IMF Committee on Balance of Payments Statistics

BPM6/2008 SNA Update

Inter-secretariat
Working Group on
National Accounts

For Global Consultation

Post-2025 SNA/BPM7 Research Agenda

Post-2025 SNA/BPM7 Research Agenda¹

The Advisory Expert Group (AEG) on national accounts and the IMF Committee on Balance of Payments Statistics (BOPCOM) have identified several issues that could not be feasibly resolved in the course of the present update and will require further investigation after the publication of the System of National Accounts 2025 (2025 SNA) and the Integrated Balance of Payments and International Investment Position Manual, seventh edition (BPM7). Continuing the excellent collaboration between the national accounts and external accounts communities, the AEG and BOPCOM have decided to develop a joint post-2025 SNA/BPM7 research agenda. The aim is to have a research agenda that is dynamic and adaptable to new economic phenomena. There are also ongoing discussions about maintaining and updating international macroeconomic statistical standards, involving collaboration beyond SNA/BPM. The post-2025 SNA/BPM7 research agenda covers five themes: basic accounting rules, income concepts, financial instruments, nonfinancial assets, and emerging issues. Most issues are relevant for both the SNA and BPM, with some specific to each. Reviewers are invited to provide their views on the research agenda.

INTRODUCTION

- 1. The AEG, at its October 2023 meeting, reviewed an <u>initial list of 13 issues</u> for the post-2025 SNA research agenda. These issues were identified through the assessment of progress with resolving issues on the agreed research agenda for the update of the 2008 SNA as well as issues identified by the AEG in its deliberation on some issues. In the process of drafting the 2025 SNA chapters and reflecting on the comments received from the global consultation of the 2025 SNA, additional issues for the post-2025 SNA research agenda were identified.
- 2. The BOPCOM engaged in an initial dialogue on the post-BPM7 research agenda based on the Outcomes of the Holistic Review Survey of BPM6 Update Priorities in October 2022. Several other issues were identified in subsequent BOPCOM discussions and during the drafting and global consultation of BPM7 chapters. Some of these issues are also included in the research agenda of the OECD Benchmark Definition of Foreign Direct Investment, fifth edition.
- 3. Continuing the excellent cooperation between the SNA and BPM update teams, it was proposed to develop a joint post-2025 SNA/BPM7 research agenda. Preliminary discussions of the joint research agenda took place in the October 2024 AEG meeting and the November 2024 BOPCOM meeting where members expressed strong support for continued collaboration on the research agenda. Members also agreed to conduct a global consultation to seek inputs on the post-2025 SNA/BPM7 research agenda.

¹ Prepared by Herman Smith (United Nations Statistics Division) and Jannick Damgaard (Statistics Department, IMF), in consultation with the 2025 SNA and BPM7 editorial teams.

UPDATING THE RESEARCH AGENDA AND PRIORITIZING RESEARCH PROJECTS

- 4. A research agenda for macroeconomic statistics needs to be a living document to enable statistics to adapt to economic developments and new emerging phenomena. Therefore, the post-2025 SNA/BPM7 research agenda presented in this note should be seen as a snapshot, with new issues added over time and others dropped as they are resolved.
- 5. **Prioritizing research projects is important.** It is proposed to set priorities for resolving SNA/BPM research issues in accordance with the principles for identifying issues for consideration laid out in paragraph A4.5 of the 2008 SNA. These principles are: (a) how urgent and important the topic is to ensure the continued relevance of SNA/BPM to the users; (b) how widespread the consequences of the change would be and how complicated implementation would be; and (c) whether the topic is completely new or whether much of the preparation for considering the item has been completed.
- 6. The macroeconomic and environmental statistics communities are currently engaged in discussions on A Proposal for Maintaining and Updating International Statistical Standards. These standards include the national accounts, external sector statistics, government finance statistics, monetary and financial statistics, environmental-economic statistics, and price statistics. The aim is to a) Improve the relevance of International Macroeconomic Statistical Standards (IMSS) by ensuring they reflect current economic developments; b) Improve the timing and sequencing of updates across the IMSSs to ensure consistency and comparability over time; and c) Improve the efficiency of the update process and the implementation of the updated standards. This discussion will not be finalized before the publication of the 2025 SNA and BPM7 but is expected to provide a framework for establishing coordinated research projects to resolve issues on the research agendas for international statistical standards.
- 7. The research agenda will be maintained separately from the standards as an electronic document that will be updated with new issues added over time and others dropped as they are resolved. In addition, the current research agenda could also be included in the 2025 SNA and BPM7. A benefit of including the research agenda is that it would be consistent with the approach followed in the 2008 SNA where Annex 4 presents a detailed research agenda. BPM6 includes a shorter research agenda in paragraph 1.43, but a more detailed agenda could be added as a new Annex 15 in BPM7. The inclusion of a detailed research agenda could provide compilers and users with a snapshot of topics that could not be feasibly resolved in the course of the present update and that need further investigation. An argument for keeping the research agenda outside the 2025 SNA and BPM7 is that the snapshot would become increasingly outdated over time. Therefore, it may be better to reference the post-2025 SNA/BPM7 research agenda in the 2025 SNA and BPM7, while informing compilers and users that it is maintained separately from the standards as a dynamic document.

