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Background document
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Background document to the report of the Intersecretariat Working Group on National Accounts

Prepared by the Intersecretariat Working Group on National Accounts

Contents

I. Introduction

1. This background document aims to elaborate further on the issues raised in the main report of the ISWGNA: E/CN.3/2024/8 and the ISWGNA report on the recommendations for the update of the 2008 SNA: E/CN.3/2024/9. Section II of this background document presents additional information about the recommendations for the update of the 2008 SNA and section III, the proposed development of guidance to support the implementation of the 2025 SNA. A summary of activities during 2023 and expected activities in 2024, 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. Further information on the reporting of annual national accounts data is provided in Section V.

II. Additional information about the recommendations for the update of the 2008 SNA

A. Summary of the recommendations, including their impact

2. This section presents an overview of all the recommendations for the update of the 2008 SNA and the impact of the various recommendations. For this purpose, Tables 1, 2 and 3 have been put together. Table 1 presents the revised classification of assets. In tables 2 and 3, reference is made to the items described in the ISWGNA report E/CN.3/2024/9, on the recommendations for updating the 2008 SNA, by referring to the relevant subsection of section II in that report (as well as the relevant guidance note or other guidance, as listed in the annex I below).

3. Table 2 mainly focuses on those changes and clarifications that have an impact on the measurement of important macro-economic aggregates, and/or those which require the compilation of additional statistics. In respect of the latter, a distinction has been made between those items which affect the sequence of economic accounts (i.e., the “central framework”), by recommending the compilation of additional (standard) breakdowns and economic tables; and those items for which the compilation of additional statistics in the form supplementary items/tables, extended accounts/tables or thematic accounts/tables is encouraged.

4. Table 3 provides an overview of changes and clarifications that do not have an impact on macro-economic aggregates or the compilation of additional statistics. Here, a distinction has been made between “clarification”, “guidance”, and “no change”, whereby “clarification” refers to those items which provide further clarification of already existing guidance in the 2008 SNA, and “guidance” refers to the provision of new guidance, currently not in the 2008 SNA. As this may also be relevant for the items in Table 2, similar columns have been added to the latter table.

5. Table 2 is the focus of the discussion in this section, but it is important to acknowledge that more than half of the items providing recommendations for the update of the 2008 SNA can be looked upon as “simply” providing clarifications or additional guidance.

6. Looking at the impact of the recommendations on important macro-economic aggregates, only a handful of items have an impact on gross domestic product (GDP). Two items which extend the recognition of (produced) non-financial assets may have a

more significant impact: data and marketing assets. In addition, the improvement of the consistency in applying the sum-of-costs method to measure non-market output and fixed capital formation for own final use may have a significant impact on the estimation of GDP.

Table 1. Classification of assets[1]

SNA 2025 / BPM7		**SNA 2008 / BPM7**	
Code	**Term**	**Code**	**Term**
AF.1	Monetary gold and SDRs	AF.1	Monetary gold and SDRs
AF.11	Monetary gold	AF.11	Monetary gold
AF.12	SDRs	AF.12	SDRs
AF.2	Currency and deposits	AF.2	Currency and deposits
AF.21	Currency	AF.21	Currency
AF.22	Crypto-assets with a corresponding liability designed as a general medium of exchange, not issued by monetary authorities		
AF.23	Transferable deposits	AF.22	Transferable deposits
		AF.221	Interbank positions
		AF.229	Other transferable deposits
AF.29	Other deposits	AF.29	Other deposits
AF.3	Debt securities	AF.3	Debt securities
AF.31	Short-term debt securities	AF.31	Short-term debt securities
AF.32	Long-term debt securities	AF.32	Long-term debt securities
AF.33	Crypto assets with a corresponding liability designed as a medium of exchange within a platform		
AF.34	Utility tokens		
AF.4	Loans	AF.4	Loans
AF.41	Short-term loans	AF.41	Short-term loans
AF.42	Long-term loans	AF.42	Long-term loans
AF.5	Equity and investment shares/units	AF.5	Equity and investment shares/units
AF.51	Equity	AF.51	Equity
AF.511	Listed shares	AF.511	Listed shares
AF.512	Unlisted shares	AF.512	Unlisted shares
AF.519	Other equity and equity in international organizations [2]	AF.519	Other equity
AF.52	Investment fund shares/units	AF.52	Investment fund shares/units
AF.521	Money market fund shares/units	AF.521	Money market fund shares/units
AF.522	Non-MMF investment fund shares/units	AF.522	Non-MMF investment fund shares/units
AF.6	Insurance, pension and standardized guarantee schemes	AF.6	Insurance, pension and standardized guarantee schemes
AF.61	Non-life insurance technical reserves	AF.61	Non-life insurance technical reserves
AF.62	Life insurance and annuity entitlements	AF.62	Life insurance and annuity entitlements
AF.63	Pension entitlements	AF.63	Pension entitlements

[1] Categories highlighted in blue refer to supplementary items, while categories highlighted in red refer to items which are outside the asset boundary of the SNA.
[2] Please note that, different from the 2008 SNA, this category will include all equity in international organizations, also equity in the form of (non-negotiable) shares.

SNA 2025 / BPM7		SNA 2008 / BPM7	
Code	**Term**	**Code**	**Term**
AF.64	Claims of pension funds on pension managers	AF.64	Claims of pension funds on pension managers
AF.65	Entitlements to non-pension benefits	AF.65	Entitlements to non-pension benefits
AF.66	Provisions for calls under standardized guarantees	AF.66	Provisions for calls under standardized guarantees
AF.7	Financial derivatives and employee stock options	AF.7	Financial derivatives and employee stock options
AF.71	Financial derivatives	AF.71	Financial derivatives
Classification by market risk			
AF.711	Foreign-exchange derivatives		
AF.712	Single currency interest rate derivatives		
AF.713	Equity derivatives		
AF.714	Credit derivatives		
AF.719	Other derivatives		
Classification by instrument			
AF.xxx	Forwards	Part of AF.712	Forwards
AF.xxx	Options	AF.711	Options
AF.xxx	Credit derivatives	Part of AF.712	Forwards
AF.xxx	Other and hybrid derivatives		
Classification by trading venue			
AF.xxx	Exchange traded derivatives		
AF.xxx	Over-the-counter derivatives		
AF.xxx	Cleared derivatives		
AF.xxx	Non-cleared (OTC) derivatives		
AF.72	Employee stock options	AF.72	Employee stock options
AF.8	Other accounts receivable/payable	AF.8	Other accounts receivable/payable
AF.81	Trade credits and advances	AF.81	Trade credits and advances
AF.89	Other	AF.89	Other accounts receivable/payable
PM	Constructive liabilities		
PM	Provisions		
of which	Financial assets related provisions		
of which	Non-financial assets related provisions		
of which	Unrelated to asset ownership provisions		
AN.1	Produced non-financial assets (excluding produced natural capital)	AN.1 - AN.115 - AN.1221	Produced non-financial assets - Cultivated biological resources - Work-in-progress on cult. biological res.
AN.11	Fixed assets (excluding produced natural capital)	AN.11 - AN.115	Fixed assets - Cultivated biological resources
AN.111	Dwellings	AN.111	Dwellings
AN.112	Other buildings and structures	AN.112	Other buildings and structures
AN.1121	Buildings other than structures	AN.1121	Buildings other than structures
AN.1122	Other structures	AN.1122	Other structures
of which	Renewable energy installations		
of which	Fossil fuel installations		
AN.1123	Land improvements	AN.1123	Land improvements

SNA 2025 / BPM7		SNA 2008 / BPM7	
Code	**Term**	**Code**	**Term**
AN.113	Machinery and equipment	AN.113	Machinery and equipment
AN.1131	Transport equipment	AN.1131	Transport equipment
of which	Electric powered transport equipment		
AN.1132	ICT-equipment	AN.1132	ICT-equipment
AN.1133	Other machinery and equipment	AN.1133	Other machinery and equipment
of which	Carbon capturing equipment		
of which	Nuclear fusion equipment		
AN.114	Weapons systems	AN.114	Weapons systems
AN.115	Intellectual property products	AN.117	Intellectual property products
AN.1151	Research and development	AN.1171	Research and development
AN.1152	Mineral exploration and evaluation	AN.1172	Mineral exploration and evaluation
AN.1153	Computer software, data and databases	AN.1173 + Data	Computer software and databases + Data
AN.11531	Computer software, including artificial intelligence systems	AN.11731	Computer software
of which	Artificial intelligence		
AN.11532	Data and databases	AN.11732 + Data	Databases + Data
of which	Databases		
of which	Data		
AN.1154	Entertainment, literary or artistic originals	AN.1174	Entertainment, literary or artistic originals
AN.1155	Marketing assets		
AN.1159	Other intellectual property products	AN.1179	Other intellectual property products
AN.12	Inventories (excluding produced natural capital)	AN.12 - AN.1221	Inventories - Work-in-progress on cult. biological res.
AN.121	Materials and supplies	AN.121	Materials and supplies
AN.122	Work-in-progress (excluding produced natural capital)	AN.1222	Other work-in-progress
AN.123	Finished goods	AN.123	Finished goods
AN.124	Military inventories	AN.124	Military inventories
AN.125	Goods for resale	AN.125	Goods for resale
AN.13	Valuables	AN.13	Valuables
AN.131	Precious metals and stones	AN.131	Precious metals and stones
AN.132	Antiques and other art objects	AN.132	Antiques and other art objects
AN.139	Other valuables	AN.139	Other valuables
AN.2	Non-produced non-financial assets (excluding non-produced natural capital)	AN.2 - AN.21	Non-produced non-financial assets - Natural resources
AN.21	Contracts, leases and licenses	AN.22	Contracts, leases and licenses
AN.211	Marketable operating leases	AN.221	Marketable operating leases

SNA 2025 / BPM7		SNA 2008 / BPM7	
Code	**Term**	**Code**	**Term**
AN.212	Permits to use natural resources [3]	AN.222	Permits to use natural resources
AN.213	Permits to undertake specific activities	AN.223	Permits to undertake specific activities
AN.214	Entitlements to future goods and services on an exclusive basis	AN.224	Entitlements to future goods and services on an exclusive basis
AN.215	Non-fungible tokens		
AN.22	Crypto assets without a corresponding liability designed as a medium of exchange		
AN.23	Purchased goodwill	AN.23 - Marketing assets	Purchases less sales of goodwill and marketing assets - Marketing assets
AN.3	Natural capital	AN.115 + AN.1221 + AN.21 + Ecosystem assets	Cultivated biological resources + Work-in-progress on cult. biological res. + (Non-cultivated) natural resources + Ecosystem assets
AN.31	Natural resources	AN.115 + AN.1221 + AN.21	Cultivated biological resources + Work-in-progress on cult. biological res. + (Non-cultivated) natural resources
AN.311	Land	AN.211	Land
AN.312	Mineral and energy resources	AN.212 + Renew. energy res.	Mineral and energy resources + Renewable energy resources
AN.3121	Non-renewable mineral and energy resources	AN.212	Mineral and energy resources
AN.31211	Oil resources		
AN.31212	Natural gas resources		
AN.31213	Other non-renewable mineral and energy resources		
AN.3122	Renewable energy resources		
AN.31221	Wind energy resources		
AN.31222	Solar energy resources		
AN.31223	Water energy resources		
AN.31224	Geothermal energy resources		
AN.31229	Other renewable energy resources		
AN.313	Biological resources	AN.115 + AN.213	Cultivated biological resources + Non-cultivated biological resources
AN.3131	Biological resources yielding repeat products		
AN.31311	Animal resources yielding repeat products	AN.1151	Animal resources yielding repeat products
AN.31312	Tree, crop and plant resources yielding repeat products	AN.1152	Tree, crop and plant resources yielding repeat products

[3] As a consequence of applying the split-asset approach for certain natural resources, this asset category will be replaced by stocks of, and transactions in, natural resources.

SNA 2025 / BPM7		SNA 2008 / BPM7	
Code	**Term**	**Code**	**Term**
AN.31313	Work-in-progress on biological resources yielding repeat products	AN.1221	Work-in-progress on cult. biological res.
AN.3132	Biological resources yielding once-only products	AN.1221 + AN.213	Work-in-progress on cult. biological res. + Non-cultivated biological resources
AN.31321	Migrating biological resources yielding once-only products		
AN.31322	Non-migrating biological resources yielding once-only products		
AN.31323	Work-in-progress on non-migrating biological resources.		
AN.314	Water resources	AN.214	Water resources
AN.315	Other natural resources	AN.215	Other natural resources
AN.3151	Radio spectra	AN.2151	Radion spectra
AN.3159	Other	AN.2159	Other
AN.32	Ecosystem assets		
AN.4	Human capital		
AN.5	Social capital		

7. Two other items may also have an impact on the measurement of GDP, albeit to a much lesser extent. First, the change in the measurement and recording of output of central banks affects GDP, because the payments by financial intermediaries to the central bank are now generally recorded as current transfers, instead of purchases of services which would imply additional intermediate consumption of the financial intermediaries.[4] [5] The second item concerns the changes in the accounting for biological resources. Here, the asset boundary has not changed. However, the shift from non-produced to produced non-financial assets may have a modest impact on GDP. First, the time of recording of the natural growth of biological resources yielding once-only products (e.g., timber) leads to a different time of recording of the output. Whereas the output of cultivated (produced) biological resources is measured at the time of growth of the resources, the output of non-cultivated resources is recorded at the time of felling/harvesting. Second, the shift from non-produced to produced may lead to additional amounts of gross fixed capital formation of the underlying asset (measured as the net present value of future resource rent after deduction of the work-in-progress).

8. Regarding the impact of the changes on net domestic product (NDP), the additional consumption of fixed capital will neutralize the additional gross fixed capital formation to a large extent. More importantly for the impact on NDP is the recording of depletion as a cost of production. Especially in countries where a substantial part of

[4] The relevant payments typically refer to payments related to, for example, supervision. In some cases, however, the payments by financial intermediaries may actually constitute payments for services, for example, payments for the provision of training courses by central banks. These are treated as such.

[5] Please note that in the case of the ESA, the recommended recording of central bank output would have a much more significant impact on GDP, as currently ESA 2010 prescribes a recording of all central bank output as intermediate consumption of financial intermediaries. As a consequence, the impact on GDP would equal the total central bank output.

economic activity concerns the extraction of mineral and energy resources, NDP will be affected to a significant degree.

9. None of the items have a direct impact on government net lending/borrowing (i.e., government deficit).[6] Net worth will be impacted by the difference between the additional gross fixed capital formation and the additional consumption of fixed capital, as described above, over the service lives of the relevant assets. The updated accounting for biological resources will only lead to shifts between produced and non-produced assets, as well as between work-in-progress and the underlying assets. The total level of biological resources will remain unaffected.

10. Regarding the recommendations to include additional breakdowns or economic tables to the sequence of economic accounts, there are four major justifications. First, it is considered important to arrive at a better understanding of the impact of globalisation on the generation and distribution of income of a country. For this purpose, it is recommended to have breakdowns of corporations into foreign-controlled corporations, public corporations, and national private corporations. In addition to providing additional statistics on the public sector, which is considered important for internationally comparing government-related data, separating foreign-controlled corporations would not only allow for an improved analysis of the production and generation of income by these corporations, but also show how much of this income is flowing to the rest of the world, thus not affecting disposable income of households.

[6] It should be noted here that the updated guidance on the sum-of costs method may occasionally lead to a reclassification from a unit being treated as a market producer to a treatment as non-market producer. Moreover, possible changes in behaviour, for example related to the treatment of crypto assets without a corresponding liability designed as a medium of exchange as non-produced non-financial assets, have not been taken into account.

TABLE 2 - 2025 SNA -- Recommendations that impact on the measurement of important national accounts aggregates and/or require the compilation of additional statistics

		Conceptual change					Additional data item/table					Clarification guidance	
		Impact on GDP	Impact on NDP	Impact on GG NLB	Impact on net worth	Other	Break down	Economic table	Supplementary item/ table	Extended table/account	Thematic table/account		
A.	**Generic issues**												
A.4	IE.1 Statistical framework for the informal economy												
B.	**Further specifications of statistical units and revisions in institutional sectoring**												
B.1	WS.2 Distributions of household income, consumption and wealth												
B.1	G.2 Treatment of MNE and intra-MNE flows												
B.1	G.4 Treatment of Special Purpose Entities and residency												
B.1	F.7 Impact of Fintech on macroeconomic statistics												
B.2	X.18 Statistical units												
B.3	G.4 Treatment of Special Purpose Entities and residency												
C.	**Further specifications of the scope of transactions including the production boundary**												
C.1	DZ.9 Incorporating digital intermediary platforms into the SNA												
C.3	A!.2 Treatment of rent												
C.3	X.55 Further alignment of the sum-of costs approach												
C.4	X.3 Treatment of the output of central banks												
C.6	F.15 Debt Concessionality												
C.7	F.2 Asymmetric treatment of reinvested earnings												
C.7	D.17 Identifying superdividends and establishing the borderline between dividends and withdrawal of equity in the context of direct investment												
C.8	AI.2 Treatment of Rent for the "Recording of Data", "Marketing Assets" and "Biological Resources"												
C.9	F.12 Covering hybrid insurance and pension products												
D.	**Extensions and further specifications of the concepts of non-financial assets, capital formation and consumption of fixed capital/depletion, including changes related to other transactions in goods and services**												
D.1	DZ.6 Recording of data in the national accounts												

TABLE 2 - 2025 SNA -- Recommendations that impact on the measurement of important national accounts aggregates and/or require the compilation of additional statistics													
		Conceptual change					Additional data item/table					Clarification guidance	
		Impact on GDP	Impact on NDP	Impact on GG NLB	Impact on net worth	Other	Break down	Economic table	Supplementary item/ table	Extended table/account	Thematic table/account		
D.1	G.9 Payments for "knowledge-based capital" (marketing assets)												
D.2	F.18 The recording of crypto assets in macroeconomic statistics												
D.4	WS.6 Economic ownership and depletion of natural resources												
D.4	WS.11 Treatment of renewable energy resources as assets												
D.5	WS.8 Accounting for biological resources												
D.10	DZ.7 Improving the visibility of artificial Intelligence in the national accounts												
D.10	WS.12 Environmental classifications												
D.	**Further refinement of the treatment and definition of financial corporations, financial instruments and financial assets**												
E.1	F.1 More disaggregated institutional sector and financial instruments breakdowns												
E.2	F.18 The recording of crypto assets in macroeconomic statistics												
E.3	F.8 Valuation of debt securities at both market and nominal value												
E.5	B.12 Treatment equity in international organizations that is in the form of unlisted shares or nonnegotiable equity												
E.6	X.16: Accounting for pensions: supplementary table on household retirement resources												
E.7	F.4 Financial derivatives by type												
E.8	X.59 Clarification note on treatment of securities (and gold bullion) under reverse transactions												
E.9	WS.9 Recording of provisions												
E.10	WS.12 Environmental classifications												
G.	**Broadening the framework of national accounts to capture wellbeing and sustainability**												
G	WS.3 Unpaid household service work												
G	WS.4 Labour, education and human capital												

TABLE 2 - 2025 SNA -- Recommendations that impact on the measurement of important national accounts aggregates and/or require the compilation of additional statistics														
		Conceptual change					Additional data item/table					Clarification guidance	
		Impact on GDP	Impact on NDP	Impact on GG NLB	Impact on net worth	Other	Break down	Economic table	Supplementary item/ table	Extended table/account	Thematic table/account		
G	WS.5 Indicators of health care in the SNA												
H.	**Other issues**												
H.3	DZ.4 Recording and valuing “free” products in an SNA satellite account												
H.3	DZ.5 Increasing the visibility of digitalisation in economic statistics through the development of digital supply-use tables												

TABLE 3 -- 2025 SNA -- Other recommendations for clarification or additional guidance				
		Clarification	Guidance	No change
A	**Generic issues**			
A.1	CM.4 Use of net measures in the presentation of the National Accounts			
A.2	AI.1 Valuation principles and methodologies			
A.2	X.24 Refocusing 2008 SNA Chapter 20 (Chapter 17 in the 2025 SNA) on capital services and the national accounts			
A.3	IF.1 Islamic finance in the National Accounts and External Sector Statistics -- new chapter			
A.4	X.32 Establishing clearer links to ICLS resolutions -- informal economy			
A.5	X.53 Include text on significant differences between the SNA and IPSAS/IAS			
B.	**Further specifications of statistical units and revisions in institutional sectoring**			
B.1	G.7 Global value chains and trade in value-added			
B.3	B.3 Centralised Currency Unions			
B.3	X.4 The delineation of head offices and holding companies in the national accounts			
B.3	X.39 Output of off-shore banks			
B.3 as	X.54 Draft an issues note on when, and when not, to consider trusts and other types of funds separate institutional units			
C.	**Further specifications of the scope of transactions including the production boundary**			
C.1	DZ.8 Cloud computing			
C.2	G.7 Global value chains and trade in value-added			
C.2	C.4 Merchanting and factoryless producers; clarifying negative exports in merchanting, and merchanting of services			
C.4	F.14 Treatment of factoring transactions			
C.4	X.10 FISIM			
C.5	X.44 Recording of deferred or waived rental payments			
C.5	X.45 Recording of deferred delivery of, and payments for, goods and services			
C.5	X.46 Recording of deferred interest payments			
C.6	IF.1 Islamic finance in the National Accounts and External Sector Statistics -- measurement of interest			
C.6	X.6 The statistical treatment of negative interest			
C.7	D.16 Treatment of retained earnings			
C.10	X.5 Recording of flows between a defined benefit pension fund and its sponsor			
C.10	X.8 Definition of catastrophes in the measurement of non-life insurance			
C.10	X.12 Accounting for pensions: treatment of holding gains and losses			
C.10	X.35 Improve consistency in the use of terminology for insurance			
C.10	X.41 Recording of refunded premiums at surrender of insurance policies			

TABLE 3 -- 2025 SNA -- Other recommendations for clarification or additional guidance		Clarification	Guidance	No change
C.11	C.7 Treatment of travel packages, health-related travel, and taxes and fees on passengers' tickets			
C.1	C.8 Recording penalties and fines			
D.	**Extensions and further specifications of the concepts of non-financial assets, capital formation and consumption of fixed capital/depletion, including changes related to other transactions in goods and services**			
D.3	DZ.10 Non-fungible tokens (NFTs)			
D.4	WS.10 Valuation of mineral and energy resources			
D.6	WS.7 Treatment of emission trading schemes			
D.7	G.5 Economic ownership of intellectual property products -- recording of intra-MNE transactions			
D.7	X.9 Recording of work in progress			
D.8	X.52 Include text on partitioning of assets			
D.8	X.56 Add clarification on the treatment of costs of ownership transfers for different types of assets			
D.8	X.57 Add clarification on the distinction between maintenance and capital repairs for intangible assets			
D.8	X.58 Issues note on a possible alternative treatment of the transfer of leased assets at the end of the lease period			
D.9	CM.4 Use of Net measures in the presentation of the National Accounts -- use of geometric depreciation			
D.9	X.7 Service lives of military systems			
D.9	X.9 Capital services of assets not contributing to production			
D.11	G.1 Valuation of imports and exports of goods			
E.	**Further refinement of the treatment and definition of financial corporations, financial instruments and financial assets**			
E.4	F.9 Valuation of loans (fair value)			
E.5	F.16 Subscription Rights			
E.6	X.14 Accounting for pensions: recognition of pension entitlements relating to social security schemes			
E.7	F.5 Treatment of credit default swaps			
E.7	F.10 Treatment of cash collateral			
E.8	F.3 Reverse transactions			
E.8	F.10 Treatment of cash collateral			
E.8	D.18 Cash pooling in direct investment			
E.8	X.37 Recording of central bank swap arrangements			
E.9	X.14 Accounting for pensions: recognition of pension entitlements -- contingent liabilities			
F.	**Further specifications of the scope of transactions concerning government and public sector**			
F.1	WS.7 Treatment of emission trading schemes			
F.2	X.11 The recording of stability fees			

TABLE 3 -- 2025 SNA -- Other recommendations for clarification or additional guidance		Clarification	Guidance	No change
F.4	D.8 Public-private partnerships			
F.5	D.5 Eliminating the imputations for an entity owned or controlled by general government that is used for fiscal purposes			
F.6	B.8 Recording citizenship by investment programs			
F.6	B.9 Treatment of external assets and related income declared under tax amnesty			
F.6	X.43 Government support to businesses and households			
G.	**Broadening the framework of national accounts to capture wellbeing and sustainability**			
G	WS.1 A Broader SNA framework for wellbeing and sustainability			
G	X.32 Establishing clearer links to ICLS resolutions -- labour accounts			
H.	**Other issues**			
H.1	DZ.1 Price and volume measurement of goods and services affected by digitalisation			
H.1	X.10 FISIM -- price and volume measurement			
H.1	X.21 Adding text on productivity measurement to 2025 SNA Chapter 18			
H.1 of	X.22 Adding a section, in the 2025 SNA Chapter 18, on the volume and price measurement specific products			
H.1	X.47 Estimating the volume of non-market output			
H.2	X.49 Accounting under conditions of high inflation			
H.3	DZ.3 Treatment of "free" products in the "core" national accounts			
H.4	G.7 Global value chains and trade in value-added			
H.4	X.51 Add text on nationality concept			
H.5	CM.2 Terminology and branding of the Economic Accounting statistical standards			
H.6	CM.3 A Taxonomy for communicating Economic Statistics, releases, products and product updates			
H.7	CM.1 An Assessment Framework to measure alignment with the Economic Accounting statistical standards			

11. The second justification for additional (standard) breakdowns concerns the importance of having statistics on the distribution of household disposable income, consumption, saving and wealth, consistent with national accounts aggregates. For this purpose, it is recommended to have breakdowns for households by income and wealth deciles. Such breakdowns would allow for an improved analysis of the impact of economic growth on the various household groups, especially whether this growth leads to improved conditions for the households at the lower end of the distribution. In the context of arriving at an improved accounting for the well-being of people, it is also recommended to have more detailed labour accounts. In addition to gaining more insights in the generation of labour income by industry, it would also provide valuable information on the different types of employed persons who earn this income.

12. The third justification for recommending an extension of the sequence of economic accounts is related to an improved accounting for (environmental) sustainability and the fourth relates to the goal to have an improved accounting of the impact of digitalisation. In addition to putting much more emphasis on natural capital, by separately distinguishing this category of assets, it is also recommended to have additional details for certain types of assets.

13. In addition to the above, a number of supplementary items and tables, and extended/thematic accounts and tables are encouraged. It goes beyond the scope of this section to list all of them, but it is worth mentioning explicitly the extended/thematic accounts and tables, which would provide additional information on issues related to well-being and (environmental) sustainability. Apart from statistics compiled according to SEEA[7], the compilation of extended/thematic accounts for unpaid household service work, education and human capital, and health is encouraged. Other supplementary data are often related to better monitoring financial risks and vulnerabilities, and the impact of digitalisation.

14. Looking at the rather long list of additional statistics, it is helpful to remember that the SNA recommendations cannot be enforced, it is not possible to use terms for them such as “mandatory”. It is very important that countries compile their national accounts according to the conceptual framework of the SNA. Apart from providing a comprehensive and internally consistent framework for tracking economic developments, the international comparability that arises when countries compile their national accounts according to the SNA is perhaps the single most important factor contributing to the success of the SNA.

15. Regarding the details of a country’s national accounts, the SNA recommends the compilation of a standard set of data – the sequence of economic accounts – including the (standard) breakdowns and economic tables recommended above. In addition, the SNA encourages countries to compile various supplementary data, tables and accounts. However, especially regarding the latter, it is important to take account of national priorities as well as the priorities for the collection of national accounts data by international organisations. Countries and regions may have different priorities, and therefore put emphasis on the compilation of different sets of tables and accounts.

B. The recommendations grouped by guidance note, and other documents

16. The recommendations grouped by guidance note, and other documents are presented in annex I, which provides an overview of all recommendations for updating the guidance of the 2008 SNA, to arrive at the 2025 SNA. First the recommendations from the various Guidance Notes are presented, for each of the priority areas of research. Subsequently, changes derived from SNA News & Notes and from other past guidance provided by the AEG are listed. The list ends with a summary of changes agreed to during the endorsement of the outline of the 2025 SNA and a number of other issues.

[7] SEEA_CF_Final_en.pdf (un.org)

C. Response to the outcome of the global consultation on the consolidated list of recommendations for the update of the 2008 SNA

1. Introduction

17. This section of the document provides a concise response to the outcome of the global consultation of the consolidated list of recommendations for the update of the 2008 SNA[8]. This consultation, which took place during August and September 2023, attracted 100 responses from countries and international organizations. The results were subsequently discussed in the October 2023 meeting of the AEG.

18. This analysis of the responses in this background document does not address every comment and suggestion in detail. After focussing, in more general terms, on further requests for clarifications and individual concerns about some conceptual changes to the 2008 SNA, attention is then paid to those issues which generated concerns from a relatively more substantial number of countries. In respect of the latter, it is important to emphasize that in all cases a large majority of countries agreed with, or at least did not explicitly express concerns about, the relevant recommendations.

