its Appendix I. It would be adequate to have consistency across the guides.

V. Compilation issues

33) Harmonization of SNA and BOP

86. The underlying methodology and concepts of the most recent revisions of the statistical standards for the national accounts (2008 SNA) and the balance of payments (BPM6) are consistent with each another. However, large differences in the statistical data still remain in practice and guidance is needed in order to reconcile the data discrepancies between the national accounts and the balance of payments. Recently regional workshops were organized to discuss the main challenges in the production of national accounts and balance of payments statistics in the participating countries with a view of identifying priorities and recommendations for improving the consistency between SNA and BOP data.

87. This is more a measurement issue, but textual changes may need to be made to ensure complete consistency in practical application. For example, the terms employed by BPM6 and the 2008 SNA for payments made by policymakers are different and should be harmonized.

34) Islamic finance

88. Islamic finance does not operate in the same way as conventional finance as it follows the Shari'ah Islamic law, principles and rules. The Shari'ah Islamic law does not permit receipt and payment of "riba" (interest), "gharar" (excessive uncertainty), "maysir" (gambling), and short sales or financing activities that it considers harmful to society. Instead, the parties must share the risks and rewards of a business transaction and the transaction should have a real economic purpose without undue speculation, and not involve any exploitation of either party.

89. However, issues on the implementation of the 2008 SNA recommendations for Islamic finance were raised during several meetings in the Arab Region organized by the Statistics Division of the United Nations Economic and Social Commission for Western Asia (ESCWA).

90. The Advisory Expert Group (AEG) on National Accounts agreed that further research on the statistical implications of Islamic finance in the national accounts is required and that practical guidance on the treatment of Islamic finance transactions; the sectorization of Islamic financial corporations; classification of Islamic financial instruments and corresponding property income; and calculation and recording of various types of Islamic financial services and related transactions needs to be developed.

35) Informal Economy

a) Informal economy in national accounts and external sector statistics

91. The informal economy broadly comprises (i) the production of goods and market services of households; and (ii) the activities of corporations (illegal; underground) that may not be covered in the regular data collection framework for compiling macroeconomic statistics. The 7th IMF Statistical forum considers not only the domestic activities, but also the cross-border transactions of resident units and reflects the need for a coherent macroeconomic statistics framework. The current statistical manuals, 2008 SNA and BPM6, fall short in providing a clear definition that is suitable for compiling the requisite statistics for policy analysis, therefore more clarification in the international standards may be needed.

b) Income from activities undertaken on an informal basis

92. Establishing the connection between the work on the informal sector and the SNA was an important contribution of the 2008 SNA. Interest in this area continues to attract considerable attention especially in developing countries, where a large proportion of people work in the informal sector. However, an exhaustive measurement of the size of the informal sector and the contribution of informal sector activities and informal employment to GDP and cross-border transactions is particularly challenging.

93. Data collected for understanding the informal sector are often not sufficient for measuring economic activity, and various surveys and collecting methods – focusing on household, consumption and employment data – may be needed as source data for an exhaustive measure of the informal sector in the national accounts. The supply and use framework, with a possible distinction between formal and informal activities, provides the greatest potential in which available source data are combined and balanced to arrive at exhaustive estimates of economic activity.

C. Long-term SNA research issues

94. This Section presents the SNA research issues from Annex 4 of the 2008 SNA that are not directly associated with the current research priorities related to globalization, digitalization and well-being and sustainability. It is expected that these issues will be address in accordance with the established process of selecting items for investigation. To assess the priority to be given to a research issue, three questions need to be addressed:

a) How urgent and important is the topic to ensure that the SNA continues to be relevant to the users?

b) How widespread are the consequences of change and how complicated will implementation be?

c) Is the topic completely new or has much of the preparation for considering the item been completed?