STRUCTURE OF THE POST-2025 SNA/BPM7 RESEARCH AGENDA

8. Annex I presents the post-2025 SNA/BPM7 research agenda based on the AEG and BOPCOM discussions. The issues are divided into the following five themes: (i) Basic accounting rules, (ii) the concept of income, (iii) issues concerning financial instruments, (iv) issues involving nonfinancial assets, and (v) emerging issues. The first four themes were also used to classify research topics in Annex 4 of the 2008 SNA. The last theme has been added to accommodate the many emerging issues

discussed in the context of the current update of the standards. Certain issues could fit into more than one theme but have been placed in the category where the editorial teams consider them to fit best.

- 9. Most of the issues included in the research agenda are relevant for both the SNA and BPM (and in many cases also for other macroeconomic statistical domains). A few issues are only relevant for the SNA or BPM, which are indicated in brackets for the relevant items.
- 10. In addition to issues listed on the research agenda, there are issues that require compilation guidance. An example is the treatment of digital nomads, including their residence, and recording of related remittances and other transactions. This could be done in the context of how to/clarification notes, handbooks, and/or the *BPM7 Compilation Guide*.

Questions for global consultation

- 1) Do you have any comments on the post-2025 SNA/BPM7 research agenda?
- 2) Are there issues that should be added or dropped?
- 3) Do you agree to maintain the research agenda separately from the standards as an electronic document that will be updated with new issues added over time and others dropped as they are resolved?
- 4) Do you prefer to also include the post-2025 SNA/BPM7 research agenda in the 2025 SNA/BPM7 publication or not?

Annex. SNA/BPM7 Research Agenda

BASIC ACCOUNTING RULES

1. VALUATION OF IMPORTS AND EXPORTS OF GOODS

Imports and exports of goods remain to be recorded in the SNA and BPM on a free on board (FOB) basis where goods are valued at the exporter's border—that is, including the cost of insurance and freight incurred up to the point of the goods leaving the economy of the exporter. Since this recording is not fully reconciled with the principle of valuing output at basic prices used for domestic transactions in the SNA, the 2025 SNA and BPM7 recognised that in principle imports and exports should in future be valued using invoice values. Further research on the feasibility of implementing this principle is required.

2. ACCOUNTING FOR THE ECONOMIC ACTIVITIES OF NON-RESIDENT UNITS MAKING USE OF QUOTA ESTABLISHED FOR FISHING IN A COUNTRY'S EXCLUSIVE ECONOMIC ZONE (EEZ)

Concerns about the recording of these fishing rights were raised in relation to the accounting for depletion in such cases. Even though the issue is not new in the SNA, the accounting for depletion as a cost of production highlights additional complications, amongst others for the recording in the balance of payments, where transactions in the capital account are restricted to capital transfers and acquisitions, less disposals, of non-produced non-financial assets. While recording all these various transactions can be envisaged conceptually following standard SNA and BPM principles, there are likely many practical compilation issues to consider, if only because it may require the international exchange of data on the economic activities of the non-resident operators (unless the national statistical office would be able to collect data from the non-resident operator directly).

Alternative conceptual framings to describe the economic ownership of the fishery by a non-resident could be envisaged and a complete working through of the wider implications for any approach on balancing items, macroeconomic aggregates and related matters needs further investigation in the SNA, BPM and SEEA context.

