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What defines an international statistical standard and other types of international statistical publications in economic statistics?[1]

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(for discussion)

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What defines an international statistical standard and other types of international statistical publications in economic statistics?

Alessandra Alfieri, Ralf Becker and Ivo Havinga[3]

A. Introduction

1. There exist many types of international statistical publications. There is often confusion with what is meant with the term international statistical standard, international recommendation, guideline, handbook or manual. This confusion in taxonomy is often justified by the consideration that until present there has been no discussion on a systematic use of the various terms used for the different publication types. This paper is the first attempt to systematize the terminology used for the various types of methodological publications[4] in particular in the economic and environmental sphere. It does not analyze the different terms used in the social and demographic sphere, which seem to have developed following a different path from the economic sphere.

2. The paper develops a taxonomy for different types of statistical frameworks and different types of publications developed by the international community. It also defines the criteria for a publication to be considered an international statistical standard or an international recommendation.

3. A historical analysis of the various publication types and the terminology used to characterize international publications in the economic sphere seems to show a convergence of approaches. Broadly speaking, we can identify three types of frameworks: (a) output frameworks; (b) cross-functional frameworks; and (c) input frameworks. Output frameworks can be further subdivided into macroeconomic frameworks and intermediate frameworks.

4. *Macroeconomic output frameworks* consist of agreed concepts, definitions, classifications and inter-related tables or accounts integrating broad sets of statistics. They take a system approach to statistics. Examples include the *System of National Accounts,* the *Balance of Payments* and the *System of Price and Volume Indexes*.

5. Macroeconomic output frameworks use *cross-functional frameworks* which pertain to agreed classifications of activities, products and expenditures by purpose, statistical units and sample frames. They include the *International Standards Industrial Classification of All Economic Activities* (ISIC), *Statistical Units* (to be drafted) and *Statistical Business Registers* (to be drafted). Publications that fall in the category of macroeconomic and cross-functional frameworks correspond to *international statistical standards*.

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[4] Statistical publications referred to a*s International Principles* are not dealt with in this paper.

6. *Intermediate output frameworks* consist of agreed lists of data items to be collected and published, which are consistent with macroeconomic output frameworks and cross-functional frameworks. They are narrower in scope than macroeconomic output frameworks and present data items at a more detailed level of disaggregation to meet specific analytical and policy needs. Examples include the *International Recommendations for Industrial Statistics*, *International Recommendations for Construction* and *International Recommendations for Distributive Trade Statistics*.

7. Intermediate output frameworks have historically been developed as independent areas of statistics and may cover specific areas of statistics rather than the whole economy as in the case of macroeconomic output and cross-functional frameworks. Increasingly, there have been efforts at the national and international level to harmonize intermediate frameworks with macroeconomic output frameworks to meet the need of national accounting, in addition to maintaining the purpose of addressing specific policy needs. Intermediate output frameworks correspond to statistical publications labeled *international recommendations*. They are either issued as separate publications or presented as part of compilation guidelines or the international statistical standard.

8. *Input frameworks* consist of best practices from countries and provide operational guidance on how to populate the standard tables or accounts of the international statistical standard or collect/compile the data items in the international recommendations. Given the differences in data collection practices and institutional arrangements in countries, they do not entail to international agreement on methodologies but only present best practices.

B. Definitions of main types of international statistical publications

9. There exist different statistical publication types that are commonly used in the international statistical community. In this section, we attempt to define what constitute an international statistical standard, an international recommendation or a guideline, handbook or manual. The difference between the different types of publications is linked to the criteria applied to the statistical frameworks described in Section C. A publication which does not meet all the criteria outlined in Section C, but only meets some, cannot qualify as an international statistical standard or international recommendation.

10. The efforts of systematizing the various types of publications and harmonizing different areas of statistics that have historically often developed independently from the international statistical standards lead to the organization of an array of publications in support of the statistical standards. Examples of the suite of selected economic statistics publications and environmental -economic accounting publications is presented in diagrammatic form in Annex I of this paper.