19. It is also important to acknowledge upfront that the consolidated list of recommendations, which was subject to the global consultation, is a reflection of the recommendations put forward in guidance notes, issue notes, and recommendations agreed by the AEG in past meetings, some of which were published in SNA News & Notes. In all cases going beyond the provision of further clarifications, the recommendations went through a fully transparent process of producing the recommendations for new or updated guidance, endorsement by the AEG, and in relevant cases also the IMF Balance of Payments Statistics Committee (BOPCOM), and a global consultation process, during which countries generally endorsed the recommendations with a very large majority. These latter global consultations were very successful. 176 countries participated in at least one consultation, with many guidance notes receiving feedback from more than 75 countries.

20. Only a very limited number of recommendations did not receive support from a significant majority of countries. An example relates to the recording, as non-produced non-financial assets, of crypto-assets without a corresponding liability designed to act as a general medium of exchange (CAWLM), and those designed to act as a medium of exchange within a platform only (i.e., payment tokens without a corresponding liability) (CAWLP)), which was supported only by a small majority of countries. However, also in these cases where the emergence of a new phenomenon required the development of specific new guidance, the majority view has been respected, after extensive discussions and deliberations at the AEG (and BOPCOM).

21. This section is organised as follows. Sub-section 2 provides a general overview of the result of the global consultation on the consolidated list of recommendations. Sub-section 3 gives a concise overview of the requests for clarifications, as well as an overview of some of the concerns on conceptual choices expressed by one country, or a

[8] The report on the the outcome of the global consultation on the consolidated list of recommendations for the update of the 2008 SNA is available at: https://unstats.un.org/unsd/nationalaccount/RAconsultation.asp?cID=65

very limited number of countries. Sub-section 4 reflects on the concerns expressed by a relatively more substantial number of countries. Sub-section 5 summarizes the conclusions and proposes a way forward.

22. It is possible that additional issues may arise that need to be taken into account in the update of the 2008 SNA. It is expected that these issues will mainly consist of minor clarifications that do not change the substance of the SNA. They will be addressed according to standard procedures and communicated in a clear and transparent way.

2. General overview of the outcome of the global consultation

23. As noted above, the global consultation on the consolidated list of recommendations attracted 100 responses from countries and international organizations. Table 4 below shows that the worldwide representation was excellent, with each region providing multiple responses. This is an important point to take into consideration when assessing the outcome of the global consultation. A serious mismatch of regional representation could potentially put the responses to the consultation into question.

Table 4. Regional representation of the responses

Region	**Number of responses**
Africa	17
Asia and Pacific	24
Europe and North America	37
Latin America	10
Middle East	8
International organizations	4
Total	100

24. The global consultation contained two general questions, and a third open question providing an opportunity for countries to raise any possible concerns. Table 5 shows the outcome for the general questions. A very large majority of more than 80 per cent of those who responded to the first two questions confirmed that the recommendations are clear, straightforward and unambiguous, and also confirmed that the recommendations are consistent.

Table 5. General overview of the outcome of the global consultation

Question	Yes	No	No response	Total
Are the recommendations clear, straightforward, and unambiguous?	80	17	3	100
Are the recommendations consistent?	83	14	3	100
Do you have any other concerns about the recommendations	59	40	1	100

25. Regarding the open question, 59 respondents used the opportunity to provide specific feedback, ranging from minor requests for clarification and individual concerns about a certain recommendation to more substantial issues about some of the recommendations. To be expected, the more substantial concerns raised often coincided with a negative response to the first two questions. Sub-sections 3 and 4 provide further details.

3. Concise overview of requests for further clarifications and individual concerns

Requests for further clarifications

26. Several requests were made for further clarifications. In some cases, these requests could be addressed by improving the wording in the updated list of recommendations which is now put forward to the United Nations Statistical Commission[9]. In some other cases, the requests were related to the fact that a consolidated list of recommendations needs to be concise, and therefore has its limitations in reflecting all the details of the updated guidance.

27. To get a better appreciation of the requests for clarification, the most important ones are described below, in a very concise way. It should be emphasized, however, that the list is non-exhaustive, and that it should not be interpreted as a list of requests that will be addressed while the other requests are ignored. All requests will be considered in a conscious way while drafting the chapters for the 2025 SNA.

28. The first request for clarification was raised in relation to the treatment of transferable leases when applying the split-asset approach. Here, it will be made clear that in the case of transferable rights to exploit resources, double-counting, which would occur if both the value of the rights and the value according to the split-asset approach were allocated to the balance sheet of the extractor, should be avoided. In addition, it will be acknowledged that in such cases information on the value of the rights may actually provide an excellent indicator of the value of the relevant assets for the extractor at the time a transaction takes place.

29. There was also a request for clarifying the recording of depletion and its possible impact on the measurement of government output and consumption. Here, it will be clarified that depletion is recorded as a cost of production in the accounts of the extractor

[9] 2024-9-NationalAccounts-Recommendations-E.pdf

of the natural resources, part of which is subsequently allocated to the government, as an adjustment to the receipts of rent, in line with the appropriation of the resource rent (using the residual value method) by the extractor and the legal owner (i.e., in this case the government). As such, the depletion costs ultimately borne by the government will not feature as a cost in the measurement of government output, when applying the sum-of-costs method. From a less technical perspective, it would be difficult to see how this depletion would add to the production of government services.

30. In relation to the recording of losses of military assets, it was noted that the updated guidance recommends to reflect expected losses of military assets in the service lives of these assets, but that this may lead to uncertainty on when to record losses as other changes in volume. As was noted by the relevant respondent, only losses beyond what is being expected in normal circumstances are to be treated as other changes is volume, while expected losses would be part of consumption of fixed capital, or depreciation.

31. Regarding the treatment of terminal costs, it is recommended to apply the way of recording recommended in IFRS/IPSAS; for further details, reference is made to Guidance Note WS.9 on The Recording of Provisions. Two respondents each raised one issue. First, it was stated that this treatment would lead to "an elementary problem of reconciling the acquisition value (counter-parted with a payable as well as in the producer's accounts) with the balance sheet value". Secondly, it was argued that this would lead to a recording of provisions as production costs (i.e., intermediate consumption), which is inconsistent with the general principles of the SNA to not recognise opportunity costs for a possible future obligation. Here, it can be noted that the intention of the updated guidance is to avoid having negative values for assets with high terminal costs, which would result as a consequence of capturing future terminal costs in consumption of fixed capital, while the relevant expenditures are only capitalised once expended at the end of the service life of the asset. Instead of recognizing the investment at the time of spending, the future investment in terminal costs is already recognised in the asset value at the start, via other changes in the volume of assets (with a concomitant recognition of provisions); see Tables 3a and 3b of the Guidance Note.

32. The treatment of domestic Special Purposes Entities (SPEs) was raised a couple of times. Here, it can be noted that the guidance on the treatment of SPEs as such has not changed. In the updated guidance, the definition of SPEs has only been changed, by strictly limiting SPEs to those that are, directly or indirectly, controlled by a non-resident parent. However, this does not affect the treatment of similar types of units with domestic parents. To reflect the requests for clarification, less ambiguous wording will be used on the treatment of these units with domestic parents. Such units are typically consolidated with their parents, unless they have autonomy of decision. In the latter case, they will not be referred to as being part of SPEs.

33. For head offices, it was indicated that it would be useful to provide clarifications on whether the subsidiaries over which the control is carried out must be located in the same country/jurisdiction. It was also noted that corporate services are only described in more general terms, and that these services may also relate to financial services. All of this is probably related to the question on how to classify head offices, which would typically be recorded in the sector of their subsidiaries. If all subsidiaries are located in

another country, guidance may need to be added on the classification, either in the non-financial corporations sector or in the financial corporations sector.

34. Questions were also raised about the classification of funds with one or more beneficiaries where the fund manager is also a beneficiary. Here, it can be noted that the general rule of consolidation of the fund with its beneficiary in the case of one beneficiary, and the establishment of a separate unit in the case of multiple beneficiaries, would still be applicable.

35. One respondent also raised the question of how to classify producers of crypto-assets without a corresponding liability, as either producers of financial services or as producers of non-financial services. Here, it is noted that crypto-assets as such are not produced. The "producers" of such assets are looked upon as providing validation type of services. As these latter services mainly consist of miners using software to solve cryptographic puzzles (proof-of-work), a recording as non-financial services, more particularly IT-related services, seems the obvious classification. Similarly, one would not classify the printing of banknotes, or the production of coins, as financial services, simply because they relate to the "production" of financial assets, or assets that in some respects have the characteristics of a financial asset. Having said that, the point is taken, and further discussions with those responsible for the CPC- and ISIC-classifications may indeed be justified.

36. A question was also raised regarding the guidance on super dividends, in particular the limitation of such dividends to those which are related to the "sales of assets" in the case of foreign direct investment. Here, it will be clarified that this could relate to any kind of asset, although in most cases it probably would relate to non-financial assets.

37. One respondent explicitly supported the identification of sustainable finance. However, the respondent also noted that "the current recommendation would be difficult to implement with any consistency without a definition of green or international agreement to ensure some minimum standards in green taxonomies". This point is well taken. An issues note with recommendations on sustainable finance definitions and guidance has recently been prepared. This note will be discussed by the AEG and BOPCOM in early 2024.

38. One respondent also raised concerns about the impact of, for example, changing to cloud services on the measurement of productivity, because the replacement of investments in software and the like would be replaced by intermediate consumption of cloud services, thus lowering value added. This is considered a more generic issue which happens all the time when production processes change. It is not restricted to the conceptual guidance provided for the treatment of cloud services. This impact on productivity can only be solved, by not looking exclusively at labour productivity, but also at broader measures of productivity, such as multifactor productivity. The latter advice could probably be explicitly reflected in the relevant section of the 2025 SNA.

39. Finally, there was a request to not only show the impact of the proposed changes on gross domestic product (GDP), net domestic product (NDP), government deficit and net worth, but also the impact on net saving. In this respect, one could add that the impact on net saving is mainly affected by the extension of the asset boundary (data and

marketing assets), and the accounting for depletion as a cost of production. More minor impacts on net saving may come from the change in the sum-of-costs method for measuring own-account production of fixed assets by non-market producers (please note, not in the case of own-account production of government services for own final use), and the slightly changed accounting for biological resources.

40. More generally, as a final note regarding the requests for clarification, the update team would like to thank the countries for raising these issues. The requests for clarification are very much welcomed, as it will support the objective of providing clear and unambiguous guidance in the 2025 SNA. As much as possible, all requests will be considered in a comprehensive way, and taken into account when drafting the chapters of the 2025 SNA. If some of the updated guidance is still considered to be unclear, the global consultation of the chapters provides another opportunity to request further clarifications of the guidance and to signal possible ambiguities. Relevant countries are therefore invited to keep a close eye on the relevant parts of the 2025 SNA when they are posted for global consultation.

Individual concerns

41. Several countries used the opportunity to express concerns about certain recommendations. Such concerns were often expressed by individual countries, or occasionally two or three countries. The most important ones are listed below.

42. The treatment of crypto assets without a corresponding liability designed to act as a general medium of exchange (CAWLM) and those designed to act as a medium of exchange within a platform only (i.e., payment tokens without a corresponding liability)(CAWLP) as non-produced non-financial assets, continues to raise concerns, for a variety of reasons. Some respondents argued against the inclusion of these assets, noting that “it is not a good practice to include items for which the economic value and long-term applications are still in question and the value of which is highly speculative in nature”, or saying that “crypto assets without (a) counterpart are highly speculative in nature and can cause more confusion than provide benefit. Having such highly volatile components in the GDP would require additional data breakdowns which would exclude them”. Others favoured a treatment as financial assets, because of an inconsistency with the currently recommended treatment of emission permits as financial assets, or because of its possible impact on the behaviour of governments using the recommended recording of these assets as an opportunity to manipulate government deficit.

43. Already from the start of the discussion, the treatment of crypto assets without a counterpart liability showed to be highly controversial. However, it was also clear that recommendations had to be provided on how to record this new phenomenon. It is not possible to simply ignore the existence of (transactions in) these assets. After lengthy discussions, including an additional user consultation, it was agreed, in line with a slight majority of respondents to the global consultation and the user consultation, to account for these assets as non-produced non-financial assets, also keeping the door open for a reconsideration in the case of new developments in the market.

44. A limited number of countries also expressed discontent about the recommended treatment of emission permits, as financial assets (other accounts receivable/payable), with taxes on production recorded at surrender, valued at issuance prices. Here, it can be

noted that the final decision on the recording of emission permits is still pending. A workshop will be organized to discuss the preferable recording based on conceptual grounds as well as issues related to the feasibility of the recording. Having said that, it should also be noted that it won't be possible to arrive at a recommendation that aligns to everyone's preference. A compromise solution will have to be found.

45. Another controversial issue, which is closely related to the treatment of emission permits, concerns the treatment of the atmosphere as an asset. A number of respondents were clearly against a recommendation to treat the atmosphere as an asset, while in the opinion of another respondent the treatment of the atmosphere was sufficiently important to be resolved in advance of the finalization of the 2025 SNA, even if this would lead to a postponement of the update with one year. This issue has been discussed quite extensively in past meetings of the AEG, and it showed not to be possible to arrive at an agreed solution, also because of the need to take account of the broader ramifications of the treatment of the atmosphere for environmental-economic accounting. For these reasons, it has been decided to keep the guidance as is (i.e., not treating the atmosphere as an asset), and to put the issue on the post 2025 SNA research agenda.

46. Two countries showed some discomfort with recommending the use of geometric depreciation as the default option for calculating capital stocks and consumption of fixed capital, either because it was recommended, in a European context, to use a convex cohort depreciation function, or because it appears to be an unnecessary level of detail and to impose a false equivalence on very different asset types. In respect of this issue, it can be noted that geometric depreciation is only recommended as a default option, which does not prohibit the use of other depreciation profiles which may be considered more suitable. However, it should also be clearly stated that linear depreciation is not considered as a suitable method in most circumstances. In the updated list of recommendations, the relevant wording has been slightly adjusted, to avoid possible misinterpretations.

47. One respondent was opposed to the change in the treatment of gold bullion (and securities) under reverse transactions, which leads to a de-monetization of the gold bullion, and thus to a reduction in the value of monetary gold. The relevant country requested for a more in-depth review of the treatment of non-monetary gold. However, the outcome of such a review could have a significant impact on macro-economic statistics if a change in the treatment of non-monetary gold would be agreed. This would be difficult to manage at this stage of the update process, also recognizing that the issue was not included on the agreed list of research issues for the update of the 2008 SNA. All in all, it is recommended to put this issue on the post 2025 SNA research agenda.

48. Other individual respondents expressed concerns about: (i) treating SPEs as owners of intellectual property products; (ii) the more restricted recording for concessional loans in the sequence of economic accounts; (iii) opening the door in the future for the use of invoice values for imports and exports; (iv) the valuation of non-negotiable debt at nominal value; and (v) possible changes in terminology. The first three issues have been discussed at great length, with a clear consensus at the AEG and BOPCOM on the way forward. The fourth point would lead to a major departure from the current guidance, by valuing non-negotiable debt at market-equivalent prices. Regarding

the last point, i.e., changes in terminology, it can be noted that the relevant changes in terminology will be restricted to a relatively small number of well-defined cases.

49. Most of the arguments that were put forward in favour of alternative recommendations had already been taken into account during the process of arriving at the proposed recommendations. In most cases, the process resulted in a clear majority in favour of the proposed guidance. In a few cases, the issue was more controversial. The latter in particular concerns the treatment of crypto assets without a counterpart liability, emission permits, and the treatment of the atmosphere. For the first issue, the majority view has been respected, after extensive consultations and discussions. The final decision regarding the second issue is still pending the outcome of a workshop, and the subsequent reflections in the AEG and BOPCOM, while the possible treatment of the atmosphere as an asset has been put on the post 2025 SNA research agenda.

4. More substantial concerns

50. This sub-section discusses the recommendations where a more substantial number of countries expressed concerns. Rather similar concerns were raised by a group of 6 – 8 countries, almost exclusively from the European region. The issues can be grouped into the following: (i) the accounting for natural resources; (ii) the extension of the production and asset boundary with data and marketing assets; and (iii) consistency in the application of the sum-of-costs method. Each of them is discussed in more detail below. For the first two items, a distinction is made between concerns regarding the applied concepts versus concerns about the feasibility of implementing the updated guidance, in line with the feedback from the relevant countries. However, no specific attention is paid to some more far-reaching arguments regarding the accounting for natural resources, which essentially questioned the current guidance of the 2008 SNA. In this sense, the 2008 SNA is taken as a starting point for the analysis.

Accounting for natural resources

51. There are four main changes proposed to the 2008 SNA treatment of natural resources:

- explicit recognition of renewable energy resources;
- change in the delineation between cultivated and non-cultivated biological resources yielding once-only products (timber, fish and the like);
- the application of the split-asset approach; and
- accounting for depletion as a cost of production.

52. From a conceptual perspective, the recognition of renewable energy resources was questioned for three reasons: (i) renewable energy (wind, sun, etc.) is not scarce and does not have an economic owner; (ii) the profitability of wind and solar extraction is in many countries highly influenced by taxes and subsidies; and (iii) explicitly accounting for these resources may potentially lead to double-counting, as it is already captured in the value of land.

53. Regarding the first issue, while wind, sun, etc. are generally not scarce, the exploitation of these resources may be restricted to certain economic agents, for example

by needing permissions to put wind turbines on land, or having ownership of particular pieces of land which are highly favourable for exploiting renewable resources. The issue of profitability being affected by taxes and subsidies is well recognised, and should be taken into account when estimating resource rents derived from these resources. Finally, the possibility of double-counting will be acknowledged in the preparation of relevant guidance. However, this double-counting problem is assumed to be relatively negligible, because the relevant land is often not valued, or no land is involved (e.g., wind turbines on open seas); in this respect, an exception may need to be made for privately owned land, the value of which is based on actual transaction values. Whatever the case, these issues will be adequately explained and clarified in the updated guidance of the 2025 SNA, including the compilation guidance on the measurement of natural capital which is currently being developed.

54. Regarding the accounting for biological resources, nothing has changed regarding the treatment of biological resources yielding repeat products, which in most countries probably is the most substantial category of biological resources. The conceptual changes in the treatment of biological resources are restricted to those yielding once-only products, such as timber and fish.[10] The recommendations do not affect the total value of these resources. Only the distinction between cultivated and non-cultivated resources has been amended, with non-migrating resources, predominantly consisting of the growth of trees for timber production to be now always considered as cultivated. Migrating biological resources, like fish in open waters, remain to be recorded as non-cultivated.[11] Treating all growth of trees intended for timber as production, instead of applying a somewhat subjective discretionary choice between cultivated and non-cultivated resources based on the management regime, is considered preferable, also from a feasibility point of view. In this case, any future benefits from the growth of trees which are not intended for timber production would not be accounted for; only the felling of the relevant trees would be recorded as output.

55. The other “change” in the recording of non-migrating resources yielding once-only products is to be considered as a clarification. The guidance of the 2008 SNA now states, in paragraph 13.41, that work-in-progress for standing single-use crops should be valued by discounting “the future proceeds of selling the timber at current prices after deducting the expenses of bringing the timber to maturity, felling, etc.”. Here, the issue is that this valuation may lead to an overestimation of work-in-progress if the capital services of the underlying assets (i.e., forest land) are not adequately accounted for. In the 2025 SNA, a clear distinction will be made between the accrual accounting of the growth of trees as work-in-progress versus the present value of future resource rents accruing to the underlying asset.

56. From a conceptual perspective, individual respondents raised four concerns in relation to the recording of biological resources. First of all, it was noted that animals and

[10] This issue does not concern livestock being raised for slaughter, which are always considered, also in the 2008 SNA, as being cultivated.

[11] The 2008 SNA is somewhat ambiguous regarding the treatment of biological resources under quota regimes, implicitly suggesting that these resources should be looked upon as being cultivated. However, this interpretations is considered as a matter of unfortunate wording, which goes against the general considerations of only treating actively managed resources as cultivated.

plants should not be considered as producers of output. Secondly, it was noted that eliminating the distinction between cultivated and non-cultivated resources leads to gross fixed capital formation for resources that are not actively managed. Thirdly, it was stated that the recording of regeneration as gross fixed capital formation would imply an exclusion of the recording of work-in-progress. Finally, in the opinion of another respondent, the distinction between work-in-progress and the underlying asset was not clear.

57. The first two points are very much linked. In response, it is noted that human involvement is always the starting point for considering something as being produced, or not. However, as noted before, it is not that easy to make a clear distinction between the degree of human involvement, which in the updated guidance is basically determined by the actual growth of all trees intended for timber harvesting, instead of making a discretionary choice between cultivated and non-cultivated forest land. The third concern mentioned above is a misinterpretation, probably due to the way in which the recommendation has been phrased. A distinction should be made between the underlying asset, whose regenerative capabilities to produce timber in a sustainable way may grow (referred to as "regeneration") or decline (referred to as "depletion"). The growth of trees is always to be treated as work-in-progress. Regarding the last concern, the phrasing of the accounting for biological resources yielding once-only production will be given special attention during the drafting process, to avoid any confusion. Countries are invited to reflect on the result during the global consultation of the relevant chapters.

58. Regarding the split-asset approach, some have argued that the value of, for example, non-renewable mineral and energy resources is restricted to the present value of actually rents received by the legal owner of these resources, usually government. This may hold in the cases that the rents actually received in one way or another are very close to the resource rent derived from these resources when applying the residual value method (i.e., the output of minerals and energy minus the costs of extracting them). However, there is overwhelming evidence that this is not the case in many countries, and the split-asset approach is an elegant way of presenting the value of the assets related to the accrual of future benefits derived from them by the legal owner and by the extractor.

59. In respect of the split-asset approach, some have also argued that the 2008 SNA prescribes a valuation using the present value of rents actually received by the legal owner, and that estimating natural resources using the residual value method would lead to a significant change in the valuation of the relevant resources. In this respect, one could say that the 2008 SNA may not be that clearcut, but that all available guidance points in the direction of the 2008 SNA recommending the present value of benefits using the residual value method. This is quite clear in the case of biological resources (see above), but also, for example, paragraph 13.50 of the 2008 SNA states the following in relation to the valuation of mineral and energy resources: "Because there is no wholly satisfactory way in which to show the value of the asset split between the legal owner and the extractor, the whole of the resource is shown on the balance sheet of the legal owner and the payments by the extractor to the owner shown as rent. (This is therefore an extension of the concept of a resource rent applied in this case to a depletable asset.)". The same holds for paragraph 7.53 of the European System of Accounts (ESA) 2012: "Reserves of mineral deposits located on or below the earth's surface, that are

economically exploitable given current technology and relative prices, are valued at the present value of expected net returns resulting from their commercial exploitation of the assets".

60. In related discussions around the split-asset approach, some have argued in favour of applying the "right-to-use" method. Here, this method is interpreted as the extractor having an intangible asset, representing the value of the right to extract, instead of allocating this value to natural resources, similar to the examples presented on page 29 of the Guidance Note WS.6 on Accounting for the Economic Ownership and Depletion of Natural Resources. However, disregarding the issue around the valuation of the relevant natural resources, such a recording would only result in a different labelling of the asset, with the additional complication that the part of the depletion affecting the value of the asset in the books of the extractor would relate to a decrease in value of an intangible asset, instead of a decrease in the value of natural resources.

61. When it comes to the recording of depletion as a cost of production, hardly any conceptual concerns were expressed. Apart from the potential impact on the measurement of government output (see paragraph 29 above), two respondents expressed concerns, one noting that "the recording of … depletion are not in line with the concept of current actual costs. Depletion is a kind of opportunity cost, the loss of future opportunity to make money", and the other one stating that the "recording of depletion of natural resources as a cost of production is not compatible with the non-produced nature of these resources", thus impacting "on the soundness in the presentation of net values in national accounts". The latter line of reasoning is not entirely clear. In relation to the first argument, one could argue that the concept of depletion is actually not that different from the concept of consumption of fixed capital. Moreover, the depletion due to extraction actually leads to a decline in net worth, which is directly related to the production process of exploiting the resources.

62. Finally, a more generic concern about the accounting for natural resources, i.e., the scope of non-renewable mineral and energy resources to be included as assets in the national accounts, has been addressed in the updated list of recommendations for the update of the 2008 SNA. In the updated version, it has been made clear that "the measurement of monetary estimates will be restricted to the first class (i.e., commercially recoverable resources), which in practice could be approximated by those resources for which permissions to exploit have been granted, and/or those for which the existence is explicitly recognised by (past) monetary transactions", thus explicitly excluding potential resources regarding which it is not foreseen that they will be exploited in the near future.

63. The majority of issues expressed by countries who provided feedback on the recommendations for the accounting of natural resources related to feasibility and practical concerns. They had worries about the modelling and assumptions needed to estimate (the changes in) the value of the relevant assets, particularly the estimation of depletion which directly affects the compilation of NDP, and therefore may add to the volatility of important macro-economic indicators. Here, it can be noted that the methodologies recommended for the valuation of natural resources are not new; they are well-established. It is acknowledged though that the application of these methodologies indeed requires the use of a number of assumptions. However, some of these assumptions are already quite frequently applied in valuing other types of assets (e.g., discount rates,

rate of return on capital), while other assumptions such as the resource rent can be largely derived from observations on actual transactions.

64. In relation to the feasibility concerns, it can be noted that various countries, especially resource-rich countries such as Australia and Canada, have ample practical experience in compiling estimates of natural resources. Moreover, a dedicated task team has started its work on putting together compilation guidance, with the goal of arriving at internationally comparable estimates. This guidance will become available in early 2025, well in advance of the actual implementation of the 2025 SNA. Countries not participating in the task team will be given the opportunity to reflect on the appropriateness of the compilation guidance via global consultation. Not only this consultation, but also later practical experience from early implementation exercises by countries, including those not directly involved in the task team, could be used as inputs for further refining the guidance.

65. Finally, although not directly addressing any conceptual and practical concerns, it is also important to note that not accounting for natural resources, or – as some have argued – only in extended accounts, would give a very poor signal to users, potentially decreasing the relevance of national accounts. Only including estimates in extended accounts may also not be that well understood by users, and would also give rise to questions on which part is to be recorded in the extended accounts, and which part would still feature in the sequence of economic accounts, as actual transactions must be recorded in the latter accounts.

Data and marketing assets

66. Regarding data and marketing assets, of those expressing more substantial concerns a clear majority explicitly agreed with the conceptual soundness of the recommendations to treat especially data and also marketing assets as produced assets. Trying to measure these assets is considered highly relevant, especially when looking at the role of data in the present economy. However, notwithstanding the conceptual soundness and relevance, one respondent seems to question the extension of the asset boundary with data, because the asset value is related to its use rather than the dataset itself. Two other respondents wondered about the extension of the asset boundary with marketing assets, one having doubts whether capitalised marketing expenditure could truly reflect the brand value/marketing assets of a company, and another suggesting that these assets are not used to increase the volume of output, only the value of output.

67. It is not entirely clear whether the first concern has been interpreted correctly. It looks as if it is related to feasibility issues, but it could also be interpreted as a conceptual concern. In respect of the latter, one can only say that the value of data being related to its use is in line with the definition of an asset. The second argument against the concept of marketing assets is probably very much linked to the question of whether brand and reputation can really be "produced" and actively created, or that these assets are to be considered as the result of, for example, longstanding practices of providing goods and services of high quality and/or demand. In the latter case, an asset is being created, but not (actively) produced. In this respect, enterprises do actually incur expenses with the goal of improving their reputation and future sales. The only question is how much of these expenses actually add to the build-up of an asset from which future benefits can be

derived. Regarding the third conceptual concern, and this relates to the first point, it does not matter whether the future benefits are related to an increase in the volume of output, or an increase in output due to an increase in prices. The SNA simply defines an asset as "a store of value representing a benefit or series of benefits accruing to the economic owner by holding or using the entity over a period of time" (paragraph 3.5 of the 2008 SNA), without making the distinction regarding the source of these benefits. Furthermore, most marketing expenditure leads to an increase in the volume of sales, and not just the value.

68. If the feedback from the larger group of respondents expressing more substantial concerns is interpreted correctly, the main concerns are actually related to issues of feasibility and practical implementation. Respondents especially refer to the issue that estimates may rely heavily on assumptions, for example regarding the delineation of expenditures (e.g., labour costs based on certain occupations) which add to the build-up of the relevant assets, service lives, etc. This is considered quite problematic, especially in view of such estimates directly affecting the measurement of GDP.

69. In view of these feasibility issues, it has already been decided to establish two task teams with the objective of compiling implementation guidance for data and for marketing assets, with the goal of arriving at internationally comparable methodologies and estimates. Similar to the task team on natural capital, both task teams have the objective of producing compilation guidance by early 2025, with opportunities to provide feedback by way of global consultations, and sharing of practical experiences later on, well before the actual implementation of the 2025 SNA.