3. PENSION FUNDS AS POLICYHOLDERS OF LIFE INSURANCE POLICIES

In the current guidance, the policyholder of a life insurance policy is always an individual. However, it is argued that pension funds can also buy life insurance policies (other than group life schemes) for its members; they buy annuities from life insurance companies on behalf of the fund. In such cases, the pension funds could have claims on the technical reserves of life insurers, including related investment income.

It is not clear whether the pension fund is simply behaving on behalf of its policyholders, or if the pension fund's role is more than intermediation. The resolution of this issue and its impact on the current guidance needs further investigation.

4. THE TREATMENT OF CROSS-BORDER SOCIAL TRANSFERS IN KIND

In the SNA and BPM, social transfers in kind only take place between government units, NPISHs and households. Paragraph [11.86] of the BPM7 says: "In addition, goods and services provided free to non-residents by government and NPISHs of the economy they are visiting, known as social transfers in kind (e.g., free health services received by a foreign tourist from a hospital within general government) should be imputed and recorded under travel." Paragraph 9.153 of the 2025 SNA explains that it is assumed that the amounts of social transfers in kind payable to the rest of the world are probably negligible and, in any

case, can be assumed to be offset by similar benefits receivable from the rest of the world. In some cases, these assumptions may be inappropriate and an explicit way of recording these could be elaborated. Such an elaboration would have to consider the consequences of having a difference between total final consumption expenditure and total actual consumption. It could also result in two concepts of imports and exports, i.e., excluding and including social transfers in kind.

5. CALCULATION OF IMPLICIT FINANCIAL SERVICES ON LOANS AND DEPOSITS

The following topics on the recording of implicit financial services on loans and deposits require further investigation:

- a) Further develop the conceptual arguments to either include or exclude credit default risk (CDR) in the calculation of implicit financial services on loans and deposits and in the case of excluding CDR to develop methods and data that could support a possible exclusion of CDR in the future;
- b) Consider possible hybrid approaches to price and volume measurement;
- c) Further develop the 'costs of funds' approach to determine the reference rate, and further develop possible alternative approaches (vintage reference rate); and
- d) Consider the financial instruments and units scope of the implicit financial services on loans and deposits;

6. STATISTICAL UNITS

The rapidly changing nature of production and in particular the ways in which enterprises produce goods and services cast a spotlight on the SNA's preference to use establishment as the preferred unit to compile statistics on the production of goods and services, and in particular supply and use tables. There is a need for investigating this issue, to take stock of the current SNA/BPM recommendations on statistical units (including institutional units); and to reflect on whether or not the recommendations on statistical units need to be adjusted in the future. A clear view of what needs to be measured in the economy needs to be established in order to identify ways to improve the definitions, if necessary, thereby taking into consideration current country practices; regional accounts as well as productivity measurement.

7. THE INCLUSION OF INTERNATIONAL ORGANIZATIONS IN THE SNA AND BPM

In the SNA and BPM, international organizations are treated as units that are resident in an economic territory of their own, and not of the economy in which they are physically located (2025 SNA/BPM7 paragraph 5.284). It would in principle be possible to treat international organizations as a standard subset of the rest of the world sector and indeed to compile a full set of accounts for them.

International institutions, such as IMF, the World Bank and the United Nations, are public corporations (and, by implication, institutional units) which are, as a rule, non-residents vis-à-vis countries, residing, as these institutions do, in the "international economic territory". Like other corporations, they use inputs to produce services, which may have a directly measured component (a fee) and an indirectly measured one. They are jointly owned by the governments of their member countries under cooperative arrangements, such as the Charter of the United Nations, or the IMF Articles of Agreement. The characterization and compilation of their output, and the use of that output by their member countries, and the recording of the remuneration of the employees of these organization require elaboration under the current SNA/BPM guidelines. In further investigation, the cost-of-funds approach and valuation using the sum of costs method should be considered.

8. DISTORTED TRANSFER PRICING

The treatment of distorted transfer pricing (also between fellow enterprises) needs further investigation, including on how to account for sharing of IPPs and the practical aspects of making adjustments.