International statistical standard

11. An *international statistical standard* is an internationally agreed statistical macroeconomic output framework or a cross-functional framework. The macroeconomic output framework is a system framework consisting of concepts, definitions, classifications and inter-related tables or

accounts integrating broad set of statistics. The framework is internally coherent and consistent and externally consistent, to the extent possible, with other international statistical standards.

12. The *cross-functional frameworks* constitute the building blocks in support of the organization of the tables and accounts. They provide the conceptual frameworks for classifications, statistical units and sample frames that support the collection and reporting of economic activities of production, consumption and accumulation for the whole economy.

13. International statistical standards are established and maintained through a world-wide consultation process involving countries and international organizations to ensure its universal relevance, applicability and feasibility of implementation. When a consensus is reached on all aspects of the statistical framework, it is submitted to the United Nations Statistical Commission (UNSC) for adoption, as are its revisions undertaken at the request of the UNSC.

14. The major thrust of an international statistical standard is to realize international comparability for a broad domain of statistics by encouraging countries to implement the standard because of its universal relevance at national and international level for policy, analytical and/or administrative purposes. There is the expectation that countries will aspire to implement the standard, in whole or in part, as part of the process of developing internationally comparable and accessible data sets.

15. A standard should be accompanied by operational compilation guidelines as well as an implementation programme consisting of supporting training materials, workshops and technical assistance programmes to assist countries in basic data collection and compilation for the implementation of the standard.

16. International organizations other than the United Nations Statistics Division may have other governance arrangements which would require the adoption of their publications by bodies other than the UN Statistical Commission (UNSC). Until present, those international organizations have simply informed the UNSC of the process to develop and adopt these publications and have not sought the adoption from UNSC. Increasingly the objective is to have those international organizations seek the adoption of their statistical methodologies from the United Nations Statistical Commission, the apex entity of the global statistical system, in order to label those publications as “international statistical standard”. The UN Statistical Commission is the only global statistical body that brings together the Heads of national statistical offices and as such has the authority to adopt an international statistical standard. Statistical methodologies that are not adopted by the UNSC should not be referred to as international statistical standards.

17. Whilst UNSC recommends adoption of an international statistical standard, there is no legal framework for enforcing its implementation. However, a data quality framework should be developed to assess the conceptual compliance with and scope of countries’ implementation of the standard which will form the basis for assessing the extent of implementation on a regular basis.

18. The *System of National Accounts* (SNA) and the *International Standard Industrial Classification of all Economic Activities* (ISIC) are examples of international statistical standards.

International recommendations

19. *International recommendations* pertain to an internationally agreed intermediate output framework consisting of an agreed list of data items with agreed concepts, definitions and classifications often for a specific well-defined statistical domain. The framework should be consistent with the broader framework of an international statistical standard where such appropriate standard exist. International recommendations differ from international statistical standards because they do not use a system approach which integrates information from different areas of statistics in a common framework. Further they have often a narrower scope than macroeconomic frameworks and present data items at a more detailed level of disaggregation to meet specific analytical and policy needs.

20. The world-wide consultation for international recommendations is similar to that for international statistical standards. When a consensus is reached on all aspects of the statistical framework, it is submitted to the United Nations Statistical Commission for adoption as are its revisions undertaken at the request of the UNSC.

21. International comparability is again the main purpose of adoption of the international recommendations. Further, their adoption should be accompanied by operational compilation guidelines as well as an implementation programme to assist countries in the implementation of the international recommendations. There is expectation that countries will aspire to implement the international recommendations, in whole or in part, as part of the process of developing internationally comparable and accessible data sets.

22. Although there is no legal framework for enforcing the implementation of international recommendations, it is important that a data quality framework be developed to assess the conceptual compliance with and scope of countries' implementation of international recommendations.

23. The *International Recommendations on Industrial Statistics, International Recommendations of Distributive Trade Statistics, International Recommendations on Construction Statistics, and Index Numbers of Industrial Production* are examples of international recommendations.