70. As a final note, in some cases one will have to rely on the application of simplified assumptions, which do not always have a strong basis in targeted research via directly observable information, an example being the service lives of the relevant assets. However, it is also clear that this is not something new to the practice of compiling national accounts. Similar issues have to be resolved in accounting for a large part of fixed assets, including those which are primarily produced in-house instead of being purchased. Relevance is perhaps the key word here: the main objective should be ensuring the relevance of future national accounts by properly describing all economic activity, thereby taking into account possible complexities in their measurement.

Consistency in the application of the sum-of-costs approach

71. In relation to the sum-of-costs approach, a number of recommendations have been discussed and agreed upon, as follows: (i) to include a return to capital in all cases, including output of non-market producers; (ii) to expand the scope of assets for which a return to capital should be recognised, thus including work-in-progress, other inventories (where significant) and non-produced non-financial assets that are used in production; (iii) to exclude a return to capital for city parks and historical monuments on pragmatic grounds; (iv) to add, where relevant, depletion of natural resources as a cost[12]; and (v) to add, where relevant, payments of rent as a cost.

[12] As explained in paragraph 29 of this note, this does not concern depletion attributed to government as a legal owner of natural resources.

72. In respect of these recommendations, no major concerns regarding feasibility were expressed, which is not that strange given the ample practical experience of countries in applying the sum-of-costs approach. Furthermore, four out of the five above recommendations did not raise any conceptual concerns. Here, the main issue is that a number of countries had reservations about including a return to capital for non-market producers, affecting the value of output for non-market services produced by government and NPISHs as well as the value of output of own-account capital formation for these producers.

73. As arguments against including a rate of return for non-market producers, similar to what is done for market producers, it was stated that market producers and non-market producers are fundamentally different from each other: "while market producers set their supply and prices in order to maximize profits, non-market producers base them on political and social considerations … and may be required to provide services to areas of the economy that would not be covered otherwise". As a consequence, a difference in the treatment of market producers and non-market producers is not to be considered as an inconsistency but as a reflection of reality. One respondent also argued that opportunity costs should not feature in the system of national accounts, and that only actual costs should be recorded. Finally, it was noted that the change may possibly have an impact on government deficit.

74. In response, the sum-of-costs is a method to approximate a market-equivalent price, in the absence of observed market prices, by summing up all costs involved in the production of the relevant goods or services. The costs of using capital in production do not only concern consumption of fixed capital, but also the cost of borrowing funds to invest in the capital used in the production of relevant goods and services. As such, it is not about making profits, but about recovering all costs involved. Regarding the issue of opportunity costs, one can add that the concept of opportunity costs (return on capital) is already applied to market production, and as such is a notion that is regularly applied, either explicitly or implicitly, in the system of national accounts.

75. Finally, although not a conceptual concern per se, the change in the measurement of government output, by adding a return on capital, does not directly change government deficit. However, there may be a possible indirect impact on government deficit, as in the case of applying the 50% rule for distinguishing between market producers and non-market producers, the additional costs may result in a shift from market producers to non-market producers for some units. Having said that, the impact of these potential shifts are expected to be relatively small.

5. Concluding remarks and way forward

76. When looking at the feedback in a broader perspective, one can conclude that a large majority of respondents endorses the recommendations for the update of the 2008 SNA. As noted above, in the opinion of more than 80 per cent of respondents, the recommendations are clear, straightforward, unambiguous, and consistent.

77. Quite a number of countries used the opportunity to provide specific feedback on the recommendations, ranging from requests for clarification, or for a few respondents, expressing disagreement on certain issues, to more substantial concerns expressed by a number of countries on a limited number of recommendations. The update team would

like to thank all countries that responded to the global consultation. This show of involvement with the update of the 2008 SNA is highly appreciated.

78. When it comes to the response to the feedback which has been provided, the update team has tried to address, to the extent possible, the requests for clarifications in the updated version of the recommendations, which is now being put forward to the Commission. In cases that this was not possible, respondents can be assured that the update team will deal with the requests in a very conscious way, taking them into account while drafting the chapters of the 2025 SNA. Disagreements with recommendations, as expressed by individual, or a few, countries could not be fully addressed, with the exception of providing further clarifications in some cases, as changing the recommendations would go against the views of a majority of countries. Here, it is noted again that all relevant issues have gone through a fully transparent process of discussion and consultation and in most cases the recommendations were supported by a strong majority of countries. In a few cases, global consultations showed divergent opinions across countries. In those cases where the provision of guidance was necessary, because of the need to take a (provisional) decision on the recording of relevant new transactions and positions, the majority opinion has been followed. In other cases where there was no strong agreement on recommendation for change, the treatment in the 2008 SNA will be retained.

79. More substantial concerns were expressed by a larger group of countries, although still limited to approximately 6 – 8 countries, mainly from Europe. The concerns related to the accounting for natural resources, the extension of the asset boundary with data and marketing assets, and the improvement of consistency in the application of the sum-of-costs approach. Without ignoring the conceptual concerns, as a more general conclusion, one could say that the concerns are predominantly related to the feasibility of implementing the relevant recommendations in a way to arrive at internationally comparable data which appropriately reflect the targeted concepts. The concerns around the recommendation regarding the consistency of the application of the sum-of-costs method for market producers and non-market producers are an exception to this general conclusion; here, the conceptual concerns are dominant.

80. In relation to the above concerns about the practical implementation, it can be noted that the feasibility of the recommendation has always been on the radar, right from the start of the update process. This included initial work on assessing the practical feasibility of implementation as part of the development of certain guidance notes, including those that are the subject of the more substantial concerns. Furthermore, in a number of cases, which coincide nicely with the above-mentioned more substantial concerns, it had already been decided that it would be important to develop more elaborated implementation guidance in the course of 2024. Three task team have started with the development of such guidance, for the following areas: (i) data; (ii) marketing assets; and (iii) natural resources. In due time, countries will be consulted on these guides. Further information on plans for developing implementation guidance can be found section III of this document.

81. The update of the 2008 SNA is critically important to keep the guidance on the compilation of national accounts up-to-date and relevant for users. In this respect, three priority areas were identified for the update: (i) digitalization, (ii) globalisation, and (iii)

well-being and sustainability. In the opinion of the update team, the consolidated list of recommendations gives an excellent response to these challenges, and with the work underway on developing implementation guidance, it is expected that when the 2025 SNA is actually implemented the prospects of producing high quality, internationally comparable estimates will be strong. On the other hand, if there were only limited changes to the 2008 SNA, it might be questioned whether the national accounting community has taken sufficient note of concerns that have been expressed about the SNA since the last update more than 15 years ago.

82. In closing, it is important to thank a very large group of people from countries and international organisations that have been involved in the update process. The update team would like to thank everyone who has contributed to the recommendations, not only the ones who have contributed directly, via the participation in the task teams doing research on a variety of topics, but also the people who have participated in other ways, not the least via the global consultations on the guidance notes and issue notes. The continued involvement of countries, via the participation in the global consultations of draft chapters in the coming period is highly appreciated.

III. Developing guidance to support the implementation of the 2025 SNA

83. An important aspect of the strategy for implementing the 2025 SNA is the development of guidance to support the recommendations for the update of the 2008 SNA.

84. The most substantial recommendations for change concern (a) treating data assets as produced assets, (b) treating marketing assets as produced assets, and (c) various changes and clarifications regarding natural resources, including accounting for the ownership and depletion of natural resources, the treatment of biological resources yielding once-only products, the valuation of mineral and energy resources, and the treatment of renewable energy resources. To assist implementation in these areas, three task teams have been created: (1) a joint Eurostat/IMF Task Team on Measuring Data as an Asset in the National Accounts, (2) an IMF Task Team on Marketing Assets, and (3) an OECD Expert Group on Natural Capital.

85. An important element of the work of the task teams is to develop implementation guidance that will enable high quality estimates to be produced. The task teams’ objective is to develop methodological guidance that is practical, robust and produces internationally comparable estimates. This guidance will be made available in the form of Handbooks. For the task teams on Measuring Data as an Asset in the National Accounts and Marketing Assets, the annotated outlines of the proposed handbooks will be available in early 2024. Draft annotated outlines are presented in annex 2 and 3 of this background document. Final versions of the Handbooks will become available in early 2025 and will be submitted as background documents for the Commission’s fifty-sixth session.

86. The OECD Expert Group on Natural Capital will develop a series of drafts of short practical guides in early 2024, which will lead to the development of an annotated outline of a Handbook around May 2024. The final Handbook will be published by the OECD in February 2025.

87. Each of the task teams consists of experts from countries and international organisations. The task teams will build on the work already undertaken in developing the guidance notes, including phase 1 testing concerning an initial assessment of the feasibility of implementation, and draw on country experiences. There will be extensive consultation in relation to the development of the handbooks, including global consultation at appropriate dates. The ISWGNA, assisted by the AEG, will provide high-level oversight of the development of the guidance.

88. In addition to the implementation guidance that will be prepared by the three task teams, the IMF is developing compilation guidance for the measurement of crypto assets in macroeconomic statistics. This guidance is expected to be finalized by the end of 2024 and it also will undergo extensive consultation, including global consultation.

89. There are other proposed changes to the 2008 SNA where it is considered that the development of compilation guidance may be useful. These include: consistency in the application of the sum-of costs approach; impact of fintech on macroeconomic statistics; Islamic finance; statistical framework for the informal economy; recording and valuing "free" products in an SNA extended account; and extension of the treatment of retained earnings to domestic relationships (in supplementary tables). Plans for developing guidance in these areas will be developed during 2024 with the aim of having guidance available in the course of 2025.

90. Furthermore, enhanced guidance on capital measurement, in particular depreciation, is considered worthwhile given an enhanced focus on net measures in the 2025 SNA. This guidance would build on the OECD Measuring Capital Handbook which already provides guidance in this area.

91. In a number of other areas for change to the 2008 SNA it is considered that sufficient guidance already exists to assist compilers in implementing the change. However, it is important to ensure that this guidance (and the guidance in other areas that is being developed) continues to be readily available on the ISWGNA web pages. To facilitate this, it is proposed that a 'Guide to SNA Implementation Guidance' be developed, which is expected to be available in early 2025.

92. While it is planned to have significant well-developed guidance material available by 2025, the guidance may require further updates, particularly in light of practical experience gained in putting the guidance into practice.

IV. Summary of activities during 2023 and expected activities in 2024 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, handbooks, etc.
1. Statistical office of the European Union (Eurostat)	• As usual, Eurostat held two meetings of the Directors of Macroeconomic Statistics (DMES), the Balance of Payments Working Group and the National Accounts Working Group. All EU, European Free Trade Association (EFTA) and candidate countries are represented in these groups. In addition, one meeting with the enlargement and candidate countries only was held, as well as seminars closing work on national accounts supported by the 2019 Instrument for Pre-Accession Assistance (IPA) programme. Following positive experience under the COVID-19 pandemic, Eurostat organized about half of these meetings in person and half virtually in 2023. • In support of the ongoing work to update the SNA, Eurostat, in cooperation with the IMF, launched a Task Team on “Measuring Data as an Asset in National Accounts”, which will produce a practical compilation handbook for one of the main innovations expected in the forthcoming SNA. • The final report of the DMES Task Force on fixed assets and estimation of consumption of fixed capital under ESA 2010 (TF FIXCAP), which aims at improving cross-country consistency in the compilation of capital stock and consumption of fixed capital, was approved mid-2023. A set of improvement recommendations was presented in a seminar in June with the aim to introduce these changes and further improvements with the next coordinated benchmark revision of national accounts and balance of payments statistics in 2024, for which preparation is ongoing. • The work of Task Force on Regional Investment that was established to investigate methodologies and data sources for the collection and reporting of data on total general government expenditure at NUTS 2 level was concluded and a set of methodological and data source recommendations including the feasibility of the collection and regionalization of the governmental gross fixed capital formation was approved by the DMES. • The work to improve employment estimates advanced also, and preliminary findings and recommendations were presented at a seminar in March 2023.

Organization	Meetings, training seminars, courses, handbooks, etc.
	• There were regular meetings of the expert groups on Quarterly National Accounts, Regional accounts, Pensions, Financial Accounts and Sector Accounts. • The “Integrated Global Accounts Expert Group” (IGA EG), created in 2021 by merging and refocusing the previous IGA Task Force and Supply-and-Use Input-Output Tables (SUIOT) Technical Group, held two meetings in 2023, where the FIGARO (EU inter-country SUIOT) methodology, the ongoing revision of the System of National Accounts (SNA) and Balance of Payments Manual (BPM), and other globalisation topics such as the activities of the European Network of Multinational Enterprise Groups Coordinators (MNEnet), were presented and discussed. • In 2023, Eurostat released in cooperation with the European Commission’s Joint Research Centre (JRC) and the European Space Agency the first results related to the development of a European space economy thematic account. They concern the exports and imports for the spacecraft, including satellites, and spacecraft launch vehicles. The report describing the methodology and the list of statistical codes to measure the space economy were also developed and released in 2023. Further results are expected for 2024. • Furthermore, in the GNI domain there were two GNI Expert Group meetings and four meetings of the GNI Sub-Group on Exhaustiveness. The Sub-Group produced its final reports on the Area 1 “Misreporting” and Area 2 “Employment method”. Eurostat plans to publish in 2024 a paper on “the application of employment method for the exhaustiveness of GDP estimates. Practical guidelines for enhanced comparability across countries”, that is one of the results of this work. • The work on Household Distributional Account continued in 2023. In the summer of 2023, new experimental estimates for Household Distributional Accounts (HDA) for countries that compile their own distributional accounts were published on Eurostat website along with an update of the Eurostat centralized exercise for the majority of the EU countries. The Eurostat Task Force on Household Distributional Accounts that kicked off in June 2022, held two meetings in May and December 2023 discussing several methodological and practical aspects of the compilation of household distributional accounts in EU countries. Moreover, close collaboration with the OECD Expert Group on Distributional National Accounts continues to prevent work overlap and

Organization	Meetings, training seminars, courses, handbooks, etc.
	reduce the burden on participating countries. In this context, a joint initiative to improve the efficiency of data sharing took shape through the update of Excel templates for data reporting. • Eurostat and the ECB published in July 2022 the report on developing a common approach to improve vertical consistency on their respective websites. As a follow up of the publication of the report, in 2023 Eurostat and the ECB, after consultation with the Expert Group on Sector Accounts (Eurostat), the Task Force on Annual Financial Accounts (Eurostat) and the Working Group on Financial Accounts and Government Finance Statistics (ECB), have developed a template for collecting national reconciliation practices for the financial and non-financial accounts by institutional sector. A concise summary table of the main reconciliation practices by country (as well as for euro area aggregates) was published in October 2023 for users by the ECB and Eurostat in their respective websites. • In the context of the European Master in Official Statistics (EMOS), Eurostat organized a new edition of the course on Macroeconomic and Financial statistics for German universities, in cooperation with the European Central Bank and the University of Trier. Eurostat also organised the traditional training courses for European participants on national accounts and on balance of payments. Eurostat continued to receive additional voluntary data from EU Member States to improve data availability under the G-20 Data Gaps agenda as well as for macro-economic policymaking. • Eurostat and the European Statistical System (ESS) continue working to implement the strategy to address statistical issues arising from economic globalization. This strategy brings several ESS initiatives together into a systematic approach, with the aim of addressing issues such as confidentiality, data access and communication. The European Network of Multinational Enterprise Groups coordinators (MNEnet), created in 2021, also incorporates the "Early Warning System" (EWS) since 2022. The MNEnet promotes the creation of national Large Cases Units or similar organizational structures as well as the exchange of methodological information on large and complex MNE groups across countries. In 2023, two MNEnet meetings took place as well as several EWS-related meetings.

Organization	Meetings, training seminars, courses, handbooks, etc.
	• Finally, an amended ESA 2010 regulation entered into force in April 2023. Since this includes some changes in data that the EU Member States are expected to transmit to Eurostat, to better align it to evolving user needs, a process to grant derogations started soon after that should be completed early 2024. The updated transmission programme will be applicable from 1 September 2024 onwards. Changes should be introduced together with other improvements during the harmonized benchmark revision process in the EU for which preparations intensified in 2023, including coordinated communication.
2. International Monetary Fund (IMF)	• The IMF's capacity development (CD) 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. In 2023, the IMF delivered 210 technical assistance activities in national accounts to over 100 countries. In-person CD delivery resumed to pre-pandemic trend while virtual CD continued on an as-needed basis and follow-ups as required. The IMF staffs full-time national account experts in eleven Regional Capacity Development Centers (RCDCs) who provide and arrange CD services to over 100 member countries in Africa, the Caribbean, Central America, the Middle East, the Caucasas and Central Asia, and South Asia. • During 2023, the IMF Statistics Department also continued the development of its online national accounts and prices training program with courses under development on Producer Price Indexes as well as Export and Import Price Indexes. CD delivery under the Data for Decisions (D4D) Fund— initiated in 2018 by the IMF and its partners—entered its sixth year in 2023. The D4D Fund is expected to provide about US $33 million over seven years for targeted technical assistance and training and to develop the online learning curriculum on economic statistics. D4D Fund beneficiaries are mainly low- and lower middle-income countries. Mainly through RCDCs and D4D-funded initiatives, the IMF also delivered 36 regional courses, training seminars, and workshops, including in new national accounts-linked areas such as digitalization and climate change indicators. • In addition, the IMF hosted in 2023 its 11th Statistical Forum on the theme of *Measuring Money in the Digital Age*, which

Organization	Meetings, training seminars, courses, handbooks, etc.
	explored the new forms of money and payments; the implication for financial stability and monetary policy; the impact on financial inclusion and illicit financial flows; and how we can better measure the new forms of money and payments to support policymaking.
3. Organization for Economic Co-operation and Development (OECD)	During 2023 the following meetings were organized: • 8th Joint OECD-UNECE Seminar on Implementation of SEEA, 13-15 March 2023 • OECD Expert Group on Disparities in a National Accounts framework (EG DNA), 4-5 April and 30 June 2023 • OECD Expert Group on Distributional Household Wealth (EG DHW), 23 May and 21 September 2023 • OECD Expert Group on Natural Capital (EG NC), 10-11 October 2023 • OECD Informal Advisory Group on Measuring GDP in a Digitalized Economy, 6-7 June 2023 (7th and final meeting) • OECD Working Party on Financial Statistics, Working Party on National Accounts, and Conference on National Economic and Financial Accounts (CNEFA), 6-10 November 2023 • OECD Expert Group on Extended Supply and Use Tables (EGESUT), 27-28 November 2023 (final meeting) During 2024 the following meetings are expected to be organized: • 9th OECD-UNECE Seminar on Implementation of the SEEA, 18-20 March 2024 • OECD Expert Group on Disparities in a National Accounts framework (EG DNA), March and September 2024 • OECD Expert Group on Distribution of Household Wealth (EG DHW), April and September 2024 • OECD Expert Group on Natural Capital (EG NC), January, May and September 2024 • OECD Working Party on Financial Statistics, Working Party on National Accounts, and Conference on National Economic and Financial Accounts (CNEFA), 4-8 November 2024

Organization	Meetings, training seminars, courses, handbooks, etc.
	During 2023 the following were published: • OECD Statistics Working Paper: *Public policy uses of the SEEA stocks and flows accounts*, June 2023 • OECD Statistics Working Paper: *CO_2 emissions from global shipping – A new experimental database*, September 2023 (contribution to the compilation of air emission accounts according to the SEEA) • OECD *Handbook on Compiling Digital Supply and Use Tables*, November 2023 During 2024 the following publications are expected: • OECD *Handbook on the compilation of household distributional results on income, consumption and saving in line with national accounts totals*, January 2024 • OECD Working Paper presenting results from a centralised approach to compile distributional results on household income, consumption and saving consistent with national accounts totals • Preliminary guidelines on compiling distributional results on household wealth consistent with national accounts totals
4. United Nations Economic Commission for Africa (ECA)	During 2023 the following activities were completed **Supporting the global update of the 2008 System of National Accounts (SNA) programme:** Series of regional thematic webinars organized by STATAFRIC jointly with ECA and UNSD to provide clarification to experts in African countries and facilitate their participation to the 2008 SNA update process. The webinars covered: Well-being, inclusion and sustainability; Digitalization: the digital economy in the updated SNA; Informal economy, Globalisation, Islamic Finance, and Communication. **Implementation of 2008 SNA:** • ECA participated in an evaluation workshop by peers and technical partners of the national accounts preparation work according to the 2008 SNA, held in Bangui (CAR) from February 13 to 17, 2023. The objective was to evaluate and analyse the preliminary results of the base year 2019, which

Organization	Meetings, training seminars, courses, handbooks, etc.
	is part of the GDP Rebasing process. A memorandum has been drawn up for the rest of the finalization work. • ECA attended and supported the regional workshop on GDP rebasing in the framework of the 2008 SNA implementation in Africa organized by the African Development Bank in January 2023, https://www.comesa.int/workshop-on-gdp-rebasing-in-the-framework-of-the-2008-sna-implementation-in-africa-kigali-rwanda/. • ECA co-organized the Regional Workshop in June 2023 and Regional Seminar in October 2023, jointly with OECD and WTO on the development of the African Continental input-Output Table (AfCIOT), TiVA indicators analysis and supporting economic data, including Supply and use tables, national accounts, merchandise and service trade statistics, and classifications. https://ecastats.uneca.org/khub/en-us/TiVA2023 and https://ecastats.uneca.org/khub/en-us/AfCIOT-TiVA2023 **Environmental economic accounting:** ECA attended and supported a series of webinars for the Africa Natural Capital Accounting Community of Practice (Africa NCA-CoP) on: • - Integrating the value of natural capital into policy and investment decisions for economic development (access here)) • - Natural capital accounting for business • - Harnessing the Value of Water: Understanding its Significance as a Key Element of Natural Capital and a Strategic Asset for the Changing Wealth of Nations • - The Quest for Green GDP (access link) • The Africa NCA-CoP held, in partnership with UNSD, the WB, and UNEP, the Second Africa Natural Capital Accounting (NCA) Policy Forum in September 2023. The Forum issued the Nairobi Declaration Statement and Call to Action. **Computer-assisted telephone interviewing (CATI) for consumer price index (CPI) Data Collection:** Technical support and capacity building were provided to Nigeria through three in-person missions. Training of trainers

Organization	Meetings, training seminars, courses, handbooks, etc.
	was provided to HQ staff and field enumerators from three geographical zones were subsequently trained. The SurveyCTO software was tailored to the CPI basket and monitoring needs of NBS Nigeria. The country is now looking for support to scale-up the initiative to the remaining states of the federation. Media coverage sample: https://nannews.ng/2023/11/25/fg-reiterates-commitment-to-digitise-nigerias-statistical-system-minister/ • The ECA Price Watch Centre for Africa now includes selected series of commodity prices (access link) **Planned activities for 2024** • Support to the global update of the 2008 System of National Accounts (SNA) programme, especially on the outreach and to the 2025 SNA early implementation plan • Further development of African Continental input-Output Table (AfCIOT) tool. Regional training on SEEA-Energy for energy accounting
5. United Nations Economic Commission for Europe (ECE)	During 2023 the following activities were completed: • Joint OECD/UNECE Seminar on the Implementation of SEEA, 13-15 March 2022, Palais des Nations, Geneva Switzerland (see https://unece.org/info/events/event/373223) • Joint UNECE/IEA/Eurostat Webinar on Administrative Microdata for Climate Change, Energy and Environment Statistics, 30 March 2023, online event (see https://unece.org/info/events/event/375461) • Meeting of the Group of Experts on National Accounts, in collaboration with the Intersecretariat Working Group on National Accounts; 25-27 April 2023, Geneva, Switzerland (see https://unece.org/info/events/event/373321) • ECE/EFTA/Eurostat/ECB/IMF Workshop on Financial Accounts for EFTA Partner Countries and the countries benefitting from the European Union Instrument for Pre-Accession Assistance (IPA); 9-11 October 2023, Brussels, Belgium (see https://unece.org/info/events/event/380177) • Update of the Online Inventory of Satellite Accounts to be found here: https://statswiki.unece.org/display/SAOI/Satellite+Accounts+-+Online+Inventory+Home

Organization	Meetings, training seminars, courses, handbooks, etc.
	• ECE in partnership with EFTA, Eurostat and OECD completed the global assessment of the national statistical system of Kazakhstan, November 2023 (posted at: https://unece.org/statistics/statistical-capacity-development) • Consultation of the SNA Update guidance notes, list of consolidated recommendations and draft chapters in the UNECE region with a particular focus on the EECCA and SEE countries, including the translation in Russian of key documents. During 2024 the following meetings are expected to be organized and activities completed: • Joint OECD/UNECE Seminar on the Implementation of SEEA, 18-20 March 2024, Geneve, Switzerland (see https://unece.org/info/events/event/383686) • Meeting of the Group of Experts on National Accounts, in collaboration with the Intersecretariat Working Group on National Accounts; 23-25 April 2024, Geneve, Switzerland (see https://unece.org/info/events/event/383916) • ECE/EFTA/Eurostat/ECD/IMF Workshop on Financial Accounts for EFTA Partner Countries and IPA countries, autumn 2024, tbd • ECE/Eurostat/EFTA seminar on Large Cases Units; online, second half of 2024 • Launch of a new website with Online Inventory of Thematic and Satellite Accounts compiled by countries (will be available at: https://stats.unece.org/tea/) • ECE together with EFTA and other partners will conduct a global of the statistical system of Uzbekistan and also will contribute to the peer review of Armenia. • Consultation of the SNA Update draft chapters in the UNECE region with a particular focus on the EECCA and SEE countries, including the translation in Russian of key documents.
United Nations Economic Commission for Latin America and	During 2023 the following activities were organized: • The "Annual Seminar on National Accounts for Latin America and the Caribbean: Advances and Challenges" was held in hybrid format in October 2023 and was attended by more than 200 participants virtually from 30 countries, and

Organization	Meetings, training seminars, courses, handbooks, etc.
the Caribbean (ECLAC)	international organizations. The traditional Annual Seminar addressed, among others, to the status of the implementation of the 2008 System of National Accounts in Latin America and the Caribbean with a view to updating different conceptual frameworks such as the 2025 SNA, updating international classifications and other emerging topics. It also focused on issues of exploitation and innovation in basic statistics for the compilation of national accounts, results of the working group of the Statistical Conference of the Americas on input-output tables with a gender perspective, and projects on the satellite account of culture that are being carried out in the region. The progress in the implementation of the 2021 cycle of the International Comparison Program and the preliminary results in spending statistics in the region was also reviewed. Agenda and presentations are available at the following link. The Seminar on "Reconciliation of information sources for measuring income distribution", was held in October in hybrid format as a consecutive event after the Annual Seminar on National Accounts and focused on the measurement of income distribution, the construction of the household account, distributive accounts, and measurement of inequality, also incorporating information on tax revenue distribution. Agenda and presentations are available at the following link. Joint ECLAC and ESCWA regional webinar on Prices: innovation and integration of statistical operations, held in April. This webinar was part of the activities of Development Account Tranche 14 (DA-14), which aims to promote resilient and agile statistics that meet the need for post-COVID-19 data for better decision-making to recover and monitor economic disparities. In this sense, innovation in the sources of data collection and the integration of the Consumer Price Index (CPI) and the International Comparison Program (ICP) were raised. A total of 116 participants from 34 countries participated at this event. Agenda and presentations are available in the following link. Training in theoretical and practical knowledge about the compilation of price and volume index numbers and the approaches that can be used. This course was held in Argentina to INDEC staff in May 2023. Presentation in the Second Webinar of Classification Sprint organized by the Network of Economic Statistician, held virtually in November 2023. This presentation titled

Organization	Meetings, training seminars, courses, handbooks, etc.
	"International classifications for the standardization of economic statistics for Latin America and the Caribbean region" focused on the ECLAC Statistics Division work to produce comparable economic statistics in the areas of National Accounts, Prices, International Trade and Economic Surveys through the harmonization the official information disseminated by countries of Latin America and the Caribbean using international classifications (ISIC, COICOP, SITC, etc.), addressing the challenges faced, as well as, future steps. Activities in the framework of the 2021 Cycle of the International Comparison Program (ICP) have included workshops, and technical assistance on national accounts and prices to achieve data requirements during 2023. Technical secretariat of the working group on input-output tables with a gender perspective, in the framework of the Statistical Conference of the Americas. Technical assistance activities were carried out for 9 countries in the region in terms of quarterly national accounts, input-output tables, change of reference year of national accounts, institutional sector accounts, culture satellite account, and estimates of subnational economic activity statistics. Also, support 6 countries on price indexes in terms of updating their baskets with and the implementation of the COICOP classification 2018 and integrating statistical operations to collect prices for the requirements of the ICP. **Expected activities in 2024:** • The Annual Seminar on National Accounts for Latin America and Caribbean countries is planned to be in October 2024 in hybrid format. • Activities in the framework of the new Cycle of the International Comparison Program will include workshops and technical assistance on national accounts and prices data requirements during 2024. • Develop activities related to the subnational economic activity statistics, economic surveys, distributional national accounts, satellite accounts, and input-output tables. • Upon request of member countries, ECLAC will continue providing technical assistance services on national accounts

Organization	Meetings, training seminars, courses, handbooks, etc.
	and price statistics through the Regional Program for Technical Cooperation.
Economic and Social Commission for Asia and the Pacific (ESCAP)	In 2023, the following activities relating to training seminars and meetings were undertaken: • Webinar on 2008 SNA Implementation (22-23 February 2023, Online) (SIAP) • E-learning course on Sustainable Development Goal 9 (SDG 9): Industry, Innovation and Infrastructure (24 April-26 May 2023, e-Learning course) (Partners: SIAP and UNIDO) • Webinars on Indicators on business performance related to well-being and sustainability (6 April, 31 May and 13 September 2023, online) (Partners: SIAP, UNCEBTS, UNSD) • Third Expert Forum for Producers and Users of Disaster-related Statistics 5-7 June 2023 • Webinar on Innovations to Produce Economic Statistics (6 July 2023) • Technical assistance mission on forest accounting, Suva, Fiji, 18-22 September 2023 • Regional training on Consumer Price Index (25-29 September 2023, Chiba- Japan) (Partners: SIAP and IMF) • Stats Café on measuring E-commerce and CPI online data collection (10 October 2023) online • Joint meeting of Steering Group for the Regional Programme for the Improvement of Economic Statistics in Asia and the Pacific and the Regional Steering Group on Population and Social Statistics (31 October-2 November 2023)-online • Course on Statistics on Informality: Definitions, Measurement, SDG's and other Policy Indicators (13 – 17 November 2023, Chiba-Japan) (Partners: SIAP, ILO, WIEGO) • Workshop on measuring Illicit Financial Flows 14-18 November 2023, Tashkent, Uzbekistan

Organization	Meetings, training seminars, courses, handbooks, etc.
	• Workshop on measuring Illicit Financial Flows 21-24 November 2023, Bishkek, Kyrgyzstan • Webinar on measuring Illicit Financial Flows for Bangladesh -24 December 2023 online. • Foundational e-Learning course on Statistical Business Registers (SBRs) in Russian (27 November – 15 December 2023, e-Learning course) (Partners: SIAP, ADB, UNSD, HSE) In 2024, ESCAP plans to host a series of seminars on the updates to the 2025 SNA and the BPM7 in collaboration with IMF and UNSD (scheduled for the latter part of March 2024) • Stats Café on measures beyond GDP in March 2024 • Webinars on Macroeconomic Statistics Framework (23 and 25 January 2024) (SIAP) • Foundational e-Learning course on Statistical Business Registers (18 January 2024, self-paced) (Partners: SIAP, ADB, UNSD) • Regional course on Statistical Business Registers (11 – 15 March 2024, China-Japan) (Partners: SIAP, UNSD) • Regional training on Consumer Price Index (September 2024, China- Japan) (Partners: SIAP and IMF) • Course on Statistics on Informality: Definitions, Measurement, SDG's and other Policy Indicators (October 2024, China-Japan) (Partners: SIAP, ILO, WIEGO)
United Nations Economic and Social Commission for Western Asia (ESCWA)	During 2023, ESCWA: • Contributed to the United Nations Network of Economic Statisticians first and second meetings and to the task team on Beyond GDP, presenting ESCWA's work on the Development Challenges Index related to Beyond GDP. • Co-organized GCC-ESCWA-IFTT webinars on experimentation and testing of appropriate reference rate for calculating Islamic FISIM in the pilot countries. This series of webinars started in 2022.

