

Stylized facts of statistical standards of the Statistical Commission of the United Nations

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Abstract. This article argues that the centrality of the statistical standards for developing the global and national statistical system is explained by the normative work of the Statistical Commission of the United Nations, being the highest decision-making body of the global statistical system. It further presents the centrality of the statistical standard in the terms of reference that guides the normative work of the Statistical Commission. While what constitutes a statistical standard is not formally defined by the Statistical Commission, the article continues in introducing stylized facts for statistical standards based on the practices of developing and adopting normative standards by the Statistical Commission. These stylized facts bring into focus the categories of statistical standards and the consultative cycle for the development and adoption of these standards.

Keywords: Statistical standards, statistical and data systems, Statistical Commission, official statistics, integrated economic statistics, nomenclature, international standards, international guidelines, compilers' guides

1. Introduction

Statistical standards are the backbone for developing the national and international statistical and data systems in their production of internationally comparable official statistics.

This brief article will first elaborate on the centrality of statistical standards for the national and international statistical and data system developed by the Statistical Commission of the United Nations through its normative work. It further presents the development of statistical standards through the normative work of the Commission described in terms of reference of the Statistical Commission. Secondly, it introduces the stylized facts of the normative documents for international statistical methodology with a) the categorization of the technical standards in distinguishing between the development of statistical standards as standard-setting instruments for the international statistical community and other normative statistical documents for the implementation of these instruments, and b) the consultative cycle of mandate, research, drafting, consultations, and adoption of normative statistical documents for the establishment of these normative products.

2. The centrality of the statistical standards for developing the national and international statistical and data systems

The centrality of statistical standards, norms, tools, and methodologies are explicitly recognized in the resolution 8 (I) of the 16 February of the Economic and Social Council for the establishment of the Statistical Commission, as amended by its resolution 8 (II) of 21 June 1946 [1], and its resolution 1566 (L) of 3 May 1971 [2], and the draft resolution on the updated terms of reference [3] of the Statistical Commission adopted at its 53rd session for the adoption by the Council.

The terms of references of the Statistical Commission are updated from time to time to reflect the changing data and statistical landscape. New user demands require innovation and modernization of the statistics and data systems to reflect the new data generated by the digital technology in the production of official statistics, the new user demands for integrated, multidimensional, and more granular information combining statistical and geospatial information, the expanded role of statistical offices in data stewardship, and the objective of

official statistics to measure the progress for the 2030 agenda for sustainable development.

The recent update of the terms of reference highlights the utility of statistical standards in promoting the development of national and international statistical and data systems for monitoring social, economic, and environmental progress. It is important to note that statistical standards evolve from the normative work of the Statistical Commission in facilitating intergovernmental dialogue, coordinating global consultations, and sharing best practices. Its convening power for developing statistical standards is instrumental for statistical capacity building, creating a professional community for official statistics, and promoting innovations in the statistical and data systems.

The Fundamental Principles of Official Statistics with a dedicated principle 9 on international standards also recognize the centrality of the international statistical methodology for official statistics. Principle 9 states that the use by statistical agencies in each country of international concepts, classifications, and methods promotes the consistency and efficiency of statistical systems at all official levels. In turn, the updated terms of reference of the Statistical Commission fully integrate the Fundamental Principles. The General Assembly has endorsed them in resolution 68/261 of 29 January 2014, in which the Assembly states that these fundamental values and principles governing statistical work must be supported by legal and institutional frameworks in national statistical systems. Finally, the updated terms of reference of the Statistical Commission state that the statistical standards will aid the work of the Statistical Commission in achieving an integrated statistical and data system for dissemination of international statistics and data for monitoring the progress on sustainable development.

Taken together, these direct and indirect references to statistical standards covering statistical concept, classifications, and methods for statistical and data systems highlight the centrality of normative standards in the function of the Commission in assisting the Council in: “(a) in promoting the development of national statistics and the improvement of their comparability, (b) in the coordination of the statistical work of the specialized agencies, (c) in the development of the central statistical services of the Secretariat, (d) in advising the organs of the United Nations on general questions relating to the collection, analysis, and dissemination of statistical information, (e) in promoting the improvement of statistics and statistical methods generally” [1–3].

3. Stylized facts of statistical standards

The Statistical Commission has not formally adopted an agreed set of principles or criteria for adopting the various normative statistical standards. Therefore, the practices of the Statistical Commission for developing normative documents for the statistical methodology are presented in stylized facts. This format describes the common facts and avoids elaborating on variations and deviations from these facts. These stylized facts of the Commission’s practices are described by a) the categories of normative statistical documents, their main components, and their nomenclature; and b) the consultative cycle of mandate, research, drafting, consultation, and adoption of category of international standards.

3.1. The categories of statistical standards

Across the statistical domains, the international normative statistical documents can be organized into three main categories: international standards, international guidelines, and compilers’ guides.

The international standards are normative statistical documents that describe concepts, definitions, classifications, statistical units, and principles that support the measurement framework of accounts and tables and related statistics and indicators. They also document the main applications for analytical and policy purposes with new user requirements stimulating continuous statistical research for these types of normative documents. The outcomes of this research are consolidated from time to time in the revisions of the normative statistical documents.

Over time, the international statistical community has made considerable research efforts to ensure that these international standards are mutually coherent and consistent even across the statistical domains of economic, socio-demographic, and environmental statistics. More recently, the revisions of the international standards increasingly include a multidimensional perspective to meet the requirement for the 2030 Agenda for Sustainable Development in making the links between the economy, environment, and society in their output framework of accounts, tables, statistics, and indicators.