9. FINAL CONSUMPTION OF CORPORATIONS (SNA ONLY)

In the SNA, no final consumption is recorded for corporations (with the exception of the central bank), because corporations are not considered to be final users of consumption goods and services. However, large corporations often undertake, for example, sponsorship of cultural and sporting events. To date, the SNA regards the payments involved as a form of advertising, but it could be argued that they are a form of final consumption and could thus be treated as final consumption expenditure of corporations and social transfers in kind to households. Another example relates to regulations such as environmental standards. By imposing such regulations, the government may achieve the same effect as if they levy taxes and spend the income on environmental protection, which would be treated as collective consumption. There may thus be instances where it would be more appropriate to record some expenditures by corporations as final consumption.

10. THE MEASUREMENT OF NEUTRAL AND REAL HOLDING GAINS AND LOSSES (SNA ONLY)

The SNA recommends that the nominal holding gains and losses recorded in the revaluation account should be decomposed into neutral and real holding gains and losses. In paragraph 13.90 of the 2025 SNA, the use of a comprehensive price index covering as wide a range of goods, services and assets as possible is recommended. In this respect, it has also been argued that different price indices should be used for different classes of asset. The full impact of this suggestion requires investigation.

THE CONCEPT OF INCOME

11. CLARIFICATION OF THE INCOME CONCEPT IN THE SNA AND THE BPM

As discussed in paragraph 9.25 of the 2025 SNA, the concept of income in the SNA and BPM differs from the one generally understood in economics and business accounting. In particular, holding gains and losses are not considered part of income in the SNA and BPM. A thorough review of the concept of income in the SNA and BPM, including the implications for all income flows, would be beneficial.

12. REINVESTED EARNINGS

Reinvested earnings are recorded for foreign direct investment equity in the integrated framework of the SNA/BPM, but only as supplementary items for other equity investments. Further investigation is required to test the practical feasibility of extending the treatment of reinvested earnings in the integrated framework of the SNA/BPM to all investments in equity, including portfolio investment equity and domestic equity relationships.

13. TREATMENT OF RENT

The 2025 SNA and BPM7 broadened the definition of rent to cover all revenues and expenditures related to putting non-produced non-financial assets (regardless of their life span) at the disposal of another institutional unit for use in production. This also includes revenues and expenditures related to obtaining observable phenomena. However, the current location of the recording of rent is still under discussion.

Various options for recording the revenues and expenditures related to rent in the sequence of economic accounts are still under investigation (i.e., allocation to the earned income account, generation of earned income account, or production account).

14. CALCULATING REAL INCOMES (SNA ONLY)

The issue of calculating real incomes has in the past proven to be contentious, hence the fact that the SNA provide no recommendations in this regard. However, recognizing the interest in this issue, it would be helpful to develop guidance on such calculations.

ISSUES CONCERNING FINANCIAL INSTRUMENTS

15. TRANSACTOR VS CREDITOR/DEBTOR APPROACH IN THE SNA AND BPM

The application of the transactor vs debtor-creditor approach to identifying the counterpart to transactions has been raised in the context of consistency between the SNA and BPM. The clarification of this issue has become particularly important in the context of from-whom-to-whom matrices, which have emerged as a key analytical element in macroeconomic analysis. While the 2025 SNA and BPM7 continue to use the transactor approach as the fundamental principle in macroeconomic statistics, more research needs to be conducted to explore the options and to arrive at guidance that balances conceptual and practical considerations for the application of the transactor vs debtor-creditor approach.

LOYALTY PROGRAMMES AND GIFT CARDS

Loyalty programmes and gift cards, sponsored by various businesses, offer rewards, discounts, and other special incentives as a way to attract and retain customers. They are designed to encourage repeat business, offering people a reward (in the form of miles or points) for store/brand loyalty (hence the name). The growing variety and spread of loyalty programmes and the size and variety of the gift card industry suggest there is a need to comprehensively assess how to classify them and record the corresponding flows and positions in macroeconomic statistics. Besides, many loyalty programmes, especially frequent flyer and hotel reward programmes, have a mixture of resident and non-resident members. Thus, there is a need to assess the cross-border implications of transactions in rewards on macroeconomic statistics. The accounting for rewards and gift cards in macroeconomic statistics needs further investigation.