36) Final consumption of corporations

95. In the SNA, no final consumption is recorded for corporations because corporations are not considered to be final users of goods and services, except for capital products which, with the exception of valuables, are acquired for the purpose of production. However, large corporations often undertake sponsorship of cultural and sporting events. To date, the SNA regards the payments involved as a form of advertising, but it could be argued that they are a form of individual consumption and could be treated as final consumption expenditure of corporations and social transfers in kind to households. Further, by imposing regulations such as environmental standards, the government may achieve the same effect as if they levied taxes and spent the income on environmental protection, which would be treated as collective consumption. There may thus be instances where it would be more appropriate to record some expenditures by corporations as final consumption.

37) Measuring the output of government services

96. The SNA recommends that the value of non-market production provided without charge, or at prices that are not economically significant, should be estimated as the sum of the costs of production (paragraphs 6.128 to 6.132). The basis for this recommendation is the lack of market prices for non-market production. However, there is continuing research on trying to find alternative ways to measure the output of government.

38) The treatment of social transfers in kind to the rest of the world

97. In the SNA, social transfers in kind only take place between government units, NPISHs and households. Paragraph 8.141 explains that it is assumed that the amount of social transfers in kind payable to the rest of the world are probably negligible and, in any case, are offset by similar benefits receivable from the rest of the world. In some cases, these assumptions may be inappropriate and an explicit way of recording these could be elaborated. Such an elaboration would have to consider the consequences of having a difference between total consumption expenditure and total actual consumption.

39) Output of central banks: taxes and subsidies on interest rates applied by central banks

98. The treatment and measurement of the output of central banks is described in paragraphs 6.150 to 6.151. Three broad groups of financial services are identified: monetary policy services, financial intermediation and borderline cases.

99. One of the borderline cases arises when the financial intermediation of central banks includes policy measures, such as setting interest rates higher or lower than market interest rates. This generates a number of issues. The first is how to measure the output of the central bank, because the use of off-market interest rates by the central bank may cause distortions in measuring its output and value added. The second issue concerns the use of off-market rates which implies that there are flows between the central bank and the counter-party in addition

40) The inclusion of international organizations in the SNA

100. In the SNA, international organizations are treated as units that are resident in the rest of the world (paragraphs 4.173 to 4.175). It would in principle be possible to treat international organizations as a standard subset of the rest of the world and indeed to compile a full set of accounts for them.

Treatment of the output of international financial institutions

101. International financial institutions, such as IMF, the World Bank and regional development banks, are public financial corporations (and, by implication, institutional units) which are, as a rule, non-residents vis-à-vis countries, residing, as these institutions do, in the “international economic territory”.

102. Like other financial corporations, they use inputs to produce financial intermediation output, which has a directly measured component (a fee) and an indirectly measured one. They are jointly owned by the Governments of their member countries under cooperative arrangements, such as the IMF Articles of Agreement. The characterization and compilation of their output, and the use of that output by their member countries, require elaboration under the current SNA guidelines.

103. The AEG considered this issue at its 9th meeting and acknowledged that it requires further work, taking into consideration the cost-of-funds approach and the valuation at cost (possibly including the full cost of capital) for the non-market part of output. This issue will be addressed under "Calculation of FISIM" (issue 16) and "Clarification of income concept in the SNA" (issue 10) of the Research Agenda.

104. For more information see paragraphs 28 and 29 of the conclusions of the 9th AEG meeting.

41) Clarification of the income concept in the SNA

105. As discussed in paragraph 8.24, the concept of income in the SNA differs from that generally understood in economics. In particular, holding gains and losses are not considered to form part of

income in the SNA. It is not only economic theory that treats holding gains and losses as income, but also business accounting standards. The SNA excludes holding gains and losses from production and then extends this to an exclusion from most income flows, though not interest which continues to be recorded in nominal terms. A thorough review of the concept of income in the SNA, including the implications for all property income flows would be beneficial. Some particular aspects are covered in some of the following items.

Holding gains and losses in the estimates of investment income

106. The 2008 SNA appears to provide conflicting guidance on whether to include holding gains and losses in the estimates of investment income attributable to insurance policyholders and pension beneficiaries that are treated as premium or contribution supplements in the calculation of the implicit service charges for insurers and pension funds. In instances where the 2008 SNA appears to recommend the inclusion of holding gains/losses in the estimates of this investment income, it is silent on whether these holding gains/losses should include only realized ones.