Organization	Meetings, training seminars, courses, handbooks, etc.

	• Organized a regional workshop in May 2023 for validating detailed GDP expenditure weights and household and non-household consumption price for ensuring the production of quality and reliable PPPs in the Arab region https://www.unescwa.org/events/data-manipulation-computation-purchasing-power-parities.
	
	• Regional meeting on the "Impact of Price Fluctuations on Socio-economic Indicators and the SDGs" on 6 and 7 December 2023, in Amman, Jordan. The meeting Construction of new price deflators and deepening the understanding of the effects of price fluctuations and PPPs on socio-economic indicators, national account statistics and Sustainable Development Goals (SDGs).
	
	• Participated in the SESRIC Webinar on "Reporting Data on Islamic Financial Services Sector" held on 14 March 2023
	
	• Organized on 8 February 2023 the Working Group meeting of the ESCWA Statistical Committee in preparations for the 54th session of the UNSC and discussed documents for decision related to National Accounts to agree on a regional position.
	
	• Translated into Arabic E-Learning materials below:
	  ○ E-learning course on the System of Environmental-Economic Accounting 2012 - Central Framework (SEEA CF) Arabic
	  ○ SEEA - In Depth Training on Energy Accounting (Arabic)
	  ○ SEEA - In Depth Training on Water Accounting (Arabic)

United Nations Statistics Division (UNSD)	UNSD's activities focused on the operationalization of the outreach programme of the update of the 2008 SNA thorough a series regional (web) seminar to (a) inform and keep countries updated on the process of updating the 2008 SNA; (b) foster global consultation on the guidance notes; (c) collect feedback from countries and regions on their thematic priorities; and (d) explore possible volunteer countries and liaise with them for an early implementation of the new recommendations in the form of experimental estimates. For this purpose, the below webinars were organized in collaboration with the regional commissions, AEG/ISWGNA Members and other international organizations: • **Global webinar on the recommended changes to the 2008 SNA** This webinar was organized on 25 August 2023, in collaboration with the SNA update team to explain the main recommendations with the aim to support the global consultation on the consolidated list of recommendations. More details are available here. • **Africa series of webinars on the 2008 SNA update** In collaboration with UNECA and the African Union Institute for Statistics (STATAFRIC), nine (9) thematic webinars were organized for the Africa region in 2023. It covered the priority areas of the update programme, the consolidated list of recommendations and early implementation of the proposed changes. The objective of the webinars was to share information on the update process and conceptual topics with compilers of national accounts on the continent to enable their active participation in the consultation process. Specifically, the webinars aimed to (i) inform compilers on progress with the SNA and BPM update program; (ii) introduce conceptual / compilation topics to encourage informed participation in global consultation on Guidance Notes; iii) collect and check information from the baseline evaluation on the statistical capacity of countries to implement the new recommendations; (iv) gather feedbacks on users demand for the new recommendations and (v) explore potential country volunteers for early implementation of the new recommendations. More information is available here. • **Webinar on 'Reporting Data on Islamic Financial Services Sector'** This webinar was organized by the Statistical, Economic and Social Research and Training Centre for Islamic Countries

	(SESRIC) in collaboration with UNSD, UNESCWA and other international organizations. It provided a platform to exchange knowledge on how to utilize the Prudential and Structural Islamic Financial Indicators (PSIFIs) methodology as well as how to implement the recommendations of the joint task team on Islamic finance (IFTT) Guidance Note on the Statistical Treatment of Islamic Finance in the National Accounts and External Sector Statistics. More information is available here. During 2024, UNSD will continue its support to countries, in collaboration with the AEG/ISWGNA, task teams and regional commissions, in the early implementation of the recommendations of the guidance notes and developing experimental estimates. The aim is to continue involving countries from different levels of statistical development and ensure broad geographic representation.
World Bank	In 2023, the World Bank continued to provide **needs-oriented technical assistance and support** to countries and regional institutions to build statistical capacity in national accounts and business statistics, with projects focusing on the quality and breadth of national accounts estimates, enhanced estimation methods and compliance to SNA standards. In support of these objectives, client countries also benefited from capacity building for business registers and economic surveys, via streamlined automated tools and statistical processes. Important national accounts technical assistance activities undertaken in 2023 included: • Support to the **Pakistan** Bureau of Statistics to compile and disseminate a first set of quarterly national accounts, published in November 2023. • Compilation of extended supply and use tables and input-output tables assessing the impact of green-growth-related economic policies on GDP in **Central America, Panama and the Dominican Republic.** • Completion of national accounts rebasing, supply and use and input-output tables and the compilation of time series in the **Turkish Cypriot Community.** • Improvements to supply and use tables, compilation of new national accounts series, and training in quarterly accounts compilation in **Yemen.** • Input to the Central Statistical Office of **Iraq** to assist in the compilation of quarterly national accounts.

	• Improvements to quarterly national accounts and supply and use tables in **Angola,** and the compilation of industry and product input-output tables. World Bank contributions to the **2008 SNA update** continued as the drafting of revised chapters, harmonized glossary and other elements of the new manual proceeded, and strategies for implementation of the new standards were initiated. Via its Global Data Facility (GDF), the World Bank managed funding for the SNA update project, including the work of the lead editor, project manager and 5 supporting editors. In line with the advancement of new SNA standards for Wellbeing and Sustainability the World Bank contributed to the UN Network of Economic Statisticians' "**Beyond GDP**" workstream, along with the Expert Group on Disparities of National Accounts (**EG-DNA**) and related initiatives of the IMF-led Data Gaps Initiative (**DGI**). **Activities planned for 2024:** • As one of the five contributing agencies of the Inter-secretariat Working Group on National Accounts (ISWGNA), the World Bank will assume the role of **chair of the ISWGNA** in 2024. Contributions for the 2008 SNA update will continue throughout the year, and related outreach will include coordinating national accounts training sessions at the Biennial Conference of the International Association for Research in Income and Wealth (IARIW) in August of 2024. The World Bank aims to contribute to the **early implementation** of new SNA standards via participation in related task teams, and via technical assistance funded via the Global Data Facility. Contributions to the EG-DNA and the DGI will continue in 2024. • National accounts **technical assistance activities** currently planned for 2024 include continued support to Pakistan on demand-side quarterly national accounts, completion of quarterly national accounts in Iraq, extended series, and further training for the Turkish Cypriot Community, in addition to new projects in **Saudi Arabia** (regional accounts), **Suriname** (IOT compilation) and **Somalia** (production-based GDP).

V. United Nations national accounts questionnaire for the reporting periods 2018–2022

93. In accordance with a request from the Commission, UNSD regularly evaluates the conceptual compliance of official national accounts data, reported by Member States to the UNSD, with the recommendations of the System of National Accounts. In addition, the availability and scope of the national accounts data are also evaluated. Although the need for quarterly national accounts to facilitate appropriate policy responses is recognized, only 110 Member States are compiling national accounts data on a quarterly basis; thus, this report is based only on the annual data provided through the United Nations National Accounts Questionnaire (UN-NAQ).

94. This note presents a summary of such an assessment, based on replies to the UN-NAQ for the last five reporting periods, i.e. 2018 to 2022. The current reporting period, 2022, consists of official national accounts data up to the year 2022 and that has been submitted to UNSD up to July 2023. The data are either reported directly to the UNSD; through the ECE; through the OECD; or through the Caribbean Community Secretariat (CARICOM).

95. Considering the responses in any of the last five reporting periods (2018 to 2022), 95 per cent (184) of the Member States reported national accounts data to the UNSD [13], which include all developed countries and 94 per cent of developing countries. The overall number of 184 Member States is the same as what was received in the previous reporting period (2017 to 2021), although the composition of the countries differs.

96. An analysis, at the regional level, of the reporting by developing countries shows that 97 per cent of Latin American and Caribbean countries reported national accounts data, followed by 94 per cent of African countries, 93 per cent of Asian countries, and 83 per cent of Oceanic countries.

97. In the 2022 reporting period 157 Member States (81 per cent of the total number of Member States) reported national accounts data which is lower than in the previous reporting period. 17 Member States that submitted NAQ in the 2021 data collection cycle did not respond in the 2022 data collection cycle.[14] Conversely, 9 Member States that submitted data in the 2022 collection cycle did not submit in the previous cycle.[15]

98. 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. 2022 data in the 2022 reporting period. Of all 193 Member States, 117 (61 per cent) submitted data for the year 2022 in the 2022 reporting period, compared to 115 Member States that submitted data for the years 2021, in the 2021 reporting period, and 2020, in the 2020 reporting period. When the availability of reported national accounts data by Member States with a time

[13] The 9 Member States that have not submitted data in the last five reporting periods are Côte d'Ivoire, Democratic People's Republic of Korea, Eritrea, Gabon, Nauru, Saint Kitts and Nevis, Solomon Islands, Syrian Arab Republic, and Turkmenistan; DPRK and Eritrea have never submitted data in the NAQ.
[14] Albania, Barbados, Chad, Libya, Micronesia (Federated States of), Mozambique, Niger, Palau, Saint Lucia, Seychelles, Sierra Leone, Sudan, Togo, Tonga, Venezuela (Bolivarian Republic of), Yemen, Zimbabwe.
[15] Cambodia, Comoros, Dominica, Kiribati, Haiti, Kyrgyzstan, Suriname, Trinidad and Tobago, North Macedonia.

lag of not more than one year is evaluated (i.e. up to at least 2021 in the 2022 reporting period), 155 Member States (80 per cent) provided data. This is six less than the previous cycle, when 161 Member States did so. An analysis by socioeconomic groups shows that 96 per cent of developed countries, and 75 per cent of developing countries submitted national accounts data with a maximum one-year lag.

99. An analysis of the compliance to the SNA shows that 188 of the 193 (97 per cent) Member States have implemented the 1993 SNA or the 2008 SNA up to the 2022 reporting period. Of those, 126 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.

100. The scope of national accounts data reported to the UNSD is evaluated against a standard “minimum requirement data set” (MRDS)[16], adopted at the thirty-second session of the Statistical Commission in 2001, and against the “milestone”[17] measure, adopted at the twenty-ninth session of the Statistical Commission in 1997.

101. A total of 135 Member States (70 per cent) provide six or more tables of the MRDS and 94 Member States (49 per cent) provide seven of the MRDS tables. No Member State in Oceania are able to provide the complete set of tables which satisfies the MRDS tables, and only 31 per cent of Member States in the Caribbean provide the complete set of tables which satisfies the MRDS; similarly, less than 20 per cent of the LDCs and the SIDS submit data in full compliance with the MRDS.

102. Milestone 2 was observed by a majority of developed countries (92 per cent), and developing countries in the Caribbean and Latin America (88 per cent) and in Asia (87 per cent). 67 per cent of African countries observed Milestone 2 in the current data collection cycle. Among the sub-regions, all of the Latin American countries have reached Milestone 2.

103. Although the term, constant prices, has been replaced with the term volume measures, most 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. Constant price data using chain linked volume measures with a fixed reference year are compiled by 86 Member States, while 17 Member States compile constant prices with the previous year’s prices. There are 3 Member States that have base years older than 1995.

[16] 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

[17] 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 1: List of guidance notes, issue notes, etc.

This annex provides an overview the recommendations for updating the guidance of the 2008 SNA, to arrive at the 2025 SNA. First the recommendations from the various guidance notes are presented, for each of the priority areas of research. Subsequently, changes derived from SNA News & Notes and from other past guidance provided by the AEG are listed. The list ends with a summary of changes agreed during the endorsement of the outline of the 2025 SNA and a number of other issues. Where relevant, reference is made to the action points derived from the 2022 assessment of the research agenda, and some other action points derived from the master-log. The summary of the recommendations in this Annex represents the status as per mid-2023. In a very limited number of cases, further progress has been made, which has not been reflected in this overview. However, it is reflected in the discussion in section II of this background document and in the ISWGNA report on the recommendations for the update of the 2008 SNA (2024-9-NationalAccounts-Recommendations-E.pdf).

1. Guidance Notes

Digitalisation

DZ.1 Price and volume measurement of goods and services affected by digitalization

* More general observations regarding price and volume measurement of goods and services affected by digitalisation

* Need to reflect guidance, not only in chapter 22 on digitalisation but also in chapter 18 on measuring prices, volumes and productivity (which will also include guidance on prices/volumes for specific products, similar to 2008 SNA chapter 6 on measuring output for certain industries)

DZ.2 Crypto assets (Combined with GN F.18)

* See Guidance Note F.18

DZ.3Treatment of “free” digital products in the "core" national accounts

* No conceptual change to sequence of economic accounts, although it would be good to clarify treatment in the discussion of the production boundary

* Moreover, clarifications may need to be added regarding the treatment of "assets used to produce services that are free or remunerated indirectly" (see paragraphs 29 and 39 of the Guidance Note)

DZ.4 Recording and valuing “free” products in an SNA satellite account

* Recommendation to develop extended accounts or supplementary tables, either or not as part of digital SUTs

* As noted in the endorsed version of the Guidance Note, option 3 (i.e., the option which includes user-generated content) is considered the preferable option; see paragraphs 38 - 41 of the combined Guidance Note (see also action point B.1 in the note on resolving minor action points)

* Need to add relevant information and clarifications in chapter 22 on digitalisation

DZ.5 Increasing the visibility of digitalisation in economic statistics through the development of digital supply-use tables

* Proposal for Digital SUTs to be reflected, in more general terms, in chapter 22 on digitalisation

DZ.6 Recording of data in the national accounts

* Recommendation to consider data as (produced) fixed assets

* Impact on the recording and measurement of non-financial assets, as follows: (i) introduction of new asset category, affecting classification and definition (see paragraph 14 of the Guidance Note; (ii) asset generally to be valued using the sum-of-costs method (see paragraphs 24 and 30 of the Guidance Note; (iii) broadening the concept of rent, and including the costs of producing data with payments of rent (see Guidance Note AI.2); (iv) recording payments directly related to obtaining observable phenomena as rent (see paragraph 41 of the Guidance Note); and (v) treatment of copies similar to software (see paragraph 54 of the Guidance Note, with reference to paragraph 10.100 of the 2008 SNA)

* Need to add relevant information and clarifications in chapter 22 on digitalisation

DZ.7 Artificial Intelligence

* Recommendations (i) to change the definition of IPPs; (ii) to include a definition for artificial intelligence; (iii) to classify artificial intelligence as part of software; (iv) to introduce two classes of assets under computer software and databases, as follows: computer software, including artificial intelligence systems; and data and databases; and (v) to include some additional clarifications on the treatment of certain expenditures (see paragraph 25 of the Guidance Note)

* Need to add relevant information and clarifications in chapter 22 on digitalisation

DZ.8 Cloud computing

* No conceptual change to the sequence of economic accounts, definition of cloud services included

* Recommendation for clarifying the current treatment of software licenses, including its distinction between intermediate consumption and GFCF, long-term access to servers and other resources, and own-account production of IT-equipment

* Clarifications needed regarding price/volume measurement as well as the measurement of cross-border flows (topics for future research)

* Need to add relevant information and clarifications in chapter 22 on digitalisation

DZ.9 Digital intermediary platforms

* No conceptual change to the sequence of economic accounts, although clarifications are needed regarding the recording of DIPs, e.g. in chapter 7 on the production account

* Recommendations (i) for defining DIPS; (ii) recording on a net basis; and (iii) accounting for informal workers

* Need to add relevant information and clarifications in chapter 22 on digitalisation

DZ.10 Non-fungible tokens

* Recommendations to record non-fungible tokens (NFTs) as follows: (i) NFTs that only grant personal use and display rights should be recorded as consumption (but may transform to valuable at a later stage); (ii) NFTs that grant limited commercial rights should be recorded as non-produced non-financial assets (contracts, licenses, or leases), if the owner can derive economic benefits from these rights (e.g., some form of royalties); and (iii) NFTs that grant full ownership rights should not be separately recorded, assuming that the associated assets or products have already been counted

Well-being and sustainability

WS.1 A broader SNA framework for Wellbeing and Sustainability

* Recommendation that the relevant chapters of the 2025 SNA, including the new chapter 2, chapter 34 and 35 on well-being and sustainability, and the chapter on the household sector, build on the analysis in this guidance note, explaining the main objectives for enhancing and broadening the SNA framework; priority be given to recommendations impacting the sequence of economic accounts

* Not recommended to arrive at a single indicator of wellbeing and/or sustainability

WS.2 Distributions of household income, consumption saving and wealth

* Recommendation to add a specific section to the SNA, focusing on the compilation of distributional accounts in line with NA totals: (i) to highlight the importance of this type of information; (ii) to discuss the scope of the work linking it to relevant parts in the SNA; (iii) to discuss specific balancing items of relevance for this line of work and where these may deviate from the standard SNA ones; (iv) to present possible distributional breakdowns; and (v) to highlight specific issues in the compilation of distributional results

* The results from testing showed that there was no appetite for changing the core definitions

WS.3 Unpaid household service work

* No recommendation for changes that may have an impact on the sequence of economic accounts

* Instead, it is recommended to have an extended account on unpaid household activities, in monetary terms as well as physical units

WS.4 Labour, education and human capital

* Recommendation that the chapter on labour should (i) highlight the importance of this labour related data; (ii) present the scope and coverage of the proposed accounts; (iii) link the labour accounts to other relevant accounts; and (iv) discuss measurement issues

* The recommendation in paragraph 74 (to have a separate chapter on labour accounts) has been superseded by later decisions on the content and the ordering of chapter 16 on labour.

* To introduce extended accounts for education and training, building on existing material, particularly the Satellite Accounts for Education and Training (SAET)

* To start developing extended accounts for human capital, in particular cost-based and income-based measures of human capital, in line with UNECE Guide on Measuring Human Capital

WS.5 Health and social conditions

* No recommendation for changes that may have an impact on the sequence of economic accounts

* Instead, it is recommended to present additional indicators of health based on the system of health accounts in the SHA 2011 in extended accounts (see Box 1 of the Guidance Note)

* In doing so, the extended accounts on health care should include all expenditures on health and also social care; furthermore, the production boundary in the extended accounts (non-core) should be expanded to include imputed values for unpaid household production of health care and long-term social care for the years for which this information becomes available; and develop supply and use tables for health care and long-term social care

WS.6 Economic ownership and depletion of natural resources

* Recommendation to value mineral and energy resources using the NPV of future resource rents (calculated using the residual value method), and to apply a split-asset approach, in line with the appropriation of resource rents (thereby accounting for the transfer of part of the asset as an other change in the volume of assets, and not as capital transfers)
* Recommendation to account for depletion as a cost of production

* Recommendations on accounting for depletion in physical and monetary terms

WS.7 Emissions permits: the atmosphere as an asset

* Recommendation to record emission permits as a financial asset with taxes on production recorded at surrender, at issuance prices (option 4; see paragraphs 39-42 of the Guidance Note)

* At the time of preparing this background document the precise recording of emission permits, in line with option 4, is still pending, awaiting further discussion in a workshop

* In addition, it has been agreed to draft a separate issue note on the treatment of the atmosphere as an asset (see action point C.2), which includes the following recommendations: (i) to consider the atmosphere to be an asset in those cases where (a) the use of a particular aspect of the atmosphere is exclusive and (b) licenses or similar arrangements based on commercial arrangements are put into place, which enables a reliable value to be put on the atmosphere; (ii) in those circumstances where the atmosphere is considered to be an asset, to treat payments for licenses that do not constitute an asset as rent; (iii) in the circumstances where the atmosphere is not considered to be an asset, permits to use the atmosphere, either to enable the production of a service such as transportation services or as a sink, should be treated as taxes, while compulsory payments for unauthorised use of the atmosphere, such as noise pollution, should be treated as fines and penalties; and (iv) to put the treatment of the atmosphere as a sink on the post-2025 SNA research agenda

WS.8 Accounting for biological resources

* Recommendation to apply a split-asset approach, in line with the appropriation of resource rents (see Guidance Note WS.6)

* Recommendations (i) to change distinction between cultivated and non-cultivated resources; (ii) to account for regeneration as GFCF and depletion as a cost of production; various other proposals for clarifying the current guidance of the 2008 SNA (e.g., work-in-progress versus underlying asset); and (iv) separate classification of natural resources (see also Guidance Note WS.12)

WS.9 Recording of provisions

* Recommendation to present information on three categories of provisions (financial assets related, non-financial assets related, and provisions unrelated to assets) in a supplementary table

* Recommendation to not include conceptual changes to the treatment of provisions related to financial assets

* Recommendation to adopt, for terminal costs (non-financial assets related), the treatment from IAS 37/IPSAS 19, i.e., including the expected terminal costs in the value of fixed assets

* Recommendation to adopt, for compensation costs (non-financial assets related provisions), the treatment from IAS 37/IPSAS 19, i.e., to only recognize these costs if the corresponding conditions of a fair assessment of timing and amounts apply, and the liability is deliberately accepted as part of an investment decision

* Recommendation to classify provisions as a special kind of liability for which the asset side is not identified

* In relation to stranded assets, it is recommended to record adjusted extraction paths due to changing energy markets as revaluations.

WS.10 Valuation of mineral and energy resources

* Recommendation to include clarifications on the delineation of mineral and energy resources, by relying on the same three resource classes as in SEEA 2012 (i.e., “commercially recoverable resources”, “potentially commercially recoverable resources” and “non-commercial and other known deposits”)

* Recommendation to underline that the aim is to compile market(-equivalent) values, not consumer surplus/welfare based measures

* Recommendation to add clarifications on the calculation of NPVs for (specific types of) mineral and energy resources, by explicitly referring to Chapter 5 in the SEEA-CF, i.e., to use a constant rate of extraction or the most recent quantity of extraction as forecasts of future production, and to assume that the output price of the extracted resource follows a long-run historical trend

* Recommendation to explain that different types of mineral and energy resources may require slightly different NPV treatments

* Recommendation to explain that compilers should try to compile the value of mineral and energy deposits at a disaggregated level, ideally at the deposit level

* Recommendation to emphasise compilation issues such as the sensitivity of results to the choice of the discount rate, heterogeneity of extraction costs across space, constraints imposed on mineral production at the micro level by initial investments in physical capital; and volatility in the value of mineral assets introduced by short-run price fluctuations of commodity prices

WS.11 Renewable energy resources

* Recommendation to explicitly recognize and clearly define renewable energy resources as an asset, to be classified in a separate asset category

* Recommendation to compile estimates of renewable energy resources using the NPV of future resource rents (applying the residual value method), or the "least-cost alternative" method in the case the residual value method is inappropriate
due to subsidization or other market distortions
* Recommendation to apply a split-asset approach, in line with the appropriation of resource rents (see Guidance Note WS.6)

* Note: Also clarification needed on the accounting for production and use of renewable energy

WS.12 Environmental classifications

* Recommendations for additional breakdowns of loans and securities; rents; contracts, leases and licenses; and, most importantly natural assets (including change in first-digit level breakdown)

* Recommendations for the inclusion of illustrative examples of how environmental taxes and subsides can be presented in the SNA, as well as of how produced assets can be presented on a functional basis using environmental-purposed produced assets as the basis for the illustration

* Recommendation to recognise natural capital as a separate asset class, next to financial assets, produced capital (excluding produced natural resources) and other non-produced capital, while also recognising ecosystem assets, human capital and social capital as separate asset classes albeit outside the SNA asset boundary

WS.13 Recording of losses

Dropped

WS.14 Distinction between tax and service transaction

* Recommendation to treat, as a default, all payments for licenses required under a mandatory process to be unrequited, to be recorded as taxes (option 3), and to provide further clarifications on the current conceptual guidance to distinguish between taxes and services (option 2)

* Recommendation to clarify the treatment of payments related to the use or extraction of natural resources, by expanding the guidance on rent and the guidance on permits to use natural resource (see Section II of the Guidance Note)

* Recommendation to introduce a decision tree for the classification of payments to government

* Recommendation to include new guidance on the rerouting of transactions through government, based on the scenarios in the Guidance Note

* Here, it should be noted that the split-asset approach for recording natural resources will have an impact on the treatment of permits to use natural resources

Globalisation

G.1 Valuation of imports and exports

* Discussion about changing cif/fob-valuation of imports and exports to invoice values
* No agreement on including this conceptual change in the 2025 SNA; however, clear references should be made to invoice values as the new principle for valuing imports and exports in the future

G.2 Treatment of MNE and intra-MNE flows

* No conceptual changes recommended

* Recommendation to put more emphasis on other macro-economic indicators, especially NNI; no alternative indicators defined

* Recommendation on more granular institutional sector accounts, also in the central framework, as well as eSUTs

* Need to align definition of MNEs and control to BPM/BD (affects paragraphs 4.81 and 21.47 of the 2008 SNA)

* Need to include relevant text in chapter 23 on globalisation

G.3 Transfer pricing within MNE group (combined with GN G.5)

* See Guidance Note G.5

G.4 Treatment of Special Purpose Entities and residency

* Recommendations on the definition of SPEs (see paragraph 43 of the GN)

* In addition, it is recommended that SPEs incorporated in the same economic territory as their parents are not termed as SPEs and be known on the specific type of activity, and are usually not consolidated with the parent

* Recommendation to have a separate identification of SPEs, as an of which item

* Need to include relevant text in chapter 23 on globalisation

G.5 Economic ownership of intellectual property products: recording of intra MNE transactions

* Regarding the economic ownership of previously produced intellectual property products (IPPs), option 4 (use of decision tree), which is in line with the Guide on measuring global production, is recommended; see paragraph 7 of the GN

* This also means that SPEs can be economic owners of IPPs

* Need to clarify concept of (economic) ownership at various places

* Need to include decision tree, most probably best fit in chapter 23 on globalisation