Guidelines, handbooks and manuals[5]

Guidelines, handbooks and manuals contain data collection and compilation guidance based on best practices rather than internationally agreed frameworks or methodologies. They belong to the input framework category presented in Section A. The terminology "guidelines", "handbook" or "manual" has historically been used interchangeably, For the ease of reference, the words guidelines and handbook are used.

24. Guidelines or handbook are intended to provide operational guidance for countries on what is good practice, often involving cases studies and rendering options to reflect the different stages of statistical development of countries. Compilation guidelines, handbooks and manuals are often prepared in support of international statistical standards or international recommendations to provide guidance on implementation.

25. Guidelines or handbook do not have to be submitted to the UNSC before publication although they are often brought to the attention of the UNSC. The expectation on their implementation within countries is not as stringent as for international statistical standards and international recommendations as they often relate to the different situations in countries. When options are provided countries should strive to adopt the preferred methods of collection or compilation.

26. The series of Handbooks of National Accounts provide examples of guidelines, handbooks and manuals. The *Integrated Environmental-Economic Accounting 2003* and the *Manual of Statistics on International Trade in Services* are examples of guidelines. *National Accounts – A Practical Introduction* and *A Systems Approach to National Accounts Compilation* are examples of handbooks.

C. Criteria for defining an international statistical standard and international recommendation

27. An international statistical standard or an international recommendation should meet the following criteria: a) statistical integration; b) broad institutional process of consultation; and c) relevance. Each of these criteria has national and international applicability.

28. *Statistical integration* refers to the statistical internal coherence of concepts, definitions, classifications and tables and accounts and external consistency with other statistical standards and international recommendations. The external consistency seeks to establish, to the extent possible, the harmonization among macroeconomic frameworks, cross-functional frameworks and intermediate output frameworks and between output (macroeconomic and intermediate) and cross-functional frameworks in terms of definitions, units, classifications and variables.

[5] *International principles* do not pertain to statistical methodology but rather to governance aspects of statistics. They are adopted by the UN Statistical Commission, following a similar process as for international statistical standards and entail an expectation that most countries would implement them. A data quality framework should be developed to assess the conceptual compliance with and scope of countries' implementation of International Principles. The *Fundamental Principles of Official Statistics* and the *Guidelines on Confidentiality and Managing Microdata Access* are examples of international principles.

29. *Broad institutional process of consultation* pertains to the national and international consultations of stakeholders to ensure agreement on relevance, utility and feasibility of implementation through advisory committees, city groups and other working groups involved in the process of creating and maintaining the standard for the various statistical (sub) domains. The Statistical Commission is the apex institution of the global statistical system in this consultation process with the authority to adopt international statistical standards and international recommendations. Although other international and regional organizations might have their own governance arrangements, they should seek adoption of their statistical methodology as international standard or international recommendations from the Statistical Commission.

30. *Relevance* is assessed in terms of its universal applicability of the compiled and disseminated data for use of policy planning, analysis and administration of the framework. Examples of this use by government, business community, general public and international agencies are the macroeconomic statistics derived from the System of National Accounts as a macroeconomic framework and industrial statistics derived from the International Recommendations on Industrial Statistics as an intermediate sector framework.

31. The adoption of an international statistical standard and an international recommendation should be followed by a) the development of an implementation programme; b) the development of compilation guidelines; c) the development of databases, d) the collection of best practices and e) the development of data quality frameworks.

32. An *implementation programme* consisting of supporting training materials, workshops and technical assistance programmes to assist countries in basic data collection and compilation for the implementation of the standard or recommendation should be developed.