17. TREATMENT OF SECURITIES LENDING, GOLD LOANS, CRYPTO LENDING, AND SIMILAR TRANSACTIONS AS WELL AS THEIR RELATED REVENUES

To achieve a conceptually sound and practically feasible treatment, the recording of securities lending, gold loans, crypto lending and similar transactions (including transactions in precious metals in general), as well as the related revenues, require further investigation. The research on this issue may also cover the recording of lent/borrowed assets in the balance sheets of institutional units involved depending on the agreed treatment of revenue. Additionally, it may cover the treatment of on-selling repoed/borrowed securities and gold, lent/borrowed crypto assets, etc. and whether negative asset positions of securities, gold, crypto assets without a corresponding liability designed to act as a medium of exchange (i.e., non-financial assets), etc. can be recorded on balance sheets. A further investigation into the treatment of cash

collateral may also be warranted. Revenues from securities lending and gold loans should also be included in the research agenda to enable a holistic discussion on this type of revenue.

18. VALUATION OF UNLISTED EQUITY

Valuation based on own funds at book value (OFBV) may underestimate the value of intangible assets as some of these assets, such as brands and customer lists, may either not be recognized in business accounting standards or may be valued at historic cost. Moreover, divergent national business accounting practices may lead to significant bilateral asymmetries. In addition, real estate may be undervalued if conservative appraisal methods are recommended by business accounting standards. In addition, the treatment of provisions under the OFBV method needs more research. The OFBV method values unlisted equity based on its value in the financial statements of the enterprise, which could be affected by the recognition of provisions. The development of an enhanced OFBV method that improves the valuation of intangible assets and of real estate would better align the valuation of unlisted equity with market values.

19. RECORDING OF UNALLOCATED GOLD ACCOUNTS

Paragraph 12.65 of the 2025 SNA states that unallocated gold accounts should be classified as deposits on the liability side, while paragraph 12.45 says that unallocated gold accounts with non-residents should be classified as monetary gold under reserve assets if they are under the control of the monetary authorities and meet the other criteria for reserve assets. A similar treatment is described in the BPM7. An argument for treating such unallocated gold accounts held by monetary authorities as monetary gold is that they give title to claim delivery of gold and therefore would be similar to gold bullion in practice. Conversely, as mentioned in paragraph [6.79] of the BPM7, accounts held by the monetary authorities that are only linked to the price of gold are classified as deposits. It should be noted that there is also an asymmetry for gold bullion held as reserve assets, which is only recorded as financial assets but not as liabilities, reflecting the fact that monetary gold is a special category.

The result of the inconsistent treatment of unallocated gold accounts means that the instrument classification of unallocated gold accounts as an asset depends on its functional classification. Further investigation is required to test the feasibility of always classifying unallocated gold accounts as deposits and also as reserve assets if held by monetary authorities, but without affecting their instrument classification as deposits.

20. NEGATIVE EQUITY POSITIONS

The 2025 SNA and BPM7 provide conceptual guidance on the treatment of negative equity positions by allowing for the recording of negative equity positions as the default option and only change negative positions to zero in specific cases where liability is strictly limited. Further investigation is required to obtain empirical evidence on both domestic and cross-border equity relationships to determine the appropriate treatment.

21. FOREIGN DIRECT INVESTMENT STATISTICS BASED ON CONTROL (INSTEAD OF BOTH CONTROL AND INFLUENCE)

Further research is necessary to develop a set of foreign direct investment statistics based on control relationships, rather than on both control and influence relationships. Such statistics would help with analysis of the role of foreign direct investment in globalization given the emphasis put on control in BPM7

and the 2025 SNA. For example, the recommendation to increase the granularity of the institutional sector accounts and external accounts by identifying foreign-controlled non-financial and financial corporations. Such statistics could also help with the reconciliation of foreign direct investment statistics with activities of multinational enterprise (AMNE) statistics and foreign affiliate statistics (FATS).

22. ULTIMATE HOST ECONOMY (BPM ONLY)

While BPM7 and the OECD Benchmark Definition of Foreign Direct Investment, fifth edition (BD5), further developed the concept and methods to compile outward direct investment position statistics by the ultimate host economy (UHE), it is recognized that more research is needed. Therefore, these manuals encourage compilers to explore the different concepts of UHE, the different methods for reallocating positions from the immediate to ultimate host economies, and the different populations to be covered (e.g., all direct investors, only resident direct investors that are ultimate controlling parents, or excluding special purpose entities (SPEs)). Experience gained through this process could inform future guidance on the compilation of outward direct investment position statistics by UHE.