G.6 Merchanting and factory-less goods producers and recording of their transactions (combined with Guidance Note C.4)

* See Guidance Note C.4

G.7 Global value chains and trade in value-added

* Recommendation to include further clarifications on the recording of global production arrangements, to be covered concisely in chapter 7 on production accounts, and more extensively, in chapter 23 on globalisation

* Recommendation to add information on new analytical tools to be covered in chapter 23 on globalisation, with possibly references to eSUTs and TiVA in chapter 15 on supply and use tables

* Importantly, major steps have been made in linking micro data, enabling the GVC satellite and eSUTs presentations

* References would also fit in new section on worldwide input-output tables in chapter 36

G.8 Typology of global production arrangements (combined with Guidance Note C.4)

See Guidance Note C.4

G.9 Payments for non-produced "knowledge-based capital" (marketing assets)

* Recommendation to treat marketing assets as produced non-financial assets

Communication

CM.1 An assessment framework to measure alignment with economic accounting statistical standards

* Recommendation to include a framework for assessing the alignment with international standards

CM.2 Terminology and branding of the economic accounting statistical standards

* Recommendations for changing certain terms, without amending the content of the relevant terms, and requesting the SNA and BPM editors to incorporate the revised terms in the updated SNA and BPM – giving the SNA and BPM editors the task to make adjustments as needed to ensure internal consistency within and across the SNA and BPM

CM.3 A taxonomy for communicating economic statistics releases, products and product updates

* Recommendations for communicating (i) economic statistics releases / vintages of data, (ii) products, and (iii) product updates to users, to be included in a separate chapter on communication in the 2025 SNA (see chapter 21)

CM.4 Use of net measures in the presentation of national accounts

* Recommendations (i) to use geometric depreciation as the default option for calculating capital stocks and consumption of fixed capital; (ii) to have a stronger positioning of net income measures; (iii) to change the content of chapter 17 and related text (see paragraphs 37-47 of the Guidance Note); (iv) to change the notation for gross-net adjustment (see paragraph 50 of the Guidance Note); and (v) to identify that NDP volume is the conceptually preferred measure of economic growth, sitting alongside GDP

Financial issues

F.1 More disaggregated definition of the financial sector and financial instruments

* Links to Guidance Notes F.3, F.4, F.6, F.7, G.2 and G.4

* Various recommendations for more detailed breakdowns of the financial corporations' sector and a number of financial instruments

* Need to agree which subsectors will be covered in chapter 5 on residence, institutional units and sectors versus chapter 29 on financial corporations

F.2 Asymmetric treatment of retained earnings between direct and portfolio investment and potential extension to domestic relationships

* Very balanced discussion of various options for treating retained earnings

* Preference, from a conceptual point of view, for a consistent treatment in line with the FDI-treatment; however, from a practical implementation perspective, it is considered challenging, therefore recommendation to include it as supplementary information items

* Further recommendation to not change the current recording of share buybacks (i.e., a purely financial transaction, without the imputation of a distribution of dividends in combination with a reinvestment of these dividends) and to put this issue in the post SNA 2025/BPM7 Research Agenda, as part of the broader issue of extending the reinvested earnings approach (see also action point B.2 in the note on resolving minor action points)

F.3 Reverse transactions

* Basically, no conceptual changes are recommended, with the exception of recording of (manufactured) interest/ dividends; see paragraph 23 of the Guidance Note

* However, it is proposed to include some clarifications on the recording of reverse transactions, e.g., the recording of negative assets for short-sales (see paragraph 19 of the Guidance Note); the recording of different types of RTs (see paragraph 22 of the Guidance Note); the recording of RTs on commodities (paragraph 28 of the Guidance Note), and the separate identification of repo-related transactions (see paragraph 30 of the Guidance Note)

F.4 Financial derivatives by type

* Recommendation to include a new classification of financial derivatives by (i) market risk; (ii) instrument; and (iii) trading venue, the first to be considered as the standard-breakdown, while the others are considered as supplementary items; see paragraph 23 of the Guidance Note

* Recommendation to emphasise the importance of having information on the currency composition of notional values (see paragraph 24 of the Guidance Note)

* Recommendation to not separate exchange rate changes from other revaluations for FX-instruments (less relevant for SNA)

* Recommendation to include guidance on the recording of novation and portfolio compression (see paragraph 26 of the Guidance Note)

* Recommendation to clarify cases where net recording (i.e., assets minus liabilities) is acceptable

The BOPCOM has decided to move the classification by market risk from standard breakdown to supplementary breakdown for Balance of Payment purposes (see "BPM6 update holistic review" available at: Update of BPM6)

F.5 Treatment of Credit Default Swaps

* No conceptual changes proposed, continue to classify CDS as option-type (see paragraph 14 of the Guidance Note), and add clarifications on credit default swaps (in line with paragraphs 7-10 of the Guidance Note)

* Recommendation to classify CDS under credit derivatives in the new classification

F.6 Non-bank financial intermediation

See Guidance Note F.1

F.7 Impact of FINTECH and other financial innovations

* Links to Guidance Notes B.14, F.1, F.6 and F.18

* No conceptual changes proposed; recommendation to keep the current guidance on (e-)money as is; see paragraphs 27.10 – 27.17 of the 2008 SNA; when considered necessary, also in view of the updated Guidance Note F.10 on Treatment of cash collateral (see action point B.4), some additional clarifications could be added, while drafting (see also action point B.3 in the note on resolving minor action points)

* Recommendation to have supplementary data on sectors for countries with substantial Fintech activities

* Some of the clarifications could be relevant for chapter 22 on digitalisation

F.8 Valuation of debt securities at both market and nominal value

* Links with Guidance Notes F.9 and AI.1

* Recommendation to include explicit guidance for compiling stocks of debt securities at nominal value, as a supplement to the existing market valuation (see paragraph 13 of the Guidance Note)

* Recommendation to report debt securities component of direct investment inter-company lending as a supplementary item

* Recommendation to slightly rephrase the definition of nominal values (see paragraph 18 of the Guidance Note)

* The recommendation in paragraph 18 (to use the definition of nominal value in BPM6) has been superseded by the recommendations in Guidance Note AI.1.

F.9 Valuation of loans (fair value)

* Links with Guidance Notes F.8, F.15 and AI.1

* Nominal valuation maintained, however extending the possibilities to re-assess the value of loans, e.g. by a formal, publicly known process (see paragraph 34 of the Guidance Note)

* Changes/clarifications needed in paragraphs 12.38-42 of the 2008 SNA, and potentially other sections where valuation of financial instruments is discussed

F.10 Treatment of cash collateral

* Recommendation to leave the current treatment unchanged, but to introduce slight changes to allow for the views expressed by the BOPCOM and AEG

* Recommendation to extend the treatment of cash collateral, which is now circumscribed to margins in financial derivatives, to other cash collateral agreements (e.g. escrow accounts, reserve in factoring)

* Possible inclusion of clarifications resulting from BPM, affecting paragraphs 11.59, 11.75 and 11.124 of the 2008 SNA

* Links with definition of money; see also Guidance Note F.7 (and action point B.4 in the note on resolving minor action points)

F.11 Treatment of electricity forwards

Dropped

F.12 Covering hybrid insurance and pension products

* Recommendation to clarify the treatment of hybrid insurance, not leading to a change of the conceptual guidance; see option 2 in paragraph 13 of the Guidance Note

* Recommendation to treat employer-independent autonomous pension funds as part of social insurance provided that they meet specific requirements; see option 3 in paragraph 20 of the Guidance Note

* In addition, issue note on action point A.13 provides a further elaboration of the guidance on employer-independent non-pension related schemes and provident funds, and the delineation of social insurance more generally

F.13 Measurement of margins on buying and selling of financial instruments

* No conceptual changes proposed, only recommendation to provide references to compilation methods

F.14 Treatment of factoring transactions

* Recommendation to add guidance on the recording of factoring transactions, currently non-existing in the SNA

* Further recommendations (i) to adapt the guidance by adding more details on the conceptually preferred recording and the recommended convention as detailed in the

Guidance Note (which may not work in special circumstances of very high inflation and credit risk environments). Note: In respect of the latter, one may also want to add more general guidance on the measurement of output under conditions of high inflation, when trade credit cannot be considered as a good proxy for the measurement of output of the supplier; (ii) to exclude, for conceptual reasons, possible financial services indirectly measured (FISIM); and (iii) to further investigate the actual business accounting practice, including available details from annual reports of factoring enterprises (see action point B.5 in the note on resolving minor action points)

F.15 Debt concessionality

* Links with Guidance Note F.9

* Recommendation to record concessional element by directly recognising grant at the time of loan inception not endorsed

* In line with issue note, it is recommended (i) to never record a transfer element for concessional lending in the sequence of economic accounts, except for concessional loans provided by employers to employees (to be recorded as current transfers); (ii) to remove the exception made for loans/deposits by central banks; and (iii) to include supplementary information on concessional lending by government and international organisations (to be recorded as capital transfers at inception, being an explicit policy decision to provide a lower interest rate at the start of the loan, or to change the conditions of relevant loans)

* Recommendations in the Guidance Note superseded by issue note with a more holistic view on concessional lending.

F.16 Subscription rights

* Recommendation to add guidance on the recording of (equity) subscription rights, as part of equity, currently non-existing in the SNA

* Recommendation to include clarification on the difference in characteristics regarding expiry dates

F.17 Master risk participation agreements

Dropped

F.18 Treatment of crypto assets in macroeconomic statistics (combined with GN DZ.6)

* Recommendation to treat crypto assets with a corresponding liability as financial assets, to be classified according to the proposals in paragraph 41 of the Guidance Note

* Recommendation to treat crypto assets without a corresponding liability designed to act as a general medium of exchange (CAWLM), and those designed to act as a medium of exchange within a platform only (i.e., payment tokens without a corresponding liability (CAWLP), as non-produced non-financial assets, to be classified as a separate category

* Decision on the recording of CAWLM (and CAWLP) based on the outcomes of a global consultation of users.

Informal economy

IE.1 Statistical framework and classification of informal economy

* The Guidance Note presents a framework for defining and measuring informal activities, with clear links to ICLS and SNA

* Recommendations should be reflected in chapter 39 on informal activities

* No impact on the sequence of economic accounts

Islamic Finance

IF.1 Islamic finance in the System of National Accounts and External Sector Statistics

* More detailed guidance on the recording of Islamic finance to be covered in chapter 26 on Islamic finance

* Impact on the terminology and definition of interest

* May also need to include additional clarifications in the central framework regarding measurement of output, including FISIM; classification of subsectors within financial corporations; and financial instruments

2. Balance of Payments related issues

B.1 Nationality concept

Dropped

B.2 Standardized statistical definition of Net International Reserves

* No impact on SNA, could however be added to chapter 33 on transactions (and positions) between residents non-residents

B.3 Centralised Currency Unions

* Addresses issues related to recognising institutional units, certainly in the case no national agencies are established; exception/clarification to be included in the core chapters of the SNA (see paragraphs 14-16 of the Guidance Note)? Or only in chapter 33 on transactions (and position) between residents and non-residents?

B.4 Reconciliation between flows and stocks

* No impact on the SNA, only recommends to arrive at a full and consistent accounting of (changes in) assets and liabilities

B.5 International accounts supporting the analysis of welfare

Dropped

B.6 Sustainable finance

* No impact on the sequence of economic accounts, only proposes some supplementary information

* It would be good to include relevant text in chapter 35 on sustainability

B.7 Arrears in IIP

* No impact on the sequence of economic accounts, only contains proposals to add some supplementary information

* However, it could be useful to add some of the clarifications (see, for example, paragraphs 12-14 of the Guidance Note

B.8 Recording citizenship by investment programs

* Recommendation to record non-refundable contributions to obtain citizenship, as either a current transfer or a capital transfer, due to voluntary nature

B.9 Treatment of external assets and related income declared under tax amnesty in External Sector Statistics

* May need to include a paragraph in the 2025 SNA on the treatment of tax amnesties for taxes on income

B.10 Auxiliary reconciliation tables

Dropped

B.11 Other economic flows on insurance and pension reserves

Dropped

B.12 Treatment of illiquid equity in international organizations in the IIP

* Recommendation to treat all equity in international organizations, both equity in the form of unlisted shares and equity in the form of non-negotiable equity, as part of "other equity"; and to change the term "other equity" to "other equity, including equity in international organizations"

Current account related issues

C.1 Recording transactor-based components of services

* No impact on the SNA, only includes recommendations to align BPM to product-based classifications for transactor-based services

C.2 Goods, services, and investment income accounts by enterprise characteristics

* No impact on the sequence of economic accounts, only includes recommendations to have voluntary breakdowns of imports and exports by enterprise characteristics

* It would be good to include relevant text in chapter 23 on globalisation

C.3 International trade classified by currency

* No impact on the sequence of economic accounts, only includes recommendations to have voluntary/encouraged breakdowns of imports and exports by currency in BPM

C.4 Merchanting and factoryless producers; clarifying negative exports in merchanting; merchanting of services (Combined with GN G.6)

* Mainly concerns clarifications on the recording of global production arrangements, to be covered in chapter 23 on globalisation

* However, one may also want to include some of the guidance in chapter 7 on production accounts, and more importantly, in chapter 15 on supply and use tables

* In addition, during drafting of BPM annotated outlines, it was suggested to include discussion of inverse merchanting in the manual. This could likewise be carried into the

SNA, in chapter 33 [Inverse merchanting is different from ordinary merchanting (e.g., a merchanting enterprise resident in country A is buying goods in country B and is selling the goods without physical transformation to another enterprise in country B). For inverse merchanting also the country where the inverse merchanting activity is taking place (country B) has to adjust its IMTS data in order to reflect the change of economic ownership of the goods (exports and imports)

* Note 1: Some discussion on the recording of (digital) intermediation services (see paragraphs 38-43 and 59 of the Guidance Note), raising the question of consistency with current guidance and guidance provided in other Guidance Notes, such as the one on DIPs (Guidance Note DZ.9). The issue has subsequently been resolved (see action point B.7 in the note on resolving minor action points).

* Note 2: Some concerns have been expressed in relation to merchanting of services. It has subsequently been agreed not to consider this issue for the time being

C.5.1 Statistical impact of the change in treatment of operating leases in business accounting

* Links with Guidance Note C.5.2

* No change in conceptual guidance, although it is recommended to include more guidance in the SNA, especially regarding the linkages between SNA and business accounting standards

* Moreover, recommendation to further align the guidance in SNA and BPM (see footnote 10 of Guidance Note C.5.1), including a more general call (Sanjiv) for improving consistency of wording, also within the SNA

C.5.2 Economic ownership in the context of financial and operating lease transactions pertaining, in particular, to aircrafts

* See Guidance Note C.5.2

C.6 Trade in services classifications

* No impact on the sequence of economic accounts, only includes recommendations to have some alternative/ additional breakdowns by type of service in BPM

C.7 Treatment of travel packages, health-related travel, and taxes and fees on passenger tickets

* Recommendations for unbundling the various services included in travel packages, which could be addressed in the section on partitioning transactions, and possibly also in chapter 6 on production accounts

* It has been agreed to implement the recommendations of the Guidance Note (see action B.8 in the note on resolving minor action points).

C.8 Recording of penalties and fines

* No explicit conceptual changes, but it may be useful to add clarifications on the recording of fines and penalties as either current transfers or capital transfers, and also on the time of recording of such transactions (see paragraph 18 of the Guidance Note)

C.9 Valuation of trade under long term contracts

Dropped

C.10 FISIM

Dropped

C.11 Valuation of imports and exports (CIF-FOB adjustment) (combined with GN G.1)

* See Guidance Note G.1

Direct investment related issues

D.1 Compiling statistics of greenfield investments and extension of capacity

* No impact on SNA, only contains recommendation for a definition of greenfield direct investment (DI) with options for a narrow and a broader definition

* Proposal to include recommendations on introducing supplementary information on greenfield investments for FDI-statistics, using the transactions approach

D.2 Valuation of unlisted equity in direct investment

* Links with Guidance Note AI.1

* Recommendation to explain the concept to be measured — namely, in the absence of market prices, own funds as the difference between assets and liabilities of unlisted corporations to be measured at market prices

* Recommendation to treat own funds at book value (OFBV), transaction prices, and market capitalization as the preferred methods to provide estimates of market value and using a decision tree to implement one of the preferred methods

* Need to add guidance on negative equity and provisions, the latter also based on additional reflections in the context of GN WS.9

D.3 Treatment of collective investment institutions

* No impact on SNA, as it mainly concerns the recording of FDI-relationships of collective investment institutions (CIIs), including proposal to redefine FDI, restricting FDI by/into CIIs

* May be relevant to include it in chapter 33

D.4 Corporate inversion

* No impact on SNA, but it may be good to include relevant text in chapter 23

* Recommendation to include a taxonomy and an official definition of corporate inversions

* Recommendation to include supplementary statistics for more data on corporate inversions in FDI-statistics

* No conceptual changes envisaged

D.5 Eliminating imputations for an entity owned or controlled by general government that is used for fiscal purposes

* No change in principle of recording SPEs set up by government as non-resident; however, recommendation to introduce enhanced imputations to better reflect the fiscal operations of government controlled SPEs (see option 3, as described in paragraph 15 of the Guidance Note)

D.6 Ultimate investing economy (UIE) and ultimate host economy (UHE) and pass-through funds

* No impact on SNA, but it may be good to include relevant text in chapter 33

* Recommendation to streamline the definitions of UIE and pass-through funds, and develop supplemental information on UIE, UHE and pass-through funds in DI-statistics, although not yet agreement on underlying concepts (see paragraph 17 of the Guidance Note)

* No conceptual changes envisaged

D.7 Sectoral breakdown of direct investment

* No impact on SNA, only includes recommendations to have (additional) sectoral breakdowns in FDI-statistics, either as standard components, memorandum items, or supplementary information (see Annex 1 of the Guidance Note)

D.8 Public-private partnerships

* No direct impact on SNA, although clarifications on the treatment of PPPs may be warranted, especially in chapter 30 on general government and the public sector

* No conceptual changes introduced, mainly concerns discussions on adding clarifications/guidance on the recording of PPPs, based on existing guidance in SNA and GFSM (see action point A.7 of the note on resolving minor action points), as follows: (i) to update the definition of a PPP and extend the introductory remarks to describe common PPP arrangements; (ii) to differentiate between PPPs where payments are made by the public partner for the provision of the public service or asset, and those where the payments are received from users of the public service or asset; noting the different statistical considerations when assessing who is the economic owner of the asset and the different statistical recordings when the asset is deemed to be on the government balance sheet; (iii) to highlight differences between the SNA and IPSAS for the recording of PPPs; and (iv) to provide more definitive guidance on the statistical recording of PPP-related transactions by describing the preferred treatment (even if other treatments are acknowledged as being appropriate in some circumstances)

D.9 Reconciling BPM-based direct investment (DI) and activities of MNEs

* No impact on SNA, but it may be good to include relevant text in chapter 23

* Recommendation to develop a framework to support the reconciliation of FDI- and AMNE-statistics, by identifying additional breakdowns, new supplemental presentations, and perhaps additional variables; also recommendation to align the definition of MNE to that in Guidance Note G.2

D.10 Defining the boundaries of direct investment

* No impact on SNA, apart from definition of FDI-enterprises (see Guidance Note G.2)

* Recommendation to retain a numerical threshold in defining DI, retaining this threshold at 10 percent, and maintaining status quo that DI relationships can only be achieved by ownership of equity

D.11 Removing debt between affiliated insurance corporations and pension funds from direct investment

* No changes proposed, although minor impact on SNA (alignment paragraph 26.87 of the 2008 SNA with BPM); see paragraph 15 of the Guidance Note

D.12 Including intra-concern [between affiliates] derivatives in direct investment

* No impact on SNA

* No conceptual change introduced for DI-statistics: intra-concern derivatives remain to be excluded from DI, only proposal to add supplementary item for derivatives between affiliated DI-enterprises in relevant instrument category

D.13 Treatment of large construction financed by government

Dropped

D.14 Financial conduits

* No impact on SNA

* No changes proposed but concerns about the recording of lending activities of financial conduits in the SPEs template; no changes proposed

* Proposal for a decision tree to derive the functional category of instruments issued by financial conduits (see paragraph 16 of the Guidance Note)

D.15 Treatment of payments made by non-resident affiliated enterprises on behalf of DI enterprises

Dropped

D.16 Treatment of retained earnings

* No conceptual changes introduced, however it is recommended to add clarifications on the estimation of reinvested earnings for foreign direct investment (FDI) and investment funds (in particular regarding the possible impact of provisions, and the measurement of reinvested earnings further down the ownership chain)

* Recommendation to introduce a memorandum item on provisions

* Agreement that from a conceptual and analytical point of view, the attribution of all the earnings generated below the direct investment ownership chain as reinvested earnings should be kept, acknowledging the practical challenges

* Further clarifications provided on the measurement of investment income attributable to collective investment fund shareholders, including the way in which to record explicit and implicit fees (see paragraph 28 of the Guidance Note)

D.17 Identifying super dividends and establishing the borderline between dividends and withdrawal of equity

* Recommendation to adjust the definition of (super)dividends and, implicitly, reinvested earnings, in the context of Foreign Direct Investment: distributions of accumulated reserves would be recorded as ordinary dividends, only exceptional payments recorded as withdrawal of equity in the financial account would only consist of sales of assets

* The adjustment results in an inconsistent treatment of dividends; as per issue note, discussed at the 21th AEG-meeting, this inconsistency has been accepted

D.18 Cash pooling in direct investment

* No impact on SNA

* Include a detailed description of the main types of cash pooling arrangements and ways to identify and classify associated debt instruments as either DI or other investment (see paragraph 4 of the Guidance Note)

3. Other guidance notes

AI.1 Valuation principles and methodologies

* Recommendation to clarify the valuation principles for transactions, with a preference for the term "exchange values"; to distinguish the principles from observed exchange values/market prices); and to clarify the principles for valuing non-financial assets, using the notion of capital services

* Recommendation to clarify the appropriateness of market conditions, when using observed market prices to arrive at market-equivalent prices

* Recommendation to provide clarifications on the application of the sum-of-costs method (link with issue note on action point A.8 (see X.55), and the NPV-method

* Recommendation to further elaborate the concept of nominal value

* Recommendation to provide more details on alternative valuation methodologies for transactions and positions beyond the central framework of national accounts

* Recommendation to provide more details on the relationship between the SNA and business and public sector accounting standards

*Recommendation to introduce a more in-depth discussion of valuation principles and methods in Chapter 4, possibly in an annex

AI.2 Treatment of rent for the recording of data, marketing assets and biological resources

* Recommendations (i) to broaden the definition of rent to cover all payments/receipts related to the use of non-produced non-financial assets (whatever their life span); (ii) to keep the current treatment for the recording of rent (i.e., in the allocation of accrued income account); and (iii)to broaden the scope of costs in the sum-of-cost approach, by also including costs related to the use of non-produced non-financial assets

4. Guidance provided in SNA New and Notes

X.1 (N&N 29) The 2008 SNA and the financial crisis

* No further action needed; however, see also GN F.1 regarding more detailed breakdown of non-bank financial intermediation

* At its 6th meeting, the AEG reviewed a short paper on "The 2008 SNA and the financial crisis", and concluded the following: (i) that the text of the 2008 SNA now gives comprehensive guidance on how recent events connected with the financial crisis should be recorded; (ii) agreed that the treatment of standardized guarantees issued by government should be extended to other financial instruments; (iii) in describing the action of nationalizing a bank, agreed that mention should be made of whether government takes effective control of the bank; (iv) suggested that some extracts from BPM6 on short-selling and securitization should be included in the 2008 SNA"

X.2 (N&N 30/31 and 32/33) The recording of emission permits issued under cap and trade schemes in the national accounts

* See Guidance Note WS.7

X.3 (N&N 36) Treatment of the output of central banks

* N&N 36 provides some further clarifications on the measurement of output of central banks, most probably not affecting the current guidance to a significant degree, unless one would also give room to the ESA-guidance

* However, a separate issue note (action point A.9) has been drafted, in line with the assessment of SNA Research Agenda. This endorsed issue note recommends the following: (i) to remove, for conceptual reasons, the references to FISIM from the estimation of central bank output; (ii) to update the guidance regarding the typical services provided by central banks, by also recognising other services, for instance those related to promoting financial stability and managing the payments system; (iii) to treat all services provided by central banks as collective services, to be valued at the sum of costs; and (iv) to record the transfers from the financial corporations' sector as current transfers to the central bank, and to allocate the collective services to the final consumption expenditure of the central bank

X.4 (N&N 37) The delineation of head offices and holding companies in the national accounts

* Recommendation to include further clarifications on determining whether or not a head office/holding company is a separate institutional unit

* Recommendation to include further clarification on distinguishing head offices from holding companies

X.5 (N&N 39/40) Recording of flows between a defined benefit pension fund and its sponsor

* Specific recommendations on the calculation of (imputed) investment income on the claim between a pension fund and its sponsor, as the difference between the unwinding of the pension liabilities and the actual investment income received

* Recommendation to classify the relevant investment income (D444), using the term "Imputed investment income attributable to the surplus/shortfall in defined benefit pension funds"

* Further guidance on treatment of holding gains/losses and other events affecting the claim between the pension fund and its sponsor

X.6 (N&N 39/40) The statistical treatment of negative interest

* Recommendation to treat negative interest as negative investment income (note: leads to an inconsistency with business accounting standards, which consider negative interest as an expense)

* Further recommendation to clarify the calculation of FISIM along the lines agreed at the 8th meeting of the AEG, not only relating to the choice of reference rates for domestically produced/consumed FISIM, but also for the guidance provided on the reference rates for imports and exports of FISIM, and the guidance provided on the volume measurement of FISIM (see action point B.9 in the note on resolving minor action points); see also X.10

5. Recommendations from past AEG-meetings

X.7 (AEG 7/2012) Service lives of military weapon systems

* Recommendation that the depreciation profiles of military weapon systems should reflect the expected service lives of such assets taking into account expected losses, and noted that the relevant service lives may need to be reviewed in times of conflict

* Recommendation to generally record losses of military weapon systems in military operations as other changes in volume of assets

X.8 (AEG 7/2012) Definition of catastrophes in the measurement of non-life insurance

* Recommendation to determine at the national level whether or not a catastrophe is an exceptional event (including the classification of claims arising from a catastrophe), while recognising that this may lead to inconsistencies in the recording of international transfers (to be resolved on a case by case basis where possible)

* Further recommendations (i) to extend the recording of capital transfers in the case of catastrophic events to claims related to inventories and non-financial assets other than dwellings, building and structures; (ii) to add clarifications on the recording of reinsurance claims which are related to catastrophic events; (iii) to add clarifications on the recording of claims in the case of damage to consumer durables; (iv) to apply a relatively strict delineation of major catastrophic events, to avoid inconsistencies; and (v) to cover more details regarding the treatment of non-life insurance in the context of distributional national accounts in SNA 2025 Chapter 32 on households and/or Chapter 34 on measuring well-being (see action point B.10 in the note on resolving minor action points)

X.9 (AEG 7/2012) Capital services of assets not contributing to production

* Recognising 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, and the need for further research on the utilization of capital in the measurement of capital services

* Further recommendations (i) to include more generic guidance on the recording of work-in-progress, not restricting the transfer of ownership to buildings and other structures; (ii) to include guidance on the conceptually preferred recording of work-in-progress (only record a transfer in the case of an effective transfer of ownership; record partially completed structures as work-in-progress, also after a partial hand-over; record differences between stage payments and the effective transfer of ownership as other accounts payable/receivable); (iii) to include possible exceptions to the conceptually preferred recording, in view of problems around the practical implementation, and need to rely on stage payments as a proxy for transfer of ownership, and recording gross fixed capital formation as a default; (iv) to include explicit guidance on the measurement of capital services for inventories; (v) to update the guidance on the measurement of capital services for natural resources, in line with the recommendations of the Guidance Notes WS.6, WS.8, WS.10 and WS.11; and (vi) to include additional discussion of the rate of return, and to provide clear and consistent guidance on the use of discount rates, in line with Guidance Note WS.10

X.10 (AEG 8/2013 (and 7/2012)) FISIM, especially the methodology for determining the reference rate, and the inclusion/ exclusion of maturity risk and credit default risk

* Recommendation to (implicitly) include maturity risk in the calculation of FISIM, by using a single reference rate

* Recommendations regarding the choice of reference rate (single exogenous rate, a weighted basket of exogenous rates, or endogenous interest rate), including guidance on choice in very volatile periods

* Recommendation on the calculation of imports and exports of FISIM by at least two groups of currencies

* Recommendations on FISIM in volume terms

* No conclusion yet on the treatment of credit default risk (CDR); and further research needed on, amongst others, alternative approaches for establishing reference rate (costs of funds, vintage); and financial instruments and units scope

* See also action point B.9 of the note on resolving minor action points

X.11 (AEG 8/2013 (and 7/2012)) The recording of stability fees

* Recommendation that for determining whether payments to stability schemes should be classified as a tax or as a payment for an insurance-type of transaction, the criterion of proportionality between payments and the provision of an insurance-type of services (including payments for the risk element) should be examined on a case by case basis, whereby the existence of a fund functioning on insurance rules with a full set of accounts may indicate proportionality, while in the case that the payments are not put aside, or can be used for other purposes, may be used as an indication to treat the payments as a tax

* Discussion on the different aspects of the appropriation of the assets of financial corporations and the compensation of depositors (shortfalls or excess of assets) and concluded that many different arrangements exist

* Note: Further discussions at the Eurostat FAWG?