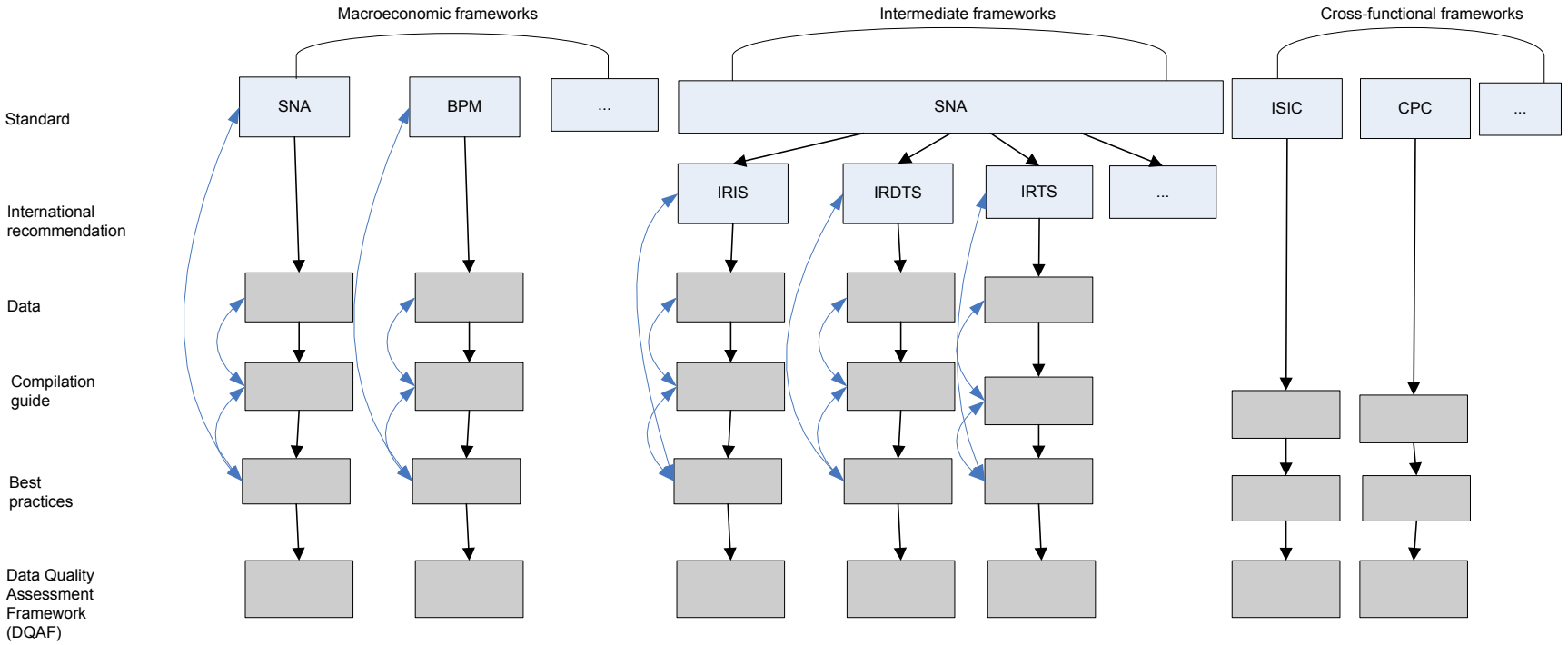
33. *Compilation guidelines* will provide practical recommendations, based on best practices on how to populate the tables and accounts in the international statistical standard and on how to collect data for the agreed list of variables presented in the international recommendation. These operational companion guides should address statistical aspects like use of units, sample frameworks (statistical business register and economic census), source data (administrative data, survey program), national adaptations of classifications, statistical techniques for validation and editing, etc.

34. A *database* with related metadata, accessible to users and including protocols for exchanging and sharing of data and metadata between international organizations, between international organizations and members states and among various agencies at the national level should be developed. At international level, electronic compendia of best practices for the various frameworks should be prepared.

35. *Data quality frameworks* should be established to assess the conceptual compliance with and scope of countries' implementation of the standard which will form the basis for assessing the extent of implementation on a regular basis.