107. The 2008 SNA is also not explicit on whether holding gains/losses should be included in the change in life insurance and annuity technical reserves and the change in pension entitlements when calculating the implicit service charges for life insurance, annuities and pension funds.

108. The AEG, at its 9th meeting, confirmed the 2008 SNA recommendations on the treatment of holding gains/losses in the estimates of investment income attributable to insurance policyholders and pension beneficiaries and clarified the recommendations as follows:

109. In measuring the investment income payable on pension entitlements, a distinction is made in the 2008 SNA between defined contribution pension schemes and defined benefit pension schemes. In the latter case, the risks of making an adequate return on investments are with the pension fund or the unit managing the fund. The investment income payable on pension entitlements is generally disconnected from the actual returns on investments and is typically set equal to the product of the discount rate used for measuring the net present value of future entitlements and the value of the entitlements. In the case of defined contribution schemes, the risks regarding the returns on investments are with the pension beneficiaries. Consequently, the returns on investments exclude any holding gains/losses.

110. The AEG also noted that the issue related to holding gains/losses in investment income should be discussed under the broader issue of the concept of income, which is on the 2008 SNA research agenda.

111. For more information see paragraphs 15 and 16 of the conclusions of the 9th AEG meeting.

Capital income of insurer's own funds

112. In the 2008 SNA, the calculation of the output and value added of insurance corporations excludes the capital income derived from the investment of those corporations' own funds. It includes only the investment income earned from the investment of collected premiums.

113. The Global Federation of Insurance Associations has suggested that the issue of including the capital income derived from the investment of an insurer's own funds in the calculation of the value added of insurance corporations should be included in the 2008 SNA research agenda, based on the contention that all of the assets of an insurer serve the ultimate purpose of improving the risk-bearing capacity of an insurer — and thus the interests of policyholders — irrespective of whether they have been acquired through an insurer's own funds or collected premiums and that therefore all capital income is part of the production process of insurance protection.

114. It may be useful to assess both the implications of this suggestion made by the Global Federation and how reconsideration of the role of income (or some part thereof) derived from investment of the insurer's own funds in the measurement of service output would affect the recording of transactions and other flows in national accounts. This issue will be considered under the issue of the income concept in the SNA (issue 10).

115. For more information see paragraphs 36 and 37 of the conclusions of the 9th AEG meeting.

42) GDP at basic prices

116. Gross domestic product (GDP) is equal to the sum of the gross value added of all the institutional units resident in a territory engaged in production (that is, gross value added at basic prices) plus any taxes, minus any subsidies, on products not included in the value of their outputs. GDP is also equal to the sum of final expenditures minus expenditures on imports by institutional units resident in a territory. The “natural” valuation of the production measure of GDP is basic prices, while the “natural” valuation of the expenditure measure of GDP is market prices. In the SNA it is the production measure that is adjusted (by adding taxes less subsidies on products) to achieve consistency. Implicit in this is the idea that taxes less subsidies on products are a form of income and not just a form of redistribution of income.

117. If it were decided to value GDP at basic prices then the sequence of accounts would need to be modified, and there are various possibilities as to how this might be done. This might lead to showing the two primary functions of government, production of non-market services and redistribution of national income, separately.

43) The role of taxes in the SNA

118. As just noted, taxes on products are treated as a form of income in the SNA. Most economists, however, tend to regard these as taxes on consumption. This category does not exist in the SNA and nor does consumer subsidies. Taxes on financial transactions (such as taxes on issue, purchase, and sale of securities) are treated as taxes on production even though there is often no service involved. It may be appropriate to review the SNA treatment of all taxes and subsidies to ensure that these accord with users' understanding and need, or if not that the rationale for any differences is made quite explicit and prominent.

44) Life insurance

119. At present in the SNA there is an inconsistency between the treatment of property income accruing to pension beneficiaries under a defined benefit scheme and other forms of life insurance. For the pension beneficiaries, the amount of property income ascribed to them matches the increase in their claims with no reduction of property income made according to whether the source of funding is from holding gains or not. For life insurance policies, insurance companies retain part of the holding gains made on reserves belonging to the policyholders, but this retention is not treated as part of the fee charged by insurance companies. Thus, there may be an understatement of the output of insurance companies. This question needs addressing and also the appropriate treatment when holding losses occur.