X.12 (AEG 9/2014) Accounting for pensions: treatment of holding gains and losses

* Recommendation that, in measuring the investment income payable on pension entitlements, a distinction should be made between defined contribution pension schemes and defined benefit pension schemes, whereby in the former case the investment income should exclude any holding gains/losses, and in the latter case the investment income should be set equal to what has been allocated to the pension entitlements, disregarding the source of the income

* A separate issue note (action point A.10) has been endorsed, in line with the assessment of SNA Research Agenda, with the following additional recommendations: (i) for non-life insurance, to measure investment income attributable to insurance policy holders as actual investment income on investments from the funds available through insurance technical reserves, excluding holding gains and losses; (ii) to record reinsurance and standardised guarantee schemes in line with non-life insurance; (iii) for life insurance, to treat all income which is allocated to the life insurance policy holders as property income, whether or not this income originates from investment income or from holding gains (or losses); (iv) for multi-employer pension schemes, to provide simpler guidance for the measurement of output, in line with the sum-of-costs method, for autonomous pension schemes; (v) to provide further clarifications on the treatment of holding gains/losses more generally

X.13 (AEG 9/2014) Recording flows and stocks of international organisations

* Proposal to investigate the potential of compiling estimates on the output of international organisations, with a focus on the measurement of FISIM

* The AEG recognized that the measurement of the output of international financial institutions requires further work, and agreed to include this issue on the 2008 SNA research agenda, 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

* However, as no further work has been done, and the impact is probably not very significant, while testing the feasibility may require substantial work, it has been proposed to drop it from the current research agenda

X.14 (AEG 10/2016 (and 9/2014)) Accounting for pensions: recognition of pension entitlements

* At its 10th meeting, the AEG concluded, amongst others, the following: (i) agreed that the current guidelines are ambiguous on the distinction between pension entitlements that should (not) be recognised in the central framework; (ii) agreed that (based on more practical country examples) guidance should be developed in the short term on the distinction between social security and employment-related schemes; (iii) recognised that there are valid arguments for using the asset boundary to determine when liabilities

should be recognised and recorded in the central framework, and agreed that guidance applying the latter principles should be considered over the longer term

* It is not considered feasible to resolve the issue of recognizing, in the central framework, entitlements related to unfunded social security schemes (it will thus continue to feature on the post-2025 SNA Research Agenda); however, it is considered quite important to arrive at more clarity, as the current SNA guidance is ambiguous in some respects, and differs from the guidance provided in other standards for macro-economic statistics.

* For the latter purpose, a separate issue note (see action point A.13) has been drafted, with the conclusion that in principle pension entitlements should be recognized for all employment-related schemes, which are not intertwined with social security type of schemes. In relation to such schemes provided by public employers, no exceptions should be made, if the latter schemes are similar to those provided by private employers, in particular in respect of the terms and conditions of compensation, both current compensation and future compensation after retirement

* In this context, the relevant issue note also recommends a(n) (explicit) non-recognition of constructive liabilities

X.15 (AEG 11/2017 (and 9/2014)) Accounting for pensions: recording of flows between a defined benefit pension fund and its sponsor

* See SNA News and Notes, issue 39/40 (see X.5)

A.16 (AEG 11/2017 (and 9/2014 and 8/2013)) Accounting for pensions: supplementary table on household retirement resources

* General agreement on the value added of a supplementary table on household retirement resources (to be further elaborated)

* Recognized that the scope of assets to include in the table on household retirement resources may differ between countries, and suggested to have more granularity to improve the international comparability of the data

* Recognized that issues on household retirement affect all countries and encouraged AEG members from developing countries to provide inputs to further work on household retirement resources

X.17 (AEG 11/2017) Treatment of negative interest

* See SNA News and Notes, issue 39/40 (see X.6)

X.18 (AEG 12/2018 (and 11/2017, 10/2016 and 9/2014)) Statistical units

* The last time the AEG discussed this issue, it concluded the following: welcomed the ongoing work of the ISWGNA Task Force on statistical units and agreed with the proposed electronic consultation to initiate work on (a) the type of information used to make adjustments to the targeted unit, whether this is based on a full set of information or on some indicator(s), either or not directly collected from survey respondents; and (b) the advantages and disadvantages of an integrated analysis of production, income and finance

* Further research needed, although the AEG also agreed, at its 21st meeting, to provide more guidance on the usefulness and practicalities of using the concepts of enterprises and establishments in the relevant parts of the accounts, in line with the conclusions of the 10th AEG-meeting

6. Items included in the agreed outline

X.19 (Outline) Include main groupings of chapters in the 2025 SNA

* Recommendation as described in the title

X.20 (Outline) Refocusing chapter 1 Introduction (including potential impact on 2025 SNA chapters 2 and 3) (paragraphs 10, 25 and 32 of note on outline 2025 SNA)

* Paying more attention to the role of supply and use tables, labour accounts and capital services (also in 2025 SNA chapter 3)

* Adding concise text on the basic identities of the system (to be further elaborated in 2025 SNA chapter 3)

* Giving more prominence to volume and price measures

* Giving more attention to net measures

* Providing concise information on the links with other statistical standards and manuals; and also to the links with business and public sector accounting standards (by further extending the current sections E and F

* Re-allocating relevant text from the current section H to 2025 SNA chapter 2

* Concluding the chapter with a concise reader's guide for the 2025 SNA

X.21 (Outline) Adding text on productivity measurement to 2025 SNA chapter 18 on measuring prices, volumes and productivity (paragraph 33 of note on outline of 2025 SNA)

* Re-allocate (and extend) the current text on productivity, from the 2008 SNA chapter on population and labour inputs to the 2025 SNA chapter 18 on measuring prices, volumes and productivity

X.22 (Outline) Adding a section, in the 2025 SNA chapter 18 on measuring prices, volumes and productivity, on the volume and price measurement of specific products, similar to section F of 2008 SNA chapter 6

* Recommendation as described in the title

X.23 (Outline) Refocusing 2008 SNA chapter 19 (chapter 16 in the 2025 SNA) to labour accounts (paragraph 23 of note on outline of 2025 SNA)

* Much stronger emphasis on the framework of labour accounts

* Re-allocate (revised) version of section B to 2025 SNA chapter 5 on residence, institutional units and sectors

X.24 (Outline) Refocusing 2008 SNA chapter 20 (chapter 17 in het 2025 SNA) on capital services and the national accounts (paragraph 24 of note on outline of 2025 SNA)

* Less emphasis on valuation of non-financial assets, by re-allocating relevant text on valuation elsewhere (e.g., annex to 2025 SNA chapter 14 on balance sheet, or possibly new section on valuation at large, as an annex to 2025 SNA chapter on flows, stocks and accounting rules); see Guidance Note AI.1

X.25 (Outline) Add text on balancing the accounts to 2025 SNA chapter 19 on summarizing, integrating and balancing the accounts (paragraph 34 of note on outline of 2025 SNA)

* Add text on balancing the accounts, either by having a very a concise discussion at the start of the chapter, or by introducing a new section on this topic

* In doing so, focus on the main identities in the SNA

X.26 (Outline) Refocusing 2008 SNA chapter 18 (chapter 20 in the 2025 SNA) on elaborating and presenting the accounts (paragraph 35 of note on outline of 2025 SNA)

* Review the current text quite significantly, and restrict the coverage of this chapter to the following topics, in a (much) more elaborated way than currently done: (i) temporal disaggregation; (ii) territorial disaggregation; and (iii) regular and benchmark revisions, and the compilation of time series data

* In dealing with the above topics, pay much more attention to institutional sector accounts

* Remove section C on accounts in volume terms, and include relevant content in the 2025 SNA chapter 18 on measuring prices, volumes and productivity

* Remove section F on presentational issues, and include relevant content in the 2025 SNA chapter 21 on communicating the accounts

* Possibly add a section on accounting under conditions of high inflation (see X.49)

X.27 (Outline) Refocusing 2025 SNA chapter 25 on selected issues on financial instruments (paragraph 27 of note on outline of 2025 SNA)

* Basically consisting of parts 3, 4 and 6 of 2008 SNA chapter 17 on cross-cutting issues

* Significantly downsizing part 4, restricting the text to some more problematic areas (may need further discussion in view of 2025 SNA chapter 29)

X.28 (Outline) Changing the content of 2008 SNA chapter 28 (chapter 36 in the 2025 SNA) on input-output and other matrix-based analyses

* Remove section D on social accounting matrices, because of overlap with from-whom-to-whom tables (chapter 37 in the 2025 SNA)

* Add a section on worldwide input-output tables, giving its importance for certain types on analysis (Trade in Value Added, ecological footprints, etc.)

X.29 (Outline) Refocusing 2008 SNA chapter 27 (chapter 37 in the 2025 SNA) on links to monetary statistics and the flow of funds (paragraph 29 of note on outline of 2025 SNA)

* Change the focus of the new chapter 37 to from-whom-to-whom tables for current and capital transactions and for financial transactions and positions

* Including text on new types of analysis for capturing financial risks and vulnerabilities and the IMF balance sheet approach

* Certain elements of the 2008 SNA chapter, for example on the links to monetary statistics, could be re-used, in a revised version, in the new chapter 29 on financial corporations

X.30 (Outline) Refocusing 2008 SNA chapter 29 (chapter 38 in the 2025 SNA) on satellite accounts and other extensions (paragraphs 13 and 36 of note on outline of 2025 SNA)

* Focus on thematic accounts

* Remove section B on functional classifications, and integrate relevant text in the annex on classification hierarchies

* Re-allocate (revised) versions of section F2, F3 and F4 to new chapters 34 on well-being and 35 on sustainability

X.31 (Outline) Paying much more attention to the relationships between macro-economic standards (paragraph 37 of note on outline of 2025 SNA)

* Introduce a new annex

7. Various other items

X.32 (AEG 15/2021: M1.21/3.1) Establishing clearer links to ICLS-resolutions

* Recommendation to add clarifications between ICLS-resolution concerning statistics of work, employment and labour underutilization (2013, 19th ICLS) and ICLS-resolution concerning statistics on work relationships (2018, 20th ICLS, including the new classification of Status in Employment)

X.33 (AEG 15/2021: M1.21/3.1) G20 templates for international collection of NA-statistics

* Recommendation to include references to G20 templates for collecting NA-statistics

X.34 (AEG 15/2021: M1.21/3.1) Remove inconsistencies in the guidance on the treatment of taxes and subsidies related to central bank lending and borrowing

* See Guidance Note F.15, including issue note on concessional lending

X.35 (AEG 15/2021: M1.21/3.1) Improve consistency in the use of terminology for insurance

* Recommendation to address inconsistency in the use of the term “premiums” in the formulae to calculate insurance output

* Recommendation to address inconsistency in the use of the terms "increases (plus decreases) in life insurance technical reserves and "increases (plus decreases) in actuarial reserves and reserves for with-profits insurance" in the life insurance output formula

X.36 (AEG 15/2021: M1.21/3.1) Clarification on calculation of FISIM

* See X.10

X.37 (AEG 15/2021: M1.21/3.1) Recording of central bank swap arrangements

* Guidance provided in IMF-document

(https://www.imf.org/external/pubs/ft/bop/2018/pdf/ Clarification0518.pdf)

* Recommendation to treat off-market central bank currency swap arrangements as an exchange of deposits with maintenance of value. However, if the central banks conduct the transaction as a standard (market priced) currency swap, then it is recommended to record the swap as an exchange of deposits with the simultaneous creation of a financial derivative, namely a forward contract

X.38 (AEG 15/2021: M1.21/3.1) Treatment of negative equity in direct investment statistics

* See Guidance Note D.2

X.39 (AEG 15/2021: M1.21/3.1) Output of off-shore banks

* Recommendation to treat offshore banks as residents of the country where they are incorporated or registered, and to be classified as deposit-taking corporations.

* Recommendation to calculate output according to FISIM, in addition to explicit fees.

X.40 (AEG 15/2021: M1.21/3.1) Time of recording of GFCF and instalments

* See X.9

X.41 (AEG 15/2021: M1.21/3.1) Recording of refunded premiums at surrender of insurance policies

* Clarification on the recording of refunded premiums as a financial transaction (cash versus decrease of insurance technical reserves

X.42 (AEG 15/2021: M1.21/3.1) Treatment of non-fungible tokens (NFTs)

* See Guidance Note DZ.10

X.43 (COVID) Government support to businesses and households

* Recommendations for recording government support as either other subsidies on production (objective is maintenance of business), current transfers (objective is income support of households), or reduction of relevant taxes (e.g., tax holiday)

X.44 (COVID) Recording of deferred or waived rental payments

* Recommendations on the time of recording of rentals, depending on whether or not the deferral is related to a modification of the lease terms

X.45 (COVID) Recording of deferred delivery of, and payments for, goods and services

* First and foremost recommendations on the recording of output and consumption in the case of deferred deliveries (payments), distinguishing between cases where the product is delivered or not

X.46 (COVID) Recording of loan payment deferrals by financial intermediaries

* Explanations on the impact of deferred interest payments on FISIM

* Some further explanations on the recording of capital transfers in the case of mutual agreement on non-payment of interest

X.47 (COVID) Estimating the volume of non-market output

* Recommendations on the way certain substantial changes in the provision of education and health may affect the measurement of output volume, and how to (not) address these

X.48 (Other (ISWGNA)) Multiple exchange rates (AEG 19/2022)

* Recommendation to include (somewhat more concise) guidance, as provided in Annex A of the 1993 SNA, probably best fit in an annex or a box in chapter 33 on transactions (and positions) between residents and non-residents (see also action point C.1 in the note on resolving minor action points)

X.49 (Other (ISWGNA)) Accounting under conditions of high inflation

* Proposal to include guidance on accounting under conditions of high inflation, as provided in chapter XIX, section G, of the 1993 SNA, with references to the relevant manual, probably best fit in 2025 SNA chapter 20 on elaborating the accounts; see also action point A.11 in the note on resolving minor action points

X.50 (Assessment RA) Provide broad conceptual guidance on price and volume measurement related to globalization in chapter 18 of the 2025 SNA

* See action point A.1 in the note on resolving minor action points

X.51 (Assessment RA) Add text on nationality concept

* Add, where relevant, text on nationality concept in SNA 2025 chapters 23, 29 and/or 37; see also action point A.2 in the note on resolving minor action point

X.52 (Assessment RA) Include text on partitioning of assets

* Add clarifications on the dual use of consumer durables and fixed assets; see also action point A.3 in the note on resolving minor action points

X.53 (Assessment RA) Include text on significant differences between on the one hand the SNA, and on the other hand IPSAS and IAS

* See title, and also action point A.5 in the note on resolving minor action points

X.54 (Assessment RA) Draft an issues note on when, and when not, to consider trusts and other types of funds as separate institutional units

* Recommended to provide additional guidance on trusts, and the consideration for treating trusts, investment funds and pension schemes as separate institutional units (see relevant decision trees)

* Recommendation to add guidance on the treatment of specific cases, in particular real estate investment funds, asset management provided by banks, and multi-employer pension schemes; and to update the guidance on quasi-corporations to also account for those which are set up as a trust

* Recommendation to do additional research on individual pension trusts, especially whether they constitute a social insurance type of scheme which may warrant a treatment distinct from other trusts; see issue note on action point A.13 (see X.14). The AEG has given its approval for this Issue Note.

X.55 (Assessment RA) Further alignment of sum-of-costs approach

* See issue note on action point A.8, which includes the following recommendations: (i) to include return to capital in all cases, including non-market output; (ii) to expand the scope of assets for which a return to capital should be recognised, thus including work-in-progress, other inventories (where significant) and non-produced non-financial assets that are used in production; (iii) to exclude a return to capital for city parks and historical monuments on pragmatic grounds; (iv) to add depletion of natural resources as a cost (where relevant) to the sum of costs approach; and (v) to add rent as a cost to the sum-of-costs approach

X.56 (Assessment RA) Add clarifications on the treatment of costs of ownership transfers for different types of assets

* See title, and also action point A.14 in the note on resolving minor action points

X.57 (Assessment RA) Add clarifications on the distinction between maintenance and capital repairs for intangible assets

* See action point A.15 in the note on resolving minor action points

X.58 (Assessment RA) Issues note on a possible alternative treatment of the transfer of leased assets at the end of the lease period

* Recommendations (i) to record, from a conceptual point of view, the transfer of leased assets at the end of the lease period as the building up of a financial claim, which is extinguished at the time of the transfer of the leased asset although in practice, it is considered appropriate to record the transfer of the relevant assets as capital transfers); (ii) to pay more attention to the recording of transfers of leased assets; and (iii) to provide some further clarifications on the possible transfer of the economic ownership of natural resources.

X.59 (Other BPM-related) Clarification note on treatment of securities (and gold bullion) under reverse transactions

* Recommendation to exclude securities provided as collateral, which are not readily available for meeting balance of payments financing needs, from the cash borrower's

reserve assets and to reclassify these securities to portfolio investment assets; the same treatment would apply to gold swaps as well

* Recommendations would implicitly lead to a change in the definition of monetary gold, as gold bullion under reverse transactions would be demonitised (see paragraph 2 of the note)

Annex 2: Annotated outline of the Handbook on the capitalisation of data in the System National Accounts

• Executive summary

- An executive summary (or some other nomenclature)

This section would include the specific high level recommendations pertaining to the conceptual and practical compilation of data as a form of summary of recommendations. It would replicate those recommendations included later in the handbook.

• Introduction

- Introducing the broader context for this work.

1. *This section will include several paragraphs setting the scene for the work of the task team and the need for this handbook beyond a desire to have better knowledge of data's value. It will include references to the decision to revise the System of National Accounts 2008 (2008 SNA), how this is regular (although infrequent occurrence) and the impact this has on indicators such as Gross Domestic Product (GDP). It will discuss that the incorporation of data into the production and asset boundary is only one change as part of many for the planned 2025 SNA. These paragraphs will include a discussion on the how the decision to revise the 2008 SNA was made, the process involved in having changes approved (i.e., guidance notes, global consultation, and approval by Advisory groups) and the expected timeline for implementation.*

- Why this handbook has been written and what it covers

2. Data has become a fundamental pillar of the economy. Advances in technology has increased the ability for corporations to produce and process massive amounts of data. This data creates more insights, which further incentivises more investment in data assets. While the practice of collecting and organising information is not new, the digitisation of so many facets of the economy has made the production of data easier and cheaper than ever before. This in turn has resulted in the creation of brand-new business models reliant on data, while increasing the risk that many traditional enterprises will be left behind if they are not creating data about their customers or production processes.

3. Digitalisation is one of the priority areas of the SNA research agenda. In this context, the absence of an explicit data asset within the 2008 SNA production boundary, despite its increasing importance to both new and existing business models has become untenable. While it is arguable that the value of data can be somewhat implied in the value assigned to other assets such as Databases and Research & Development (R & D), as will be explained in chapter 1, this current treatment is vague and inconsistent in regard to purchased data assets and those produced on one's own account.

4. As such, following extensive discussions in several international forums and a global consultation with statistical compilers and other stakeholders, a decision was made to explicitly incorporate data into the 2025 SNA production and asset boundary.

5. Conceptually, the estimation of data as an asset in the 2025 SNA follows existing methods used for other Intellectual Property Product (IPP) assets such as Research & Development and Computer Software. However, the unique characteristics of data, both in the way that it is produced and used, have required some additional discussions to reach consensus on how to treat certain aspects of data production in the 2025 SNA. These topics are discussed throughout the handbook with final recommendations presented so that countries are able to easily and consistently explain to users the conceptual boundary of data within the 2025 SNA and how it impacts important indicators such as GDP.

6. The practical interpretation and implementation of these conceptual recommendations is a larger, but not insurmountable, challenge for countries. Most countries have not produced estimates of data investment before so while most have experience in estimating own account capital formation of various IPP assets, the intricacies of data require a review of certain assumptions and modelling undertaken.

7. As such, the handbook will, at times, provide two sets of compilation recommendations that countries can follow. The first will include a broader aspirational approach to which countries can aim towards as their data availability improves. The second set of recommendations will be more basic step-by-step guide, directed towards (groups of) countries for whom data on certain aspects of data production is not yet available. The handbook also includes information and case studies from those countries that have already compiled estimate of data, which can guide and inform other countries in their work.

8. By including a basic set of recommendations on certain aspects of data compilation, the handbook is striving to maximise methodological consistency across countries. This is vital for any change to the GDP production boundary as the international comparability of the System of National Accounts, and GDP in particular, is a fundamental pillar of the framework.

9. The compilation of data requires countries to make many decisions on how to appropriately reflect the level of data output and investment as well as the changing value of data assets over time. These measurement challenges are not unique to data assets, however since most countries are producing estimates of data for the first time, there is a strong desire for compilers to apply similar assumptions when data gaps exist in an effort to ensure that differences between estimates reflect variations in the real economy rather than alternative methodology.

- A summary of the different chapters of the handbook.

10. The handbook is written broadly in the order that countries will attempt to compile estimates of data.

11. Chapter 1 defines data for economic statistical purposes and covers how, for the purpose of the 2025 SNA, data is being considered as an explicit output of production and if capitalised in the accounts will be classified as a standalone produced asset (combined with databases). It will explore how this differs from the previous treatment of data in the 2008 SNA. It also covers some broad underlying measurement questions such as how to distinguish intermediate consumption of data compared to Gross Fixed Capital Formation (GFCF) of data

(or if this is even feasible), the treatment of ancillary data – which is not considered a productive output – and the classification of data across the economic statistics landscape.

12. Chapter 2 covers the compilation of estimates of data on a nominal basis. While the chapter will touch on the different approaches theoretically possible, it will focus on the sum of costs method as this is seen as the most practical for countries to implement. It discusses the treatment of government data, as well as expanding on the treatment of data consumed immediately. It contains specific recommendations regarding the choice of occupations in the initial compilation of labour costs, how time factors, or data intensiveness of these occupations may be represented as well as where information and ratios may be sourced which represent other costs involved in the production of data. Helpfully it includes case studies from countries showcasing how they have produced these estimates.

13. Chapter 3 focusses on converting nominal estimates of data output and GFCF to volume estimates, a fundamental requirement for incorporation into headline GDP measures. This is done through the use of price indexes, as such the chapter explores the different price indices that countries should aim to apply to data. The chapter includes a discussion on potential of applying adjustments to the price index so that any quality changes in the data asset can be represented.

14. Chapter 4 covers the compilation of capital stock estimates through the use of the Perpetual Inventory Method (PIM). This includes examples from countries on the assumptions they are applying to the PIM to estimate the capital stock of data, including the asset lives applied.

15. Chapter 5 discusses the remaining conceptual and practical elements of including data into the 2025 SNA. This includes recording the sale of data assets and services related to data assets, including those transactions that take place across international borders. This chapter also presents recommendations on creating a back series for data including examples of how countries have already approached this challenge.

- What this handbook does not cover

16. While it is envisioned that this handbook contains all the information required for countries to compile estimates of data output including GFCF of data, the handbook does not cover every aspect of statistical collection and production. It assumes a certain level of knowledge on various aspects required to compile these estimates of data. For example, the handbook does not cover the fundamental background to the Perpetual Inventory Method, the production of price indexes or the data collection methods used to source the required information discussed in the handbook.

17. It is assumed that countries are already sufficiently knowledgeable in these areas, or if additional information is needed, that this can be sourced from the alternative reference material included as links within the handbook and which focuses specifically on these topics.

- ## Chapter 1 – Defining the conceptual boundary of data for inclusion in the 2025 SNA.

- This section opens with a clear definition of data for the purpose of the 2025 SNA.

18. Due to the many possible understandings of what data is and is not and potential for misinterpretation, a detailed and extensive definition is required. Within this handbook and the proposed 2025 SNA data is considered as "***Information content that is produced by accessing and observing phenomena; and recording, organizing and storing information elements from these phenomena in a digital format, which provide an economic benefit when used in productive activities".***

19. This technical definition differs greatly from that likely thought of by the proverbial "person in the street". For many, data is a simpler concept even though it can refer to many different things. In fact, when used by most people, the term data is broadly indistinguishable from Information and can cover a single fact or point of knowledge up to large datasets from which numerous insights can be drawn from. This is not wrong; data can exist on a single item (the personal information of an individual) or on whole economies (the GDP for an entire country). Additionally, as pointed out by the OECD, data can take on a quantity perspective when it refers to "*Internet Protocol (IP) traffic or the volume of digitised information stored on servers and other hardware"* (OECD, 2022)*.*

20. *Due to the obvious differences between the technical definition for use in the SNA and the more mainstream understanding of what data is, the handbook will discuss various ways that statistical offices may be able to describe data in order to collect information on it, including via business surveys.*

    - What are specific characteristics that data must exhibit to be considered a produced asset from a System of National Accounts point of view, including paragraphs on excluding non-digital and ancillary data.

21. Primarily it was considered necessary to add additional caveats regarding how the data has been created and used to ensure that the data which would be capitalised from the perspective of the national accounts was consistent with other produced fixed assets within the system of national accounts. The 2008 SNA considers produced fixed assets to be "*assets that have come into existence as outputs from production processes*" (2008 SNA §10.9) (EC et al., 2009) and that "*are used repeatedly or continuously in production processes for more than one year. The distinguishing feature of a fixed asset is not that it is durable in some physical sense, but that it may be used repeatedly or continuously in production over a long period of time, which is taken to be more than one year.*" (2008 SNA 10.11) (EC et al., 2009). It has been broadly agreed that in today's economy, there are countless examples of data being created as an output of a production process and subsequently being used in business processes repeatedly over a period of one year. Simple examples include sales data to assist with forecasting demand, customer information as part of loyalty programs, cookies collected from websites and used to personalize an experience. As such, the suggestion that data should be considered a produced asset has been widely supported, however, it has also been

acknowledged that the broadly accepted concept of data used in the economy can extend beyond that which is the specific output of production.

22. To compensate for this, the 2025 SNA definition of data brings in several aspects that must be fulfilled for data to be considered an output of production. This includes being on a digital format and providing an economic benefit to the owner.

23. While it is well established that non-digital data exists and can theoretically be used in production, it is considered that this would make up a very small and inconsequential amount of the data used in production. The inclusion of non-digital data is considered a significant measurement burden for countries and not commensurate with the influence of this data on the economy. Therefore, while acknowledging that non-digital data exists, **for the purpose of the 2025 SNA, only digital data is considered within the 2025 SNA production boundary.**

24. In addition, most businesses generate data that is not directly relevant to the production of the business. This data may be captured digitally, however, **if the data is not providing a direct economic benefit to the business, it is considered outside of the 2025 SNA production and asset boundary**. It is not practical to explicitly list what type of data this might entail as it will be different from business to business. However if the data is collected solely for record keeping or to facilitate the internal running of the business and it is not used to derive insights or information which may further production (a.k.a., providing an economic benefit), then any costs associated with it should be considered as a current input cost of production of the underlying output (intermediate consumption) rather than a capital cost (GFCF of data).

25. Theoretically, a distinction between the production of these different types of data (data that used in production and data that is considered ancillary) can be implied through the occupations chosen. Occupations that are not involved in the pro-active creation of value of data should not be included in the initial labor costs assigned to data production. As mentioned, this delineation is not clear cut. In many instances, data may have been kept for record keeping originally, only for business to later realize the value of this data and begin to analyze the data in order for it to provide economic value to the business through its insights.

26. While not controversial and in fact, merely brings data in line with other assets already included in the 2008 SNA asset boundary, this concept of not including expenses related to the production of data that is not providing an economic benefit to the owner is a fundamental and important one. *As such this section will elaborate further on this topic to ensure that countries clearly understand the concept, especially for the non-market sector.*

27. **Data from the perspective of the SNA does not automatically include everything that was saved digitally and stored on a computer.** While modern lexicon often used the term data for anything saved/stored on a computer, (i.e., how much data does your computer hold?). A digital file may contain data (as defined by the SNA) or it may contain a video, photo, software, old emails, etc.. These things are not information content, produced by accessing and observing phenomena; which provide an economic benefit. *This distinction between data as defined in this handbook that makes up the production of data and data assets and data that underpins other goods and services (telecommunication services, artistic originals, publishing services) will be further elaborated on as this is an important point for users to understand.*

- A discussion on the treatment of short-lived data, A.K.A., data that is consumed within one year.

28. The SNA is very clear that expenses should only be capitalized if involved in production for more than one year. As such several countries in their initial estimates of data GFCF have made an adjustment to the final nominal estimate of own account output of data to represent the data which is consumed within one year and thus should not be capitalized.