23. PASS-THROUGH FUNDS

While the adoption of an internationally agreed definition and typology of SPEs assist compilers in their identification and promote cross-country comparability, it is important to monitor the evolution of these entities given the changing nature of financing patterns of multinational enterprises (MNEs) and to update the definition and typology of SPEs if needed.

In addition to SPEs, MNEs also invest via their operational subsidiaries abroad. BPM7 and BD5 propose a method to identify funds passing through the enterprise from its other business based on the residency of the ultimate controlling parent (UCP). However, more research is needed. This research could focus on a few areas. First, the development of a decision tree to identify "near-SPEs", which are entities that do not meet the definition of SPEs but that display SPE-like behaviour, such as serving as financial intermediators within the MNE group, would help compilers identify additional entities involved in pass-through activities. A second focus should be on methods to remove the 'inflation' in direct investment statistics caused by pass-through funds. This includes the interpretation of the breakdown of outward positions by residency of the UCP.

Another possibility would be the development of the 'ultimate directional principle' (UDP), which would net out all pass-through funding and enable the presentation of direct investment statistics on an ultimate counterparty basis. The calculation of direct investment according to the UDP begins by determining the direction of control/influence (inward or outward) in the direct investment relationship, but this direction is determined based on the residency of the ultimate controlling parent of the immediate direct investor rather than on the residency of the immediate direct investor. It also applies to all direct investment relationships and not just to fellow enterprises.

24. REAL ESTATE INVESTMENT FUNDS

Investment funds that own and rent out dwellings and/or commercial property are considered providers of rental and other types of real estate services in the SNA and BPM, rather than providing financial services. As providers of non-financial services, they are classified in the non-financial corporations sector, and not as financial corporations (i.e., non-MMF investment funds). On the other hand, investment funds that

primarily invest in debt and equity instruments in companies that own and rent out dwellings and/or commercial property would qualify as non-MMF investment funds. This also holds for investment funds that directly invest in real estate in other economies, in which case the investments are recorded as investments in equity of notional non-resident units. This guidance regarding the classification has been questioned, and may need further consideration of all pros and cons of different ways of classifying this investment funds.

ISSUES INVOLVING NONFINANCIAL ASSETS

MARKETING ASSETS

While developing the 2025 SNA and BPM7, it was agreed that marketing assets should in principle be recognized as produced assets, thus significantly extending the asset (and production) boundary of the integrated framework of the SNA. This recommendation was not endorsed by the 55th session of the United Nations Statistical Commission in 2024 which requested that further research should be carried out on measuring marketing assets before this recommendation can be incorporated in the standards.

26. BROADENING THE FIXED ASSET BOUNDARY TO INCLUDE OTHER INTELLECTUAL PROPERTY ASSETS (SNA ONLY)

Innovation

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

Human capital

Human input is the major input in most production processes, and the value of that input is largely dependent on the knowledge that humans bring to the production process. It is well recognized that an educated population is vital to (the sustainability of) material well-being in most countries. Even though there are major conceptual and practical problems with identifying the value of an educated labour force, there are repeated requests to address this issue within the integrated framework of the SNA.

Following the publication of the Guide on Measuring Human Capital, and experience in some countries in producing human capital measures, the question arises whether the asset boundary applied in the integrated framework of the SNA should be extended to include human capital as an asset, and how such an extension should be materialized.

27. TREATMENT OF THE ATMOSPHERE AS AN ASSET (SNA ONLY)

It is considered important to further investigate possible ways of considering the atmosphere as an asset and measuring the value of depleting the atmosphere by using it as a sink. This research may have implications for the recording of emissions and other sinks.

28. CLASSIFICATION OF LAND IMPROVEMENTS (SNA ONLY)

Land improvements are defined, in paragraph 11.87 of the 2025 SNA, as: "the result of actions that lead to major improvements in the quantity, quality or productivity of land, or prevent its deterioration. Activities such as land clearance, land contouring, creation of wells and watering holes that are integral to the land in question are to be treated as resulting in land improvements".

In this context, the question arises whether to classify land improvements as part of natural resources or as produced non-financial assets (excluding natural resources). This topic, including the term "land improvements", need to be further investigation.