45) Reinvested earnings

120. The SNA recommends that the retained earnings of a foreign direct investment enterprise should be treated as if they were distributed to foreign direct investors in proportion to their ownership of the equity of the enterprise. These earnings are then reinvested by those owners as additions to equity in the financial account. This amount is in addition to any actual distributions made out of the distributable income. This approach is also adopted for the earnings of investment funds.

121. It has been proposed that this treatment could be extended to other types of unit, public corporations. If the attribution of retained earnings to the owners of corporations were adopted, it would mean that dividends would be replaced by reinvested earnings in the allocation of primary income account and this total less dividends actually paid would be shown as additions to (or in some case withdrawals from) equity in the financial account. This would mean that distribution of earnings from corporations was measured on a strict accrual basis but would also mean that the saving of corporations would always be zero. Such a change would have serious implications for interpretation of the accounts since it would be built on a different paradigm from the current treatment of dividends and corporate saving.

122. A further extension to all owners of corporate equity could also be considered.

46) Accruing interest in the SNA

123. Through the 1990s and into the 2000s a vigorous discussion was conducted among the international statistical community about the appropriate way to record interest on securities such as bonds. Two general approaches were identified in the discussion, the so-called debtor and creditor approaches.

124. The ISWGNA established an Electronic Discussion Group (EDG) in 1999 to obtain the views of a broad group of users and compilers on how macroeconomic statistics should record the accrual of interest on bonds and other tradable debt securities. The moderator of the EDG provided a report in October 2002 that concluded that while the participants to the EDG were strongly divided, the majority were in favour of the debtor approach. The ISWGNA subsequently considered the report and supported its conclusion. It then made a recommendation to the UNSC proposing that the SNA should

recommend the debtor approach and the UNSC agreed. The recommendation and descriptions of the two approaches can be found in paragraphs 17.252 to 17.254.

125. Discussion of certain update issues, including the treatment of concessional loans, non-performing loans, interest on index-linked debt securities and interest in arrears, showed that the debtor/creditor debate has implications beyond the recording of interest on securities. A full consideration of the definition of income in the SNA would have to reconsider this issue.

47) Calculation of FISIM

126. The treatment of financial intermediation services indirectly measured (FISIM) is described in paragraphs 6.163 to 6.169. The SNA recommends that FISIM should be calculated with respect to a reference rate that contains no service element and reflects the risk and maturity structure of deposits and loans. Different reference rates may be needed for domestic and foreign financial institutions. The assumption behind the FISIM approach is that it is the service element, and not the interest flows, that reflect varying degrees of risk, with riskier clients paying a higher service charge. This assumption has been queried and is being investigated

FISIM recording

127. The ISWGNA, according to its terms of reference, established a Task Force on FISIM to address how the composition of the services that FISIM covers (particularly, risk management and liquidity transformation) affects the selection of the reference rate and the price and volume breakdown of FISIM. In particular, the Task Force focused on determining at most one reference rate per currency for the FISIM calculation.

128. Based on the report of the Task Force on FISIM, the AEG agreed on a number of clarification issues linked to the recording of FISIM. In particular, at its 8th meeting, the AEG agreed on the following:

- a) liquidity transformation services should remain part of financial intermediation services indirectly measured and a single reference rate should be used to determine those services
- b) financial intermediation services indirectly measured should be calculated using at least two groups of currencies (national and foreign currency) in respect of the estimation of imports and exports of those services;
- c) the reference rates for a specific currency need not be the same for providers of financial intermediation services indirectly measured resident in different economies (although they should be expected, under normal circumstances, to be relatively close). In this respect, national statistical agencies are encouraged to use partner-country information or other relevant information, where national estimates are not available;
- d) the calculation of the reference rate should be determined according to national circumstances (preferably using any of the approaches identified by the AEG);

e) considerable care should be taken in determining estimates of financial intermediation services indirectly measured during periods of volatile movements in reference rates and when liquidity markets begin to exhibit dysfunction, with countries being, in this respect, encouraged to review the applicability of the underlying reference rate for that period to calculating those services when such phenomena occur; and

129. the calculation of volume measures for FISIM should be calculated by: (i) using a deflated stocks approach (with weights based on types of loans and deposits) in view of its simplicity; (ii) deflating stocks of loans and deposits using a general price, which should itself exclude FISIM; (iii) using domestic price indices for exports, while for imports the appropriate country price indices should be used; and (iv) output indicators could also be used to calculate volume measures of FISIM. Double counting for explicitly charged services should be avoided.