29. However, as noted by the countries who have made these adjustments, they are at the moment considered quite arbitrary as information on the percentage of data used within one year is so far not readily available from businesses or any other source.

30. Practically, the compilation of economic statistics relies greatly on business accounting. Currently most assets in the 2008 SNA are also considered assets for the purpose of financial accounting. As such, when asked, businesses are able to separate capital expenditure from current expenditure relatively easily. This is not the case for data expenditure which, while not explicitly excluded, is not (yet) explicitly considered an asset within the international accounting standard. Making it difficult for business to distinguish between current and capital expenditure on data. *This link between the SNA framework and the International Financial Reporting Standards (IFRS) is an important concept requiring further exploration.*

31. Additionally, it is possible to incorporate the retirement of a large cohort of data assets within the first year of existence through the Perpetual Inventory Method (PIM) – See chapter 4. This would alleviate the need for an adjustment based on unavailable data. This treatment would also align with the proposal that was supported by the global consultation and expert group when considering the incorporation of data as an asset in the 2025 SNA (ISWGNA, 2023).

32. *Overall, this is an important concept that needs to be discussed and explored further in the handbook. Both the concept and the subsequent practical implementation are still being discussed by the task team; however, it is agreed that a final recommendation should be included in the handbook in order to maximize consistency across countries.*

- Explanation on how data in the revised 2025 SNA differs from the decision to not include data in the 2008 SNA.

33. This concept of data needing to be digital and providing an economic benefit to the owner also solidifies what data is in the 2025 SNA compared to the 2008 SNA. Previously, when the SNA implicitly took the view that data had value but was non-produced[18], it viewed 'data' as the embodied information content of what is now typically referred to in the new lexicon of data value chains as the information content of 'observations' or 'observable phenomena.' In simple terms this is information content that had not yet been recorded[19]. This consideration of data as embedded information is one reason why the authors of 2008 SNA, in an attempt

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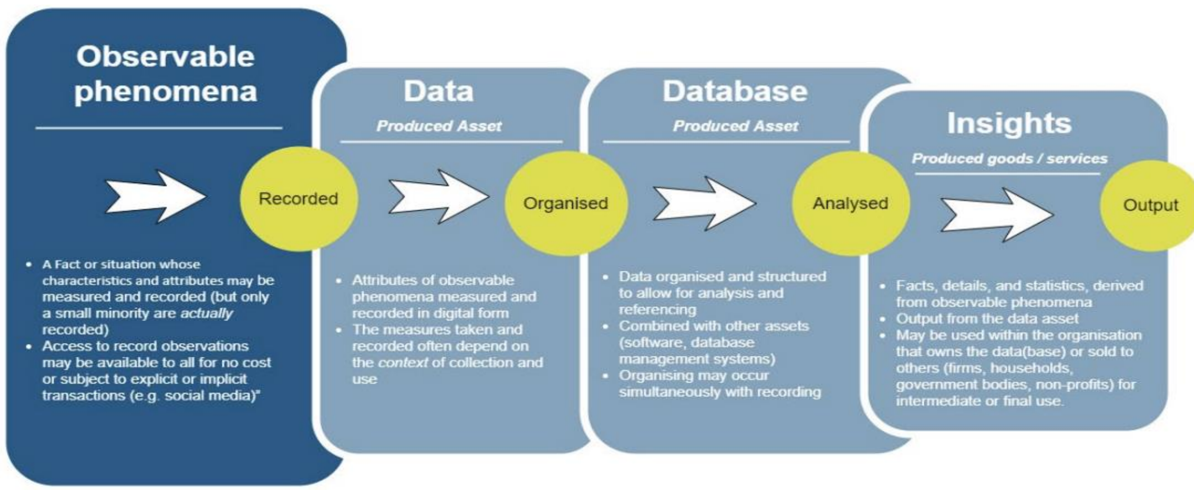
18 It is considered "implicitly" as data was not explicitly considered a non-produced asset. Rather when an explicit transaction in goodwill was made, it was considered that some of the value of the goodwill (a non-produced asset) was derived from the data contained within business.

19 In (Mitchell, Ker, & Lesher, 2022) Observable Phenomena are defined as "a fact or situation, whose characteristics and attributes may be recorded".

to limit the possibility of implicitly “capitalising knowledge” (Ahmad & van de Ven, 2018), chose to limit the value of databases to only include the cost of preparing data in a format that conforms to the “database management system (DBMS)” while excluding the cost of acquiring or producing the data (2008 SNA §10.113) (EC et al., 2009).

34. With data now considered the information content that comes from accessing and observing phenomena; and recording, organizing, and storing information elements from these phenomena rather than the embedded information contained in the phenomena themselves, the concept of data, for the purpose of economic measurement and analysis has moved along the data value chain as represented in Figure 1. This movement introduces a clear element of production (as defined in the SNA) to the process and creates additional value to the output.

Figure 1: Data-information chain from a System of National Accounts perspective



(Mitchell, Ker, & Lesher, 2022)

- Where data is currently classified in various classifications used in economic statistics

35. *This section includes several paragraphs detailing how data is (and is not) currently classified in the international statistical classification. Both the CPC and ISIC are undergoing revisions to coincide with the revision to the SNA and BOP. Data has been explicitly included in both classifications; therefore, this section includes how the explicit identification of data in the 2025 SNA matches with the work that has been done by the classification task team.*

- Data can be produced by all sectors of the economy.

36. Like all other assets in the economy, **data can be produced and used in production by all sectors of the economy including the government sector** (or non-market). Occupations listed as part of the sum of costs calculation would include those working for the general government and NPISH sectors, their output would be recorded as production of data and if capitalized, GFCF for their respective sectors. This may include both publicly available and non-publicly available data assets as both are considered as contributing to the production of the government sector. For example, data compiled by security forces, that assist in public safety or by government agencies that assist in the efficient delivery of government services

(i.e., tax, social welfare) are clearly investments (GFCF in SNA speak) made by government that provide an economic benefit to its owner (the government) over future periods.

37. Like other assets that are publicly owned and made available to use, with no direct charge to the users, the services produced by these data assets are consumed collectively and theoretically the value that the public places on these assets may extend well beyond the sum of costs it took to produce them. The consumer surplus in this situation is no different from that applied to other services that the government provides but which consumers would happily pay more for (i.e. running water). This type of consumer surplus is just one of many different perspectives that can be used to estimate the "public value" of data and data sharing, however, the values attached are not consistent with the valuation concepts used within the national accounts (more discussion of this is in chapter 2) and so should only be used for academic purposes.

38. Theoretically, data can be produced by the household sector. However, since data for the purpose of SNA involves information content obtained through accessing and observing phenomena rather than simply anything saved digitally, this excludes videos, photos, blogs, and other self-published material from being considered as data in the SNA. That said, these activities may well constitute production of a good or service other than data. As such, it is thought that the contribution of the household sector to the overall amount of data production would be minor compared to other sectors.

39. *These paragraphs will benefit from some numerical examples, which show the change in treatment whereby some current government consumption, becomes government investment, such examples will be placed in the Annex.*

• Chapter 2 - Creating a nominal estimate of GFCF through the sum of costs method.

• Chapter 2.1: The Sum-of-cost is the recommended method for measurement.

40. **It is recommended that data produced on an own account basis is valued using the sum-of-cost method as already established in the 2008 SNA.** The reason for this will be explained in the upcoming paragraphs. Other valuation methods beyond those outlined in the SNA have previously been tested by academia or statistical offices and will also be briefly discussed. However, these are considered either not consistent with the overall SNA framework or not practical for the consistent implementation across countries, a major requirement for the purpose of national accounting.

• How the SNA values output

41. The 2008 SNA is not prescriptive in its choice of valuation methods for measuring output or asset, only on the valuation principle. That is, in order to make the SNA the powerful analytical tool that it is, it uses a single accounting unit, money terms (EC et al., 2009). Therefore, while the 2008 SNA does suggests using "values at the actual price agreed upon by the transactors"

(2008 SNA §2.59) (EC et al., 2009) which makes exchanged prices the basic reference for valuation in the SNA, several other valuation approaches are mentioned as appropriate or acceptable in certain circumstances.

42. One of those circumstances is when there is an absence of market prices, a situation that is certainly applicable for data assets which are not sold. One of the central pillars of data's value is exclusivity: an organisation having data that its competitors do not possess provides a clear point of value. While publicly available data or data that is not exclusive can still be used in production, its potential for value adding is greatly diminished. For this reason, it has been consistently observed that business models are becoming more dependent on proprietary data (Nguyen & Paczosi, 2020), a trend that is likely to continue with increases in legislation aimed at protecting consumer privacy that prohibits or limits the sale of third party data (Corrado, Haskel, Iommi, Jona-Lasinio, & Bontadini, 2023). As such, and as shown in results published by Eurostat, the vast majority of data that is used in production is produced by organisations themselves resulting in only a small amount of market transactions in data relative to the amount being used in production (see Box 1).

Box 1: Information and figures from Eurostat relating to businesses buying, selling, and using big data.

43. Importantly, even if a greater number of market transactions existed, the extreme heterogeneity of data presents another issue for their use in the accounts. The highly contextual and independent nature of data means that the collected prices are not nearly as representative of other transactions as is the normal case for many other goods and services.

44. This absence of market prices and the difficulty in using them when they are available, means that compilers must search for alternative valuation methods. The 2008 SNA provides several options for valuing output or assets where market prices are absent. These include.
    - Estimating a value according to costs incurred (2008 SNA §2.59)
    - by referring to market prices for analogous goods or services (2008 SNA §2.59)
    - estimating a discounted present value of future returns expected from a given asset (2008 SNA §2.60)

45. The very low level of market transaction in data combined with the heterogeneous nature of data, make the second option unfeasible. The third option is often used within the national accounts, for example when valuing natural resources. However, while data is often referred to as the "new oil", from a valuation perspective there are clear differences between the characteristics of data and natural resources that impact the ability to accurately forecast future returns. These include the near limitless stock of future data, the lack of homogeneity in data products as well as the highly contextual nature that data is used in production. As such, the production of forecast that would allow for an accurate estimate of the value of all data assets within the economy was considered unrealistic.

46. Due to data characteristics the 2nd and 3rd valuation options are considered untenable. It is recommended that data is estimated based on the sum of costs involved in its production.

- How the sum of costs is put together in practice.

47. The 2008 SNA provides a simple description of the sum of costs approach. It lists output as the sum of the following items: intermediate consumption, compensation of employees, consumption of fixed capital and other taxes on production less other subsidies on production. For market producers, it is necessary to also include an estimated mark-up to account for its net operating surplus. (EC et al., 2009)[20]

48. All countries that have produced estimates of data assets have used this sum of costs approach when constructing estimates of data GFCF. When applied for the purposes of data it can be shown in the following manner as was done by the Bureau of Economic Analysis (see Figure 2), where for each occupation ω, industry i, and year t, the wage bill is calculated by multiplying the annual number of employees ($H\omega,i,t$) by the average annual wage ($W\omega,i,t$) and an occupation-specific time-use factor ($\tau\omega$) that reflects the time-effort that the occupation allocates to data-related activities. The parameter α is a markup that reflects other costs (not included in the wage bill) including capital costs, intermediate consumption, and an operating surplus (Calderón & Rassier, 2022). This final markup is covered much more extensively in late in the section.

Figure 2: BEA Sum of costs approach presented mathematically.

$$Ci,t = \alpha \sum \tau\omega W\omega,i,tH\omega,i,t$$

(Calderón & Rassier, 2022)

- Detailing aspects of the sum of costs formula in more detail

49. The remaining portion of this section covers each component of this formula with chapter 2.2 covering the creation of a wage bill. This includes the occupations chosen and the labour outputs used. Chapter 2.3. covers the occupation specific time-use factor. All countries have applied some form of time use adjustment to acknowledge that employees are unlikely to spend 100% of their time producing data assets, this adjustment seeks to appropriate capture the proportion of their labour that is *actually* contributing to producing capital assets. Chapter 2.4 covers the non-labour markup, including what this represents economically and how countries have obtained estimates for this. Chapter 2.5 covers some additional adjustment that countries may choose to make to their nominal estimate as well as a discussion on indicators that can be used to produce quarterly estimates of data.

50. The recommendations in these chapters involve two components. Due to the infancy of data compilation, there is a shortage of information on various assumptions used to compile the nominal estimate. As such, countries are encouraged to continue to research various aspects in order to improve the quality and robustness of the output. In this vein the

[20] For non-market producers net operating surplus is zero by convention

recommendations labelled as desirable will likely involve the incorporation of data that is not yet available for many countries.

51. At the same time, more defined recommendations, provided in order to promote international comparability estimates of data are required in the interim. These recommendations, labelled as acceptable are also to be included in these sections and should be view as a basic methodology that countries can use to compile initial estimates.

- Chapter 2.2: The choice of occupations when producing data GFCF using the sum of costs approach

52. The choice of occupations is an important foundation stone in the construction of nominal estimates of GFCF of data. However, unlike other IPP assets, it has been observed that the production of data can spread more broadly across a wider range of occupations. While there are some obvious occupations that have been included in all studies completed to date, some work has also included other occupations, often with a small time share or intensity ratio.

53. All countries that have produced estimates have published their list of occupations chosen, these are provided in Annex 1. The manner in which these occupations have been chosen can be split into two methods. The first is a selection through expert knowledge of the analyst or by using some key words to identify occupations within a statistical classification. The alternative method is to nominate specific task that are associated with the production of data and then use machine learning to review job advertisements and identify advertisements for occupations that include these specific tasks. This process not only identifies data producing occupations but is able to also provide a systematic measure of the occupations' level of data intensity or time factor spent producing data, such information is also required (see chapter 2.3). This method is outlined in more detail in Box 2 that presents the work done by the BEA. However the use of machine learning also creates additional challenges that needs addressing and is also quite resource intensive which may make it unavailable for many countries. *As such, this section will outline both a desirable approach involving a systematic approach to selecting occupations which countries may aim for as well as an acceptable approach to selecting occupations without the use of machine learning.*

Box 2 – a summary of the process by which occupations are selected using the ML. To be completed by the BEA

54. When choosing occupations, it is important to consider how an occupation fits into the data values chain presented in Chapter 1 (See figure 1). The SNA research guidance note endorsed by the AEG as part of the revision to the SNA outlined expenditure on the following tasks as possibly contributing to the production of data.
    - Planning, preparing, and developing a data production strategy,
    - accessing, recording, and storing information embedded in OPs,
    - processing, cleaning, and organising the data to allow for use in productive activities.

55. The tasks listed may entail both labour or non-labour costs, however, they can be considered a starting point in the selection of occupations.

56. *This section will expand to better explain the factors that countries should consider when choosing the actual occupation categories (and classification level) to use including data availability in order to ensure that outputs are able to be created on a regular basis. A core list of occupations that can form the genesis of an occupation list used for the construction of the labour cost by countries will be provided.*

57. *This will also cover the topic of double counting when compared with Computer Software and Research & Development.*

- A discussion on when occupations are actively producing data compared to those that are passively involved in data production.

58. Labour cost component used as part of the formula displayed earlier (See Figure 2) should involve the labour cost of employers and employees whose *primary* role is related to completing one or more of the previously mentioned tasks. However, this is not always an easy distinction to make. For example, the concept of which occupations are involved in accessing, recording, and storing information elements could arguably be considered extremely broad if followed scrupulously.

59. Today many electronic goods that contain internet connectivity include data tracking software that feeds information elements from observable phenomena associated with the product, back to the producer who use this to create data[21]. In this situation it could be argued that the salesperson who facilitated the sale of the product has assisted in the producer being able to access and record observable phenomenon. As such a (very small) portion of their wage could be considered expenditure related to the production of data. On this basis many retail workers, including cashiers in supermarkets might be considered as producers of data. This is not the intention of the measurement framework and an interpretation such as this should not be followed. Rather, **occupations should be included if their job involves tasks (such as those mentioned previously) that pro-actively contribute to the production of data as opposed to occupations that play a passive role in data production** such as the cashier and retail worker.

60. *Although this final point is generally agreed upon by the task team, further nuancing is expected before the finalisation of the handbook which will be included here.*

- Applying time factors to occupational labour costs.

61. It is well accepted when compiling estimates of own account capital formation that the entire output from a single worker is unlikely to contribute entirely to the production of an asset. This may be due to the specific requirements of their role, their skill limitations or possibly the characteristics of the industry or organizations that the occupation is placed in. These time factors can be applied at the occupation / industry or even aggregate level.

62. The application of time factors in the compilation of own account computer software is recommended with the final Eurostat-OECD report on land and other non-financial assets. It

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21 *Often this is information on the manner that the products are used. Clients often accept this retrieval of information as part of commencing use of the product and connecting it to the internet.*

specifically recommend making the adjustment at the most granular level possible since "workers in specific industries may spend more time on own-account software and database production, and workers in larger enterprises may be able to spend more time on own-account software and database production than those in smaller firms" (Eurostat-OECD, 2019).

63. A similar phenomenon is almost certainly occurring for the production of data and therefore **It is recommended that, if possible, a time share proportion should be applied at either the occupation or industry level rather than at an aggregate whole-of-economy level.**

64. That said, data on these proportions is very difficult to capture, with many of the countries using best guesses or applying upper and lower bound time factors resulting in upper and lower bound estimates of data GFCF. Since such a range estimation is not be suitable for the inclusion of data GFCF in the core national accounts as countries should produce a single estimate using the best available information.

65. While the data has been hard to find, there are several examples of work that has been undertaken to inform compilers. The Japanese cabinet office uses information from the special internet survey to estimate how much time workers are spending on data related work, more information on this is presented in Box 3.

66. Alternatively, the OECD has used natural language processing (NLP) on job advertisements to estimate the time factors/ data intensity of occupations/sectors as well as identifying the occupations themselves. This work has tended to produce slightly lower time share ratios; however, these lower rates tend to be applied to a larger number of occupations and sectors, thereby producing similar overall estimates of Labour costs. Work is ongoing about how easily this work can be replicated across countries or can be combined with previously chosen occupations to make more feasible for a broader range of statistical offices. Box 4 provides more information on this process.

67. *The section will further discuss the appropriateness and feasibility of using time factors generated in country A to create estimates of data in country B. The handbook will contain an inventory of time factors used by countries to assist in countries determining their own, as well as containing more basic guidance that countries can follow in the absence of any country specific data.*

Box 3 – The Japanese "special internet survey". How the survey is run & some preliminary results. To be completed by the Japanese cabinet office.

Box 4 – OECD "summary of natural language processing (NLP) on job advertisements in the United Kingdom, Canada and the United States." To be completed by OECD

- Chapter 2.4: How countries may derive the mark-up applied to labour costs to represent intermediate consumption, COFC and operating surplus. Referred to as 'non-labour expenditure'.

68. There is no single correct way to estimate the non-labour component of investment in data assets. Conceptually, as long as a component of the final nominal estimate of GFCF contains

expenditure representing intermediate consumption, consumption of fixed capital used in production of the asset and for market producers, an amount covering the producers net operating surplus then it can be considered an appropriate estimate of own account GFCF. However, countries are unlikely to have this level of specific information for the production of data.

69. No countries have surveys only targeting data producers which might capture this specific information, therefore, to date, all countries have estimated this expenditure by applying a mark up to the labour cost to estimate the expenditure covering intermediate consumption, depreciation and GOS. This main assumption associated with the method is that there is a consistent production function for the data asset, in so much that a consistent amount of non-labour input is required for each unit of labour input. This is not a heroic assumption and is considered quite acceptable in lieu of actual data on expenditure of non-labour inputs, the means that the focus becomes how such a mark-up should be derived?

70. Ideally it would be desirable to have country and asset specific information being applied to specific occupations and industries, in order to represent the real-world differences occurring across different economies. Due to this, **countries are encouraged to investigate potential data sources that may provide accurate estimates of the non-labour expenses involved in the production of data assets.**

71. In more recent work, efforts have been made to have the non-labour mark up more reflective of the industries likely producing the majority of the data assets. Using industry estimates of intermediate consumption, consumption of fixed capital and operating surplus taken from Supply-Use or Input-Output tables can be applied against the overall output for that industry to create various ratios which can be used as a proxy mark-up and applied to the labor cost estimate to create a final estimate of total expenditure. These ratios, created on an industry by industry basis is an improvement on the initial rudimentary adjustments with a single ratio (representing all non-labor expenditure) applied to the entire labor cost estimate.

72. **It is desirable for any ratios used to mark-up the labour cost component to be calculated from a wide range of industries reflecting the various occupations that have been chosen as contributing to the investment in data. The industry's contribution should be weighted based on the proportion of overall labour costs derived from that industry.**

73. **An acceptable alternative would be to simply select one or two industries that contain a large amount of output from occupations that have been chosen**. While the industry classification varies across countries, of the work published so far, countries have used derivatives of "Computer programming, consultancy and related activities" and "Information service activities". These equate to industries 62 and 63 respectively, of the international standard of industrial classification (ISIC Rev. 4). Ratios for intermediate consumption, consumption of fixed capital and operating surplus could be taken from these industries in the absence of more detailed or accurate information on non-labour expenses.

74. If specific information relating to the production of data on an industry basis is not available, using the same mark up as that applied to similar IPP assets in existing compilation is also considered acceptable.

75. *This section could also include a discussion on how to estimate an appropriate rate of return applied to market producers.*

76. *A numerical example showing how non-labour mark ups are calculated and applied to the labour estimates is provided in Annex 2.*

77. *Case studies summarizing how certain countries have compiled nominal estimates of data investment will be provided in Annex 3.*

- Chapter 2.5: Potential additional adjustment covering a range of concepts.

This section covers the following points.

78. *That* ***no adjustment should be made to represent expenditure on repair and maintenance of the data assets. All expenditure is considered to extend the asset life and thus should be considered GFCF.*** *This would include the clear guidance already provided by the 2008 SNA separating out the difference between new GFCF investment and maintenance expenditure treated as a current expense and how this applies to the production of data assets.*

79. ***Adjustment may be made to the nominal estimate to represent data that is consumed within one year****. Following on from the conceptual point raised in chapter 1, the task team may consider such an adjustment is appropriate. If so, this paragraph would outline how it has been applied by several countries already and provide information to make the adjustment as consistent as possible across countries.*

80. ***The possibility of capturing information on market transaction on data sales.*** *Some countries have discussed adding additional questions to business surveys to obtain additional information on expenditure related to purchasing established data assets. If these transactions are recorded, then conceptually the amounts from these can be used to shift GFCF in data from the industry that has undertaken its production, and captured via the sum-of-cost methodology, to the industry that has subsequently purchased the asset, captured via the business survey.*

81. ***The production of quarterly estimates of data output.*** *So far all estimates of data produced by countries have been on an annual basis. A majority of countries produce estimates of GDP on a quarterly or even monthly basis. Depending on how these outputs are produced and disseminated, it is likely that most countries will need to produce an estimate of data output and GFCF on a quarterly basis. This section would discuss how countries might approach this need. It is unlikely that all of the source data discussed in the previous section is available on a quarterly basis, therefore some form of indicator will be required to move the annual estimate forward. This is a standard procedure in compiling the national accounts. This section will discuss the various options available to countries and make some recommendations for countries to follow.*

- Chapter 3 – Creating volume estimates of data.

- Why deflation using price indexes is seen as the most pragmatic route to deriving volume estimates.

82. In the System of National Accounts, certain high profile indicators including estimates of production (i.e., GDP) are presented in volume terms as well as nominal terms. Until now, this handbook has focused only on the production of a nominal estimate of data investment. A standard way for nominal estimates to be represented on a volume basis is to be deflated by taking into account the change in the price of the output. This change is usually calculated by recording the difference in the market price in the current period to the previous period. When estimates are calculated as the sum of the costs, as is recommended for data, the overall change in price may be calculated as the weighted change in price of the inputs used in production[22].

83. Within the national accounts, volume estimates are occasionally calculated based on an output indicator which often represents a quantity good or service produced. This is usually for estimates of production and trade which involve natural minerals or agriculture products since they are relatively homogeneous and quantity counts are relatively easy to obtain.

84. In one regard the quantity of data is relatively easy to measure. The bits and bytes that make up data when saved to a computer take up a specific amount of memory. Due to this, it should be, theoretically, possible to measure the additional quantity of data produced each period when compared to the previous period. In fact, this undertaking has already been done by several organisations who estimate that around 2.5 quintillion bytes are created every day with the overall amount of data doubling every two years[23]. However, despite the presence of this estimate there are several reasons why such an estimate of quantity cannot be used for compiling volume estimates of data in the SNA.

85. The first and most important reason is that this incredible number includes a large amount of data that is *not* data as defined within this handbook and the 2025 SNA. Rather it is closer to the more specific definition of data as Internet Protocol (IP) traffic or the volume of digitised information stored on servers and other hardware. A large amount of this data includes photos, text messages, email and other communications that fail the 2025 SNA data definition, as they are often not produced by accessing and observing phenomena, are not used in productive activities or are in fact an externality of digital service delivery. This distinction was discussed previously in chapter 2.

86. The other reason data quantity is not able to be used within the 2025 SNA is due to the lack of consistent relationship between the quantity of data within data assets and their subsequent value. The majority of the data value comes from the content of the information

[22] Theoretically, a price index based on changes in the price of the output produced can also be applied to the overall estimate, however estimates compiled using the sum of costs approach are usually done this way due to the absence of output prices.

[23] A quintillion is 10 raised to the power of 18, that is, a 1 followed by 18 zeros. See https://www.the-next-tech.com/blockchain-technology/how-much-data-is-produced-every-day-2019/

and the context that it has been gathered or could be used. Both these factors are often unrelated to the size of the data. While it is true that data that contains more information is likely to be worth more than data with less information, the relationship is not consistent enough to create any form of reliable value based solely on quantity. Proof of this is the evidence that the huge increase in data production observed in the economy is driven more by the declining cost and increasing efficiency of data storage than by a positive liner relationship between the amount of data produced and its value.

87. Overall, while a quantity estimate of data production may be achievable, **the use of a direct volume measure within the National account is deemed inappropriate due to the heterogeneous nature of data as well as the volatility and treatment of prices applying in different markets.** Interestingly, data is not the only good that falls into this category, with the 2008 SNA pointing out that the volume estimates of electricity (as well as other utilities) should not be derived through quantity, even though it appears relatively feasible, due to the difficulty in capturing a single representative price. (SNA §15.103 (EC et al., 2009)

- A discussion on the type of price indexes that might be considered.

88. Even though the nominal estimate of data investment has been constructed via a sum-of-cost approach, the price indexes used to deflate this nominal estimate do not *need* to reflect these input costs. The SNA is open to the idea that the deflation of output compiled via the sum of costs can be undertaken using a pseudo-output price index (2008 SNA §15.117) (EC et al., 2009). A clear benefit of this approach is that when it is compared to the aggregate input price index the difference reflects the productivity growth thought to be occurring in the production process price index based on changing price of the final output.

89. That said, since there are few market prices for the sale of data, a traditional price index calculated based on recording the change in transaction prices paid for data is likely not obtainable. Therefore, it is expected that the price indexes used will either be based on a similar asset or reflect the inputs that were used.

90. In preliminary work around data, countries often created volume estimates by deflating the nominal estimates with the established price index for Computer Software, Computer Hardware, or Research & Development. This in itself is not an outrageous proxy index, data is an intellectual property product and so in the absence of an alternative, using an available price index of an asset with similar characteristics can be considered a suitable option.

91. Importantly however, the choice of the price index can have a significant impact on the volume estimates, especially if the price indexes being considered are trending is opposite directions.

92. Often the price indexes representing the market costs of computer software and hardware, and used in initial work, showed strong deflations, due to the overall cost of computer software and hardware declining in value over the past 5-10 years as technology has advanced. Such a price movement would appear to be at odds with the production of data considering that such a large input cost is labour costs, which have grown consistently through this period. The ABS demonstrated this difference in their initial work (See Box 5), which

persuaded them to use a mixture of labour and intermediate cost in the production of their price index.

93. The use of a weighted price index which reflects the input costs contributing to the final estimate of data GFCF, would provide a better reflection of the change in costs associated with producing data assets. Such an approach received wide support from the Joint Eurostat – IMF Task Team on Measuring Data as an Asset in National Accounts, Therefore, where possible, **this handbook recommends deflating nominal estimates of Data GFCF using a weighted price index, based on the specific ratio of labour and non-labour inputs used in the production of data GFCF.**

94. Depending on data sources available, both price information and data used in the production of the nominal estimate, it may only be possible to use a set ratio of labour and non-labour in the price index. This may be because of the lack not only of data source but also of clear set of inputs representing the non-labour component, as may be the case if the non-labour component is created via ratio (see chapter 2). Regardless, it is still preferable to use a mixed price index, even with a set ratio, rather than a price index wholly influenced by one or the other or based on the market price of a similar asset (i.e., software R & D). However, it is important that the ratio is reviewed regularly enough to ensure that it remains relevant to the current inputs being used.

BOX 5 demonstration of impact on volume GFCF estimates based on using divergent price indexes - to be completed by ABS.