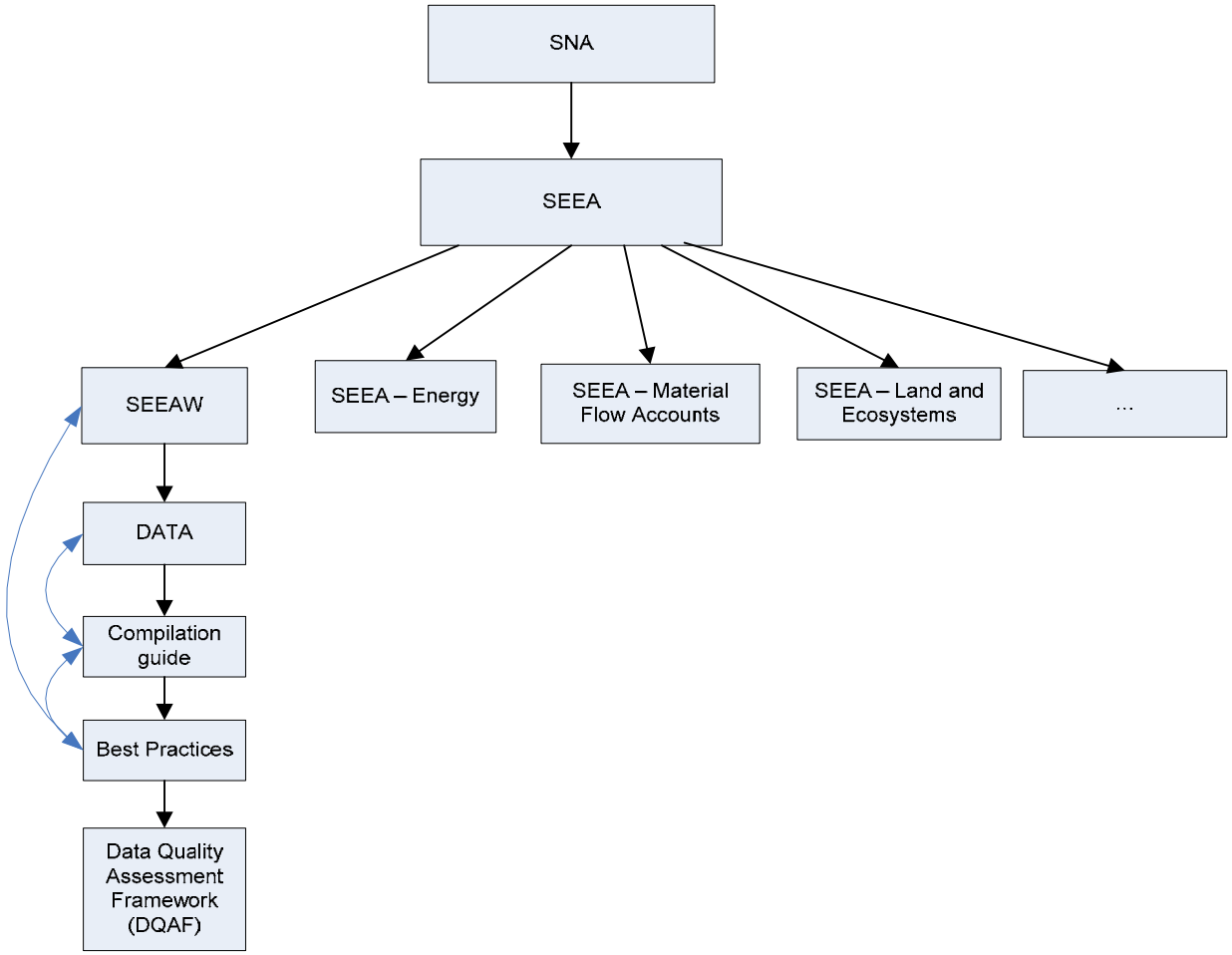
ANNEX I

Diagram for selected international economic statistics publications



SNA: System of National Accounts
BPM: Balance of Payments Manual
IRIS: International Recommendations on Industrial Statistics
IRDTS: International Recommendations on Distributive Trade Statistics
IRTS: International Recommendations on Tourism Statistics
ISIC: International Standard industrial Classification of All Economic Activities
CPC: Central Product Classification

Diagram for environmental-economic accounts and environment statistics publications



SNA: System of National Accounts
SEEA: System of Environmental-Economic Accounting
SEEAW: System of Environmental-Economic Accounting for Water