130. The publication entitled Handbook of National Accounting: Financial Production, Flows and Stocks in the System of National Accounts (United Nations) reflects the agreed clarifications.

131. The AEG identified the following topics for further research in FISIM:

- a) Developing more clarity regarding FISIM (-related) references in the 2008 SNA, especially in relation to treatment of risk and definition of financial services;
- b) Further develop the conceptual arguments to either include or exclude CDR in the calculation of FISIM and in the case of excluding CDR to develop methods and data that could support a possible exclusion of CDR in the future;
- c) Consider possible hybrid approaches to price and volume measurement;
- d) Further develop the 'costs of funds' approach to determine the reference rate, and further develop possible alternative approaches (vintage reference rate);
- e) Consider the financial instruments and units scope of FISIM; and
- f) The connection between the recommendations on implementing FISIM and the definition of income.

132. The AEG agreed that in setting up the FISIM research agenda the first three items - (a), (b) and (c) - can be considered as clarifications of the 2008 SNA.

48) High inflation

133. It has long been recognized that high inflation can distort measures of interest, since a portion is required simply to counteract the real holding losses that occur for financial instruments that are not indexed for inflation. By the 1970s, when inflation was an important problem throughout much of the world, the treatment of interest under high inflation was considered an important issue for national accounts. However, contrary guidance is given by Annex B to chapter XIX of the 1993 SNA and

chapter 7 of Inflation Accounting - A manual on National Accounting under Conditions of High Inflation (Organisation for Economic Co-operation and Development, 1996). It is therefore recommended that the search for a single universally accepted treatment of interest under high inflation remains on the research agenda.

49) The measurement of neutral and real holding gains and losses

134. The SNA recommends the nominal holding gains and losses recorded in the revaluation account should be decomposed into neutral and real holding gains and losses. In paragraph 12.85, the use of a comprehensive price index covering as wide a range of goods, services and assets as possible is recommended. Some national accountants have suggested that different price indices should be used for different classes of asset. The full impact of this suggestion requires investigation.

50) Income arising from assets

135. The introduction of capital services into the SNA recognizes that part of value added is due to the contribution of fixed assets and other non-financial assets to the income generated by production. A question has been raised about whether some part of value added should also be attributable to the financial resources available to the producer.

Capital services of assets not contributing to production

136. The 2008 SNA introduced the measurement of capital services and incorporated it in the national accounts framework. Capital services are used in productivity statistics to represent the contribution of capital to the process of production. However, the change-of-ownership basis of this concept creates capital services measurement problems in cases where production of an asset occurs over a number of accounting periods. In cases where a building, structure or other significant asset may not be contributing to production, the SNA recommends that gross fixed capital formation be recorded progressively as production of the asset takes place.

137. The question is whether capital services provided by assets contributing to production inventories and assets not contributing to production are, by nature, all the same. In addition, the 2008 SNA recommendation on the treatment of progressive change of ownership of buildings and structures needs clarification in respect of its consistency with the treatment of other kinds of assets that have the same characteristics as buildings and structures. Took note of the importance to resolve the treatment of capital services of assets not contributing to production, such as those that are constructed over more than one accounting period or those that are temporarily inactive for one reason or another. Took note of the need for further research on the utilization of capital in the measurement of capital services.