29. RECORDING OF FLOWS INVOLVING THE HARVEST OF BIOLOGICAL RESOURCES BY UNITS OTHER THAN THE ECONOMIC OWNER OR WHERE THERE IS NO ECONOMIC OWNERSHIP (SNA ONLY)

The issue of recording flows involving the harvest of biological resources by units other than the economic owner or where there is no economic ownership has been raised in the context of the treatment of household collection of firewood, household production of energy and the recording of depletion for illegal fishing.

The underlying feature is that the economic unit undertaking the extraction of the resources (timber or fish are good examples but can apply more broadly to, for example, hunting, non-wood forest products, etc.) is different from the economic owner of the resource and/or there is no economic ownership of the resource.

There are a range of challenges that require further investigation to arrive at a full reconciliation between the entries in the production accounts and the balance sheets, in such a way that where there are economic benefits accruing to the economic unit harvesting the resources (reflected in measures of production and consumption), changes in the balance sheets of the resources also need to be considered.

30. RECORDING OF THE RUN-DOWN OF NON-PRODUCED NON-FINANCIAL ASSETS OTHER THAN NATURAL RESOURCES (SNA ONLY)

The SNA does not record depletion of non-produced non-financial assets other than non-produced natural resources. However, this leaves open the question of the conceptually preferred recording of the run-down of these non-produced non-financial assets. The current guidance treats the run-down as other changes in the volume of assets. However, it is also clear that this run-down has close parallels to the depletion of natural resources or depreciation of fixed assets and could thus be looked upon as costs of production. Having said that, there is no category for this run-down, unless one considers it as either depreciation or depletion, which need further investigation.

31. VALUABLES USED IN PRODUCTION (SNA ONLY)

Further guidance is required on the treatment of "valuables" primarily used in production, for example by renting them out, in which case they may need to be classified as fixed assets instead of valuables. The recording of such valuables may also bring into question the current recording of museum exhibits, as valuables.

EMERGING ISSUES

32. EMISSIONS PERMITS

Further guidance is required on the treatment of emission permits issued freely by governments, multicountry emission permit schemes, and the typology of emission permits. The guidance needs to balance additional flexibility for economies that have much more developed emission trading schemes and limiting inconsistencies brought about by allowing different treatments which would introduce, among other issues, implications for the comparability of government debt liabilities. More importantly, the recording of emission permits also needs to be reconsidered as emissions trading schemes evolve over time, including in new ways that further impact the proposed treatment emission permits.

33. CLIMATE OFFSETS

There is no guidance on the treatment of climate offsets, despite being used significantly and issued by government and private sector Although, when issued by governments, these instruments could be recorded as non-produced non-financial assets the treatment of climate offsets requires further investigation.

34. CLASSIFICATION OF CRYPTO ASSETS WITHOUT A CORRESPONDING LIABILITY DESIGNED TO ACT AS A MEDIUM OF EXCHANGE

The national accounts and balance of payments communities agreed to monitor developments relating to crypto assets without a corresponding liability designed to act as a medium of exchange, and to review the recommendation to classify them as non-produced nonfinancial assets in case there are significant market, regulatory and/or accounting changes that may justify updated guidance.

35. SUSTAINABILITY-RELATED DATA

Environment, Social and Governance (ESG) and green financial instruments are reported separately as "of which" lines/supplementary items in the financial accounts and balance sheets in the SNA and BPM. Considering that the analysis continues to evolve, there may be scope to further develop the sustainability-related indicators and to add granularity. For example, an internationally agreed classification of low-carbon technology products could be developed to analyse trends in global trade in these products, which is key for technology diffusion.

36. TREATMENT OF RADIO SPECTRUM

There is an apparent inconsistency between the treatment of the radio spectrum as outlined in paragraphs 27.49 to 27.52 and the general principles for rights to use a natural resource outlined in paragraphs 27.16 to 27.19, noting that the treatment of the radio spectrum was not an issue for consideration in the update of the 2008 SNA and accordingly remains unchanged from the 2008 SNA. It is not possible to fully address this issue in the remaining time for the finalization of the SNA. Options would need to be properly considered. These may require to changes to either the general principles, the treatment of the spectrum, or both, and clearly any such changes would require extensive research consultation.