BOX 6 Showing the difference in European price indexes for the different inputs used for data (i.e., labour vs software / hardware / R & D output) – to be completed by Eurostat.

BOX 7: Case study of the how the BEA creates weighted price indexes to deflate nominal data estimates. - to be completed by the BEA.

- The inclusion of quality adjustments in the price index used.

95. The concept of including an adjustment to the price index to represent quality improvements to the finished product has been discussed by both the data task team and other organisations who have created estimates of data assets. Interestingly, in the final report of the joint Eurostat – OECD task force on land and other non-financial assets, the prospect of including quality adjustments to the price indexes used was largely absent, perhaps an acknowledgement of the conflict that exist between their conceptual reasoning with practical implementation. Despite this, there has been several requests for the handbook to cover this topic.

96. *The following paragraphs would cover both the advantages of including quality adjustments as well as discussing the concerns that such a recommendation would create. The includes the possible contradiction with the current guidance contained within the European system of national accounts that forbids adjustments related to quality when calculating output via a sum of costs approach.*

Chapter 4 – Creating Capital Stock estimates.

- A summary of the PIM, explaining why it is the recommended approach for compiling estimates of consumption of fixed capital and capital stock within the 2025 SNA.

97. The SNA discusses the creation of balance sheets and therefore includes guidance on compiling estimates of capital stock and consumption of fixed capital. On several occasions it explains the challenges caused by obtaining estimates of capital stock and consumption of fixed capital direct from business in the same manner as the estimates for expenditure are obtained.

98. Therefore, while the 2008 SNA does not explicitly recommend the use of the Perpetual Inventory Method (PIM), it does state that "*consumption of fixed capital must be valued with reference to the same overall set of current prices as that used to value output and intermediate consumption*"(2008 SNA §6.248) (EC et al., 2009). In simple terms this suggests that the same information used to derive output (such as GFCF) should be considered when deriving estimates of consumption of fixed capital.

99. Furthermore the 2008 SNA recommends that '*independent estimates of consumption of fixed capital should be compiled in conjunction with estimates of the capital stock. These can be built up from data on gross fixed capital formation in the past combined with estimates of the rates at which the efficiency of fixed assets declines over their service lives'*2008 SNA §6.249) (EC et al., 2009). This is in essence describing the Perpetual Inventory Method. As such, the PIM has become the standard method used by all statistical officers to compile estimates of Consumption of Fixed Capital and capital stock in their National Accounts.

100. This handbook does not cover the specific concepts and practical implementation of the PIM as this is a considerably detailed and technical endeavour. Furthermore, existing works such as the OECD manual on measuring capital are already in place that cover these topics at length. Finally, since the PIM is used by all countries, including by all those that created already created capital stock estimate of data, it is seen as redundant to discuss the generic concepts. Rather this section focusses on the specific assumptions that countries have used within the PIM, when calculating consumption of fixed capital and capital stock estimates of data.

- Most countries have applied the same assumptions for data as they have for other produced fixed assets.

101. *There would be several paragraphs detailing how those countries that have created data estimates via the PIM have applied the same Age-Price profiles, Age-efficiency profiles, and retirement profiles as other assets.*

102. *This section would discuss the advantages of being consistent with these assumptions across the different assets as mentioned below.*

103. *There are benefits to applying consistent and transparent assumptions when real world source data on the subject is hard to come by. Users are then able to understand how the*

estimates are derived, removing the idea that the PIM is a form of black box. Additionally, since these estimates are highly modelled, it can be hard for a statistical office to demonstrate why assumptions for one asset should be different to another. Finally, the difference in the final output cause by altering the age-price, age-efficiency and retirement profiles are relatively minor when compared with difference cause by the application of different asset lives. This was again shown in the specific case of data by recent work by Destatis that showed that 'the assumed asset service life has the biggest impact on [capital stock] results.

- What is an appropriate asset service life for data assets, the section would include recommendations.

104. Work by Destatis, Statistics Canada as well as by the ABS has suggested that the single most impactful assumption applied in the compilation of capital stock estimates of data is the asset service life (Smedes, Nguyen, & Tenburren, 2022; Statistics Canada, 2019). *This section would detail the work by these three countries and the various results achieved based on applying different asset service lives.*

105. When determining an appropriate asset life for data there is several important things to consider. First is that with the exception of the odd data source (See Box 8) information on the use of assets in production is extremely difficult to obtain and is usually subject to various biases. The OECD manual on measuring capital recommends various approaches for obtaining information on asset lives, this includes those prescribed by tax authorities, company accounts, statistical surveys, administrative records, expert advice, and other countries' estimates (OECD, 2009). Importantly, not all of these are applicable for data. For example, currently no government recognises data as an asset for which depreciation can be claimed to reduce a tax liability, therefore immediately ruling out one potential source.

106. Another consideration is that the service life applied does not represent a single asset but rather the average of a cohort of assets. Within the PIM it is not feasible to apply specific asset lives to individual assets, rather an average is applied to a cohort of assets with similar characteristics. Since data is extremely heterogeneous, deciding on this average for data is perhaps more challenging than for other fixed assets. It is relatively easy to find examples of data that are used instantly by businesses and are likely to have little value past the immediate future (i.e., consumer searching habits online) as well as find data that contains value for the medium to long term, (i.e., business transaction data, or data on natural occurrences such as rainfall or temperature). The introduction of AI also brings an additional perspective as seemingly worthless data can be re-used in production for the purpose of machine learning.

107. In an attempt to make these cohorts as similar as possible, assets are often broken down below their aggregate level based on specific characteristics of the asset which may impact the asset life, (e.g., dwellings are often broken up into wood houses vs concrete houses, public infrastructure is broken up between roads and railways). A similar disaggregation is conceptually possible for data. There are a large number of taxonomies that already exist for classifying different types of data, and while conceptually accurate to do this, as discussed in Box 9, practical limitations likely result in only a single type of data being represented in the PIM. However, a more rudimentary version of this delineation based on industry may be

possible. Although it is important to note that any delineation between data types has to be supported by the ability to compile commensurate price indexes and GFCF estimates.

108. *This section will conclude with a discussion on the table displaying the different asset service lives applied by the countries who have already produced estimates of data assets (table 1).* It will present that while the very first estimate of data published by Statistics Canada included an asset life of 25 years all subsequent estimates, including a subsequent project by Statistics Canada have included a much lower estimate of between 3 – 8 years. This length is supported by discussions within the task team that favour an asset life of this length. *Additionally, a final decision on the service life will also be impacted by the decision to recommend any adjustments to the nominal estimate of data investment to remove data that is used within one year.*

109. Therefore, while the task team has not finalised guidance on this matter, **it is the current view that the handbook provides a specific recommendation of an asset live within a relatively narrow range of 5 years.**

Table 1: Table of current service lives applied by countries – to be completed by task team consultant

Box 8 : Japanese investigation into the length of use of data assets by businesses – to be completed by Japanese cabinet office)

Box 9 : Discussion on breaking up data into different types to apply different asset lives – to be completed by task team consultant

• Chapter 5 – Overarching measurement questions

- How is the sale of data represented in the accounts, including international transactions?

110. *So far, the handbook has covered almost exclusively the compilation of estimates associated with the investment of data, that is GFCF, depreciation and capital stock. However, while it is a minority, data is sold as well as the sale of services associated with data assets. These paragraphs would cover under what circumstances the sale of data may be considered as the sale of an asset and recorded in the capital account, compared to the sale of a copy, sale of a license or simply a different service connected to the data asset, all of which would be considered as output, and recorded in the production account. This would also cover the scenario of data produced for sale and how recorded selling/purchase transactions should be considered in unison with the overall sum-of-cost methodology. This section would include some numerical examples of these scenarios included in an annex.*

111. *Several paragraphs would be devoted to transactions in data that cross international boundaries. Classification covering the balance of payments and trade has been updated so recommendations would be included on when transactions should be included in the capital and current account.*

- How data can be back cast for implementation into Aggregate GFCF estimates and the PIM.

112. *Back series will be needed, both for time series representing final demand but also for use in the PIM so that capital stocks and COFC can be generated. There would be several paragraphs providing guidance on how best to back cast GFCF in data, this would include both preferable and acceptable options for countries to follow.*

113. There is firm support from the task team that the back casting of data should be done to produce as realistic time series as possible. So far this has been approached in several different ways by those countries who have already produced estimates of data. This includes using a variety of business indicators not specifically related to data, to move data back, as well as tapering the impact by using an evolving time factor to increase the intensity of the occupations.

114. *The paragraphs will discuss the advantages and disadvantages of various approaches to back casting. The handbook will recommend an ideal approach but also list some acceptable methods since it is unlikely that source data will be available for all countries.*

• Chapter 6 – Conclusion and annex

- Annex 1

List of occupations used by countries in initial estimation of data.

- Annex 2

Numerical example showing basic construction of sum of costs approach. Involving calculation of labor cost and then mark-up based on industry ratios applied. This would include some real world case studies from countries that have already completed this work; E.g., Pakistan, Canada, Germany

- Annex 3

National Accounting T diagrams showing the sale of data, either as a sale of a produced non-financial asset or as an output within the production account.

• Bibliography

Ahmad, N., & van de Ven, P. (2018). Recording and measuring data in the System of National Accounts. https://unstats.un.org/unsd/nationalaccount/aeg/2018/M12_3c1_Data_SNA_asset_boundary.pdf.

Calderón, J., & Rassier, D. (2022). *Valuing the U.S. Data Economy Using Machine Learning and Online Job Postings.* https://www.bea.gov/system/files/papers/BEA-WP2022-13.pdf.

Corrado, C., Haskel, J., Iommi, M., Jona-Lasinio, C., & Bontadini, F. (2023). *Data, Intangible Capital, and Productivity.*

EC et al. (2009). *2008 System of National Accounts.*

Eurostat-OECD. (2019). *Final report from task force on Land and other Non-Financial assets - Intellectual Property Products.* https://ec.europa.eu/eurostat/documents/24987/725066/Eurostat-OECD+Report+on+Intellectual+Property+Products.pdf.

ISWGNA. (2023). *SNA Guidance note, DZ.6: Recording of data in the National Accounts .* https://unstats.un.org/unsd/nationalaccount/RADOCS/ENDORSED_DZ6_Recording_of_Data_in_NA.pdf.

Mitchell, J., Ker, D., & Lesher, M. (2022). *Measuring the economic value of data.* https://www.oecd-ilibrary.org/science-and-technology/measuring-the-economic-value-of-data_f46b3691-en: OECD publishing.

Nguyen, D., & Paczosi, M. (2020). *Measuring the economic value of data and cross-border data flows: A business perspective".* https://doi.org/10.1787/6345995e-en.

OECD. (2009). *Measuring Capital, OECD Manual.* https://unstats.un.org/unsd/nationalaccount/docs/oecd-capital-e.pdf.

OECD. (2022). *Measuring the value of data and data flows.* https://www.oecd-ilibrary.org/docserver/923230a6-en.pdf?expires=1695240160&id=id&accname=guest&checksum=A23446F17CC73C2BAA1DEEAADB8AE8F3.

Smedes, M., Nguyen, T., & Tenburren, B. (2022). *"Valuing data as an asset, implications for economic measurement.* https://www.abs.gov.au/system/files/documents/7bfccb4ddb8aded818330bebe6b76b14/Smedes%20-%20Valuing%20data%20as%20an%20asset.pdf.

Statistics Canada. (2019). *The value of data in Canada: Experimental estimates".* Opgehaald van https://www150.statcan.gc.ca/n1/en/pub/13-605-x/2019001/article/00009-eng.pdf?st=ifEOEPUK

Annex 3: Measuring Knowledge Based Capital (Marketing Assets)

Practical Guidance—Outline

Structure of the Handbook

Chapter I: Introduction and Overview

1.1 Purpose of the Handbook
1.2 Conceptual Framework

Chapter 2: Definition and Scope

2.1 Functional Definition of Marketing Assets
Boundaries and Overlaps Chapter 3: Data Sources and Estimation

3.1 Direct Purchases
3.2 Own Account Production
3.3 Measuring Cross-Border Flows
Chapter 4: The Capital Stock

4.1 The Perpetual Inventory Method
4.2 Estimating the Service Life
Chapter 5: Price and Volume Measures

5.1 Developing Price and Volume Indices s
5.2 Quality Adjustment

Chapter I: Introduction and Overview

Purpose of the Handbook

This section outlines the purpose of the Handbook. It provides an overview of the BPM6/2008 SNA update process and the factors leading to the proposed reclassification of marketing assets in the BPM7/2025 SNA.

Both the *BPM6* and the *2008 SNA* classify marketing assets as nonproduced, non-financial assets—assets that come into existence other than through process of production. Despite the recognition that marketing assets are the result of investment by corporations, the 2008 SNA does not identify them as produced fixed assets. The reason is that their value is difficult to measure; therefore, for pragmatic purposes marketing assets are classified as nonproduced assets. Discussions of the issue during the BPM 6/2008 SNA update process considered whether the measurement challenges relating to the capitalization of marketing assets at the time of SNA 2008 and BPM6 were implemented, have been resolved. The Advisory Expert Group on National Accounts (AEG) and the IMF Committee on Balance of Payments Statistics (BOPCOM) supported classifying marketing assets as produced assets but recommended targeted testing before deciding on the final recommendation.

Since the BPM6/2008 SNA were updated, there has been limited internationally coordinated research on the capitalization of marketing assets. Research by Statistics Netherlands in 2008 into intangible capital and economic growth did include brand equity or marketing assets and showed that capitalization of certain advertising expenses is an option. Other research, such as Corrado, Hulten, and Sichel (2005 & 2009), have also taken a broader view of what should be capitalized and included marketing assets as capital formation in the U.S. economy.

The joint AEG/BOPCOM Globalization Task Team undertook a two-stage testing strategy to determine if marketing assets could be treated as produced assets. Based on the results of testing, the authors of the guidance note recommend including marketing assets within the production boundary and treating them as produced assets in the 2025 SNA and BPM7. This would entail major changes in the SNA as it would expand the production and produced asset boundaries.

Conceptual Framework

This section provides an overview of the conceptual framework for recording knowledge-based capital as presented in the 2025 SNA and BPM7.

Marketing assets are defined as the capitalized value of expenditures on advertising and promotional activities, to enhance the overall impression a customer or potential customer gains from their experience with the company and its products. They consist of items such as brand names, mastheads, trademarks, logos and domain names. *Marketing assets are included in the SNA production boundary and treated as produced assets.*

While international transactions related to marketing assets are already included under trade in services, outright sales are included in the capital account of the balance of payments (as nonproduced nonfinancial asset transactions). The change implies moving these sales from the capital account to the goods and services accounts. Moreover, in national accounts the change implies moving outright sales from acquisition less disposals of non-produced non-financial assets to gross capital formation and moving expenditures for marketing assets on own account from intermediate consumption to capital formation. It was noted that further efforts should continue to assist countries in developing experimental estimates to help establish "best practices" and assessing the impact of the estimates in the national statistics.

Chapter 2: Definition and Scope

Functional Definition of Marketing Assets

In developing a functional definition, the guidance will take account of the experimental estimates developed by national statistical agencies and will seek to harmonize terminology used across countries by developing a common understanding of the asset boundaries.

Marketing assets is defined as the capitalized value of expenditures on advertising and promotional activities (whether purchased or produced on own account), to enhance the overall impression a customer or potential customer gains from their experience with the company and its products. They consist of items such as brand names, mastheads, trademarks, logos, and domain names.

A distinction is made between advertising designed for short-term sales growth and information sharing and advertising designed for longterm brand building. Advertising to provide information to customers, such as notices of openings, address changes, and job advertisements, may be considered short term and therefore should be considered intermediate consumption.

Although brand-building is normally associated with corporations, it can also be undertaken by NPISHs and government. It is unlikely that households--in their capacity as producers—would undertake marketing and advertising.

Governments may undertake advertising relating to the delivery of specific services that would develop loyalty and trust. Likewise, some NPISHs may also be engaged in building brand equity as part of their fundraising, but they may also be engaged in advertising to educate the public.

The industry classification (ISIC Rev 5) is as follows:

Division 73: Activities of advertising, market research and public relations

This division includes the creation of advertising campaigns and placement of such advertising in periodicals, newspapers, radio and television, on the Internet, or other media as well as the design of
display structures and sites. These advertising activities are often provided via advertising agencies and
media representatives.

The division includes activities of provision of information about markets for goods and services and *provision of information about public relations and public opinion polling activities, which may be based on the collection and analysis of original data, or on the research and analysis of existing data.*

This division excludes:
- activities by which the income is generated by advertising should be classified according to the actual
activity, e.g., publishing of advertising newspapers;
- sale of advertising time or space directly by owners of the time or space (publishers etc.), see the
corresponding activity class

2.2 Boundaries and Overlaps

2.2.1 Overlaps with other assets

What are the boundary problems and potential overlaps with other nonfinancial assets. In defining the scope, the Handbook will clarify the boundaries with the following:

- Research and development
- Data
- Software and databases
- Artistic originals—the treatment of product placement in film, plays, books.
- Organizational capital

These boundary problems and overlaps with be revisited in the following chapter in assessing the data sources and adjustments that may be undertaken in data collection.

2.2.2 GFCF vs Intermediate Consumption

Most advertising has the potential to create long-lived brand equity, and therefore potentially can be capitalized as an intangible asset. However, advertisements for the sale of a specific product or a specific sales period (for example advertisements for close-out sales; used machinery and equipment; auctions for seized items) cannot be considered as being designed to produce long-lived brand equity. Likewise political advertisements and advertisements for entertainment or sporting events are not designed to build loyalty after the event.

Marketing assets consist of items such as brand names, mastheads, trademarks, logos, and domain names (BPM6 paragraph 13.17 and 2008 SNA paragraph 10.198) used by an entity to promote its products or brands. They are therefore key drivers of corporate value. Corporations invest in building and supporting their brands to differentiate their products and to develop a positive emotional connection with their customers in the hopes that they will purchase their product over the alternatives. The 2008 SNA further states that a brand can be interpreted as far more than just a corporate name or logo. It is the overall impression a customer or potential customer gains from their experience with the company and its products.

Chapter 3. Data Sources and Estimation

The data sources and estimation procedures are intrinsically linked and will be discussed together. The estimates are derived for both purchased branding services and in-house production (own account production). Data on purchases may be readily available from the units that produce or purchase these services through enterprise or other business surveys.

3.1 Direct Purchases

Data on direct purchases on advertising and marketing may be derived from advertising and media companies. The output would include expenditures on creative teams as well as the purchase of airtime on behalf of clients. However, the output of advertising companies may not reflect the total cost of purchased advertising as some of the output may be produced and sold by units that are not classified as advertising companies.

This section will review the possible sources for data on the direct purchases of advertising and marketing. It will present the possible advantages and limitations of these sources in terms of coverage, cost, timeliness, consistency with the conceptual framework. These sources will include the following:

Direct information from advertising companies and market research companies

Direct information from media and Internet companies

Administrative data (e.g., accounts of corporations)

Structural business surveys/enterprise surveys

3.2 Own-Account Production

A large proportion of advertising and promotional activities is produced on own account. This production process entails the creation phase (brainstorming, planning, and *design*), the management, and the approval and distribution.

A sum of costs approach to estimating own-account production would require information on:

Total number of employees working on own-account production
Average compensation of employees
Proportion of time spent on own-account production
Other intermediate costs used in own-account production
Notional operating surplus related to own-account production (capital services) (only or Depreciation (non-market producers)
Other taxes (less subsidies) on production

This equation requires two key sources of data: (i) the occupations engaged in own-account production of marketing assets; and (ii) the average time spent on producing the marketing assets by these occupations.[24]

Determining the occupations contributing to the production of marketing assets. This would be based on the ILO's International Standard Classification of Occupations (ISCO) or a corresponding national classification. The most relevant ISCO groupings are as follows:

Managers

122 Sales, Marketing and Development Managers
1221 Sales and Marketing Managers
1222 Advertising and Public Relations Managers
1223 Research and Development Managers

Business and Administration Professionals

243 Sales, Marketing and Public Relations Professionals
2431 Advertising and Marketing Professionals
2432 Public Relations Professionals
2433 Technical and Medical Sales Professionals (excluding ICT)
2434 Information and Communications Technology Sales Professionals

The above list may be considered the primary occupations for marketing and advertising. In addition, countries may consider a range of other occupations based on national circumstances. This section will outline the key issues to be considered when the occupations are being assessed. The section will recommend further breakdowns of the ISCO national classifications to capture occupations specifically related to marketing and advertising.

- Estimating the proportion of time spent on production

This is a more challenging undertaking and would require the development of time use estimates to derive the number of hours each occupation allocates or spends on branding and marketing. This section will review some of the approaches that may be used to derive time use estimates—time use surveys and other approaches.

Intangible assets produced on own-account are not recognized in the international accounting standards (see Annex). Therefore, indirect measurement practices will have to be developed. As

[24] From the Handbook on Deriving Capital Measures of Intellectual Property Products (OECD, 2010). This framework is used for measuring own-account production of intellectual property products. A modified version of this procedure may also be applicable to marketing assets.

proposed for other intangible assets, a sum of cost approach is recommended for estimating marketing assets produced on own-account.

Box: Time Use Surveys (country experience)

3.2.1 Double counting and overlaps in source data

This section will discuss possible overlaps in the source data used to estimate the various types of intangible assets and how these overlaps may be addressed. For instance, surveys on R&D may show possible overlaps with market research. This can be addressed by including specific questions and explanatory notes in the survey requesting that responding firms exclude all market research. Own account estimates may also use the same sources to estimate marketing assets and other intangible assets, such as data.

3.3 Measuring Cross-Border Flows

This section discusses cross-border flows of marketing and advertising. In particular, it will discuss the measurement of cross border flows in the presence of multinational corporations that dominate the production of marketing assets.

Items that are classified as fixed assets in national accounts (i.e., used for more than one year and the licensee assumes all the risks and rewards of ownership) would be classified in one of the following standard service components: computer and information services; marketing asset services; personal, cultural, and recreational services; R&D services.

Items that are classified as consumption in national accounts (i.e., used for less than one year and the licensee is not concerned with the risks and rewards on the product) would be classified in the following standard service component: charges for the use of intellectual property *n.i.e.*

As marketing assets will be treated as produced nonfinancial assets, the sale/purchase of these assets should be recorded in the services account instead of the capital account (BPM6 treats marketing assets and goodwill as nonproduced nonfinancial assets—see paragraphs 13.17-13.18).

Transactions in marketing assets will be recorded under technical and other business services as a standard second-level category of “marketing asset services”.

Chapter 4: Deriving the Capital Stock

The capital stock may be derived using the perpetual inventory method, which is an established method for deriving estimates of capital services. The Handbook on Deriving Capital Measures of Intellectual Property Products (OECD, 2010) presents a comprehensive discussion on using the PIM to derive measures of capital stock.

4.1 The Perpetual Inventory Method

The key parameters in the perpetual inventory method (PIM) are the expected service life of a group of assets of a similar type, the rate at which its productive capacity, or efficiency, is *expected to decline as it ages and the rate at which its value is expected to decline as it ages. The last two are interdependent and their relationship hinges on a discount rate. Not all assets within a group can be expected to have exactly the same service life, and so a probability distribution function is usually specified8. The most important PIM parameter is the service life (OECD, 2010).*

This section will discuss the use of the PIM for deriving estimates of the capital stock for marketing and advertising. It will follow and build on established guidance presented in the OECD Handbook.

4.2 Estimating the Service Life

Very little information is available on the service life of marketing assets The length of the service life also depends on the capitalization rate of advertising and market research expenditures. The higher the capitalization rate, the shorter the lifespan of the corresponding assets.

The papers use anecdotal evidence and information from surveys to estimate service life of marketing assets to be two to three years. Some brand preferences may be longer lived, especially for major brands that have invested heavily in advertising over a long term. Nevertheless, it is expected that the service lives may vary depending on the industry and the product. Surveys may ask businesses to report how long they would expect to benefit on average, from a range of intangible investments. Some surveys found that for 'reputation and branding', the mean benefit life was about three years (Martin, ONS 2019). However, this is expected to vary substantially based on the type of product, the evolution of products within the group, the industry, and the level of investment

This section will review the recent findings and provide recommendations on estimating service life service life of the asset through:

- Modeling
- Directly observable data
- Combination of methods

Box: Determining the Capitalization Rate of Advertisement in Japan

Chapter 5: Price and Volume Estimation

Price and volume Measures

This section will discuss the appropriate measures to derive the price and volume estimates.

It is difficult to measure the prices of intangible assets. Purchased marketing assets may be customized to the needs of the purchaser, therefore it may be difficult to identify comparable assets. Likewise, no prices may be available for marketing assets produced on account.

A services producer price index (SPPI) that covers advertising and marketing is the simplest method to derive volume estimates for marketing assets. However, not many countries compile SPPIs.

However, developing specific product indices based on the rates charged for the services, may be the simplest method to derive the volume estimates. For instance, television advertising time slot rates may be used to derive an index of advertising.

The 2008 SNA recommends the use of a “pseudo output price index such that when it is compared to the aggregate input price index the difference reflects the productivity growth thought to be occurring in the production process”. The 2008 SNA notes, “pseudo output price indices can be derived in various ways, such as by adjusting the input price index according to the observed productivity growth of a related production process or by basing the growth of the pseudo output price index on the observed output price indices of similar products.

Quality adjustment

Accounting for quality and behavioral change that may lead to change in service lives from obsolesce, not depletion. Quality adjustment is a major challenge in national accounts compilation. This section will outline quality aspects of advertising and how the adjustments may be estimated.

Box: Services in the Producer Price Index

Annex: Case Studies

This section will present selected case studies that summarize the experimental estimates that have been developed by national statistical agencies.

The focus of these summaries will be on the key challenges and how they were addressed.

Annex: International Accounting Standards and Marketing Assets

International Accounting Standards (IAS) 38 outlines the commercial accounting treatment of intangible assets. Given commercial accounts are a key source of data any treatment in BPM and SNA
that deviates too much from the IAS can lead to issues in obtaining reliable estimates. Marketing rights, trademarks, and trade dress (unique color, shape or package design) are listed in IAS 38 as examples of intangible assets.

An intangible asset is recognized in the accounts if it must be probable that the expected future economic benefits that are attributable to the asset will flow to the entity and the cost of the asset can be measured reliably.

However, IAS 38 distinguishes between internally generated intangible assets and those acquired separately. Internally generated intangible assets should not be recognized in the accounts. The costs
incurred are indistinguishable from the costs of developing a business as a whole. The same argument
applies for subsequent expenditures incurred in connection with such tangible assets even when acquired externally.

Marketing assets separately acquired may be recognized as an asset under IAS 38 if they satisfy the general recognition and measurement conditions.

Advertising and promotional activities are specifically identified as costs that should be expensed.
and not capitalized in IAS 38.

Background Papers

Bronnenberg B., Dubé J.-P. H., and Syverson C. "Intangible Marketing Capital" National Bureau of Economic Research. June 2022. Available at https://www.nber.org/papers/w30145

Corrado, C., Hulten C., and Sichel D. "Measuring Capital and Technology: An Expanded Framework." National Bureau of Economic Research, August 2005. Available at https://www.nber.org/system/files/chapters/c0202/c0202.pdf

Corrado, C., Hulten C., and Sichel D. "Intangible Capital and U.S. Economic Growth." The Review of Income and Wealth Series 55, Number 3, September 2009. Available at https://www.conference-board.org/pdf_free/IntangibleCapital_USEconomy.pdf

Goodridge, P., Haskel J., and Edquist H. "We see Data Everywhere Except in Productivity Statistics". The Review of Income and Wealth. September 2021. Available at https://onlinelibrary.wiley.com/doi/full/10.1111/roiw.12542 . Appendix link.

Martin, J. "Measuring the Other Half: New Measures of Intangible Investment from the ONS" July 2019. Available at https://journals.sagepub.com/eprint/8Y5WKDZCYJFQE7RSHSNN/full

ONS (2021) 'Investment in intangible assets in the UK by industry: 2019' Available at: https://www.ons.gov.uk/economy/economicoutputandproductivity/output/bulletins/investmentinintangibleassetsintheukbyindustry/2019

Rooijen-Horsten Myriam van, Bergen Dirk van den, Haan Mark de, Klinkers Angelique and Tanriseven Murat "Intangible capital in the Netherlands: measurement and contribution to economic growth", 2008. Available at https://www.cbs.nl/nl-nl/achtergrond/2008/41/intangible-capital-in-the-netherlands-measurement-and-contribution-to-economic-growth

Statistics Canada "The value of data in Canada: Experimental estimates" 2019. Available at https://www150.statcan.gc.ca/n1/pub/13-605-x/2019001/article/00009-eng.htm

G.9 Payments for Nonproduced Knowledge-Based Capital (Marketing Assets), BOPCOM VM1—22/10
SNA/M1.22/10, March 2022
https://unstats.un.org/unsd/nationalaccount/aeg/2022/M18/M18_10_G9.pdf