138. For more information see paragraphs 32 and 33 of the conclusions of the 7th AEG meeting.

51) Issues arising from a financial crisis

139. As noted in the introduction, a financial crisis provides a crucial test of the robustness of the SNA and the adequacy of its recommendations in situations not encountered since the SNA was first adopted. Until all the consequences of the situation in 2008 are revealed, and indeed thereafter, there will be a need to continue to examine the steps taken in response to the crisis to ensure both the steps and their consequences are adequately captured in the national accounts.

140. This item anticipates possible future measures. It may be that some are identified as individual research items (e.g. shadow banking).

52) Recognition of social security entitlements as liabilities

141. As discussed in part 2 of chapter 17, social security entitlements are not recorded in the main accounts but they are shown in a supplementary table along with the pension entitlements of some other pension schemes managed by general government. Provisional criteria for determining whether the entitlements are shown in the main accounts or only in the supplementary table are described in paragraph 17.187. Work continues to refine these criteria and to find agreed methods to determine the value of these liabilities.

Table on household retirement resources

142. Funding retirement incomes for an ageing population, increasing debt concerns and the sustainability of consumption patterns are issues that are being addressed by the AEG. In this regard, the AEG is reviewing the development of a table on household retirement resources which is intended to provide extensive and detailed information on the various household resources for retirement, including the scope of assets and cross-border transactions. Further work is required regarding the delineation of social assistance benefits and the possible inclusion of assets such as owner-occupied dwellings.

143. For more information see paragraphs 11 to 14 of the conclusions of the 9th AEG meeting.

Accounting for pensions

144. The 2008 SNA recognises that employment-related pension entitlements should be recorded in the set of standard tables of the SNA. At the same time some flexibility is provided regarding pension entitlements of unfunded pension schemes sponsored by government for all employees (whether private sector employees or government's own employees) which are intertwined with social security schemes. Given that these schemes vary considerably from country to country, only some of these unfunded pension entitlements may be recorded within the core system of national accounts.

145. The AEG acknowledged that further clarification is needed in respect of the delineation and measurement of pension entitlements and the articulation of when to record the transactions, other flows and positions of defined benefit pension schemes in the core accounts, in line with the 2008 SNA recommendations.

146. The AEG has also agreed to consider the outcomes of the consultation on the treatment of the flows between a defined pension benefit fund and its sponsor as a clarification of the SNA, and - in accordance with the update procedure of the SNA. For more information, see paragraphs 10-11 of the conclusions of the 11th AEG meeting on https://unstats.un.org/unsd/nationalaccount/aeg/2017/M11_Conclusions.pdf .

53) Wider use of fair value for loans

147. The SNA recommends that the values of loans to be recorded in the balance sheets of both creditors and debtors should be at nominal value, that is, at the amounts of principal that the debtors are conceptually obliged to pay the creditors when loans mature. However, it is common for the fair value of loans to differ from the nominal value for a number of reasons. At present the SNA recommends memorandum items recording fair values only for loans specifically characterized as non-performing. The possibility of a more extensive use of fair value in place of nominal value could be considered.

54) Provisions

148. In business accounting, there are three degrees of “promises”: liabilities, provisions and contingent liabilities. Their definitions are the following.

- a) A liability is a present obligation of the entity arising from past events, the settlement of which is expected to result in an outflow from the entity of resources embodying economic benefits or service potential.
- b) A provision is a liability of uncertain timing or amount.
- c) A contingent liability is a possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity

149. In the SNA, liabilities and provisions relating to financial instruments are generally recognized in the main accounts only if there is a corresponding financial asset of equal value held by a counter-party. However, it is recommended that certain provisions that do not satisfy this criterion, such as those for non-performing loans, should be recorded as memorandum items. Contingent liabilities are not recognized at all in the core accounts, except in the case of standardized guarantees.

150. The problem is that recognition of a reduction in the value of an asset in the SNA necessarily implies a reduction in the corresponding liability, but the asset holder may not wish to reveal to the counter-party the fact that they regard some of the claim as uncollectable. Not doing so however overstates the value of the assets.

55) Debt concessionality

151. Further work is required to clarify whether concessional loans involve a subsidy on any service charge associated with interest payments or a transfer representing the difference between the market rate of interest and the agreed rate. If the latter, the next problem is whether the transfer should be paid period by period on an ongoing basis as a current transfer or as a one-off capital transfer at the time the loan is issued.

56) Equity valuation and its implications

152. At the moment there are a number of alternatives for valuing equity given in the SNA. There is a question about whether more standardized recommendations can be made.

57) Reverse transactions

153. Work on a complex group of transactions known as reverse transactions has been pursued for several years. These transactions take their name from two common characteristics: (i) a commitment to reverse the transaction on a specified future date (or on demand), and (ii) that, although legal ownership is transferred to the purchaser, many of the risks and benefits of ownership remain with the original owner. Reversible transactions include repurchase agreements, securities lending without cash collateral, gold swaps, and gold loans/deposits.

58) Tradable emission permits

154. Tradable emission permits are a relatively new phenomenon, but they are gaining rapidly in importance. The full treatment of all types of permits is not explicitly described in the SNA, and in order to remove uncertainty, this shortcoming should be addressed as quickly as possible.

155. In this respect, the outcome of the consultations on the recording of emissions permits issued under cap-and-trade schemes in the national accounts has been resolved as an interpretation of the SNA. For more information, see SNA News and Notes, No. 32/33 on <https://unstats.un.org/unsd/nationalaccount/sna/nn32-33-En.pdf>.

59) Costs of ownership transfer of valuables and non-produced assets

156. The SNA draws a distinction between the costs of ownership transfer incurred in acquiring and disposing of non-financial assets on the one hand and financial assets on the other. Costs of ownership transfer incurred on transactions in non-financial assets are recorded as gross fixed capital formation, while costs of ownership transfer incurred on transactions in financial assets are recorded as intermediate consumption. The rationale for the different treatments is that non-financial assets are used in production and the income generated from production needs to be sufficient to cover the costs of using those assets, including costs of ownership transfer. Financial assets are not used in production and are held as stores of value, to earn property income or in the expectation of holding gains. It is also common for the ownership of financial assets and liabilities to change hands rapidly.

157. Valuables are non-financial assets but they are held as stores of value and are not used in production. As such, they have more in common with financial assets than they do with other non-financial assets. Therefore, it is arguable that costs of ownership transfer on valuables should be recorded as intermediate consumption rather than, as at present, fixed capital formation.

158. Costs of ownership transfer on fixed assets are not recorded separately but are added to the price paid by the purchaser and subtracted from the price received by the seller to obtain the acquisition and disposal values, respectively. The costs of ownership transfer on non-produced assets are recorded in a separate category of gross fixed capital formation. An exception is made in the case of land where costs of ownership transfer are treated by convention as land improvements.

159. An overview and rationalization of these practices could be helpful.

60) Distinction between current maintenance and capital repairs

160. The SNA draws a distinction between ordinary maintenance and repairs to fixed assets and major renovations, reconstructions or enlargements (see paragraphs 6.225 to 6.228) but acknowledges that the distinction is not clear-cut. The former is recorded as intermediate consumption and the latter as gross fixed capital formation.

161. Major renovations or enlargements increase the performance or capacity of existing fixed assets or significantly extend the previously expected service life. Ordinary maintenance and repairs are required so that an asset can be utilized over the whole of the service life expected on acquisition. If the owner neglects maintenance and repairs, then the expected service life may be drastically reduced, and unforeseen obsolescence must be recorded as another volume change in the value of the asset.

162. If the requirement for treatment as fixed capital were to prevent a reduction in service life, rather than necessarily extend it, the problem of the borderline between ordinary maintenance and major extensions would disappear and the problem that the consequences of the neglect of maintenance are not reflected in a reduction in net domestic product could be avoided.

61) Transfer of ownership of an asset during its life

163. Both the case where a natural resource is leased for an extended period of time and the case of PPPs are ones where the economic ownership of an asset effectively changes hands part way through its life. The terms of the arrangements are such that recompense from the initial user for the change of ownership to the second user is bundled into the arrangements for payments during the lease. The transfer of the ownership has to be recorded as another change in the classification of assets and is not reflected in the production or distribution of income accounts. This is a deficiency that could be rectified by some elaboration of the concept of financial leasing.