When considering the terms used in the publications of the international standards, the nomenclature covers the following terms: systems, recommendations, manuals, classifications, principles and recommendations, and frameworks. Most of the nomenclature depends on

the historical development of the international standards and the domain of statistics in scope.

For the domain of economic statistics, a naming convention refers to the macroeconomic standards as systems, such as for the System of National Accounts or the System of Environmental-Economic Accounting, with the international standards related to their sectoral statistics as international recommendations, such as the International Recommendations for Industrial Statistics, the International Recommendations for Energy Statistics, and the International Recommendations for Water Statistics. The normative documents for international trade statistics, the balance of payments statistics and price statistics are historically referred to as manuals, such as the Manual on Statistics of International Trade in Services, the Balance of Payments and International Investment Position Manual, and the Consumer Price Index Manual. The internationally agreed statistical classifications for products, economic activities, and time use apply classifications like the Central Product Classification, the International Standard Industrial Classification of All Economic Activities, and the International Classification of Activities for Time-Use Statistics. The naming convention for the population and housing statistics and vital statistics is principles and recommendations like the Principles and Recommendations for Population and Housing Censuses and the Principles and Recommendations for a Vital Statistics System. Nevertheless, when an internationally agreed set of statistics and indicators are adopted as international standards, they use the term framework like the Global Indicator Framework for the Sustainable Development Goals and the Framework for the Development of Environment Statistics.

When an international statistical standard is adopted by the Statistical Commission, a custodian of the international standard assumes responsibility for:

1. the overall coordination for the standard, including the update of its methodology
2. the annual or infra-annual international data collection and dissemination of the related accounts, tables, statistics, and indicators from countries and regions, and
3. the capacity building at country level.

International, regional, and national statistical agencies will create professional communities for international statistical standards and their related documents and instruments for regular consultations and sharing of best practices. At the global level, the Statistical Commission establishes expert groups such as:

1. committees of experts which are country-led like the Committee of Experts on Environmental-Economic Accounting, the Committee of Experts of Business and Trade Statistics, the Committee of Experts on International Statistical Classifications, and the Committee of Experts on Big Data and Data Science for Official Statistics
2. inter-secretariat working groups which are interagency led like the Inter-secretariat Working Group on National Accounts and the Inter-secretariat Working Group on Energy Statistics, and the Inter-secretariat Working Group on Household Surveys, and
3. interagency and expert groups which are country-led like the Interagency and Expert Group on Gender Statistics and the Interagency and Expert Group on Sustainable Development Goal Indicators.

These statistical expert groups have terms of references that determine their mandates and governance structures. Through their work programs, these statistical expert groups are instrumental for the research on the update of the international statistical standards and the development and maintenance of training programs, learning and knowledge platforms, databases, code repositories, and communication strategies. The Statistical Commission maintains a rolling multi-year calendar for reporting by the expert groups on their work progress.

Recently, the Statistical Commission has also mandated the establishment of the Network of Economic Statisticians, which is country-led. This Network is to ensure the robustness and relevance of the system of economic statistics through the networking of existing statistical groups on horizontal priorities related to:

1. data and data solutions for the use of new and more granular data
2. statistical methods and framework for the experimentation and testing on an extended system of economic statistics with integrated and multidimensional measures for wellbeing and sustainable development, and
3. user-centric consultations, communication, and partnerships for the development of the system of economic statistics.

The networking of existing statistical groups across the statistical domains should promote more agile and nimble working methods to advance horizontal priorities on transformation and innovation relevant for the fast-evolving data and statistical landscape of the global, regional, and national statistical system.

The category of international guidelines also covers formally adopted normative statistical documents recommended for country implementation by the Statistical Commission for either:

1. providing methodological support for the implementation of the international statistical standard by clarifying and elaborating on the sources and methods for the compilation of particular tables and accounts (like for the supply and use tables, the financial sector accounts, the satellite account for the non-profit and related institutions and volunteer work, and accounting for global value chains);
2. describing the management and organization of the implementation of a system (like the system of integrated economic statistics, the system of civil registration, and vital statistics)
3. advancing the compilation for specific statistics (like short-term indicators, rapid estimates, composite indicators, asset ownership from a gender perspective).

Ad-hoc expert groups established by the Statistical Commission for a limited duration usually develop the international guidelines compared to standing expert experts responsible as custodians for the development and maintenance of the international statistical standards. Nonetheless, the international guidelines also adhere to a rigorous and robust consultative cycle of mandates, research, drafting, consultations, and publication (see Section 3.2) like the international statistical standards. In most cases, the United Nations Statistics Division is the custodian of the international guidelines and may revise the guidelines, for instance, the Handbook on Non-profit Institutions in the National Accounts of 2003 was updated and endorsed by the Statistical Commission in 2018, as was the original Handbook on Civil Registration and Vital Statistics Systems: Management, Operation, and Maintenance of 1998 in 2018. As for the nomenclature, the titles of the publications of the international guidelines use the term Guidelines or Handbook.

The third category of international normative statistical documents is compilers' guides. These guides support the implementation of international statistical standards and target the compilers to provide further and more detailed explanations of specific recommendations and practical guidance by describing good or best practices applicable under different circumstances. The compilers' guides are consistent with the international statistical standard and do not introduce any new recommendations in addition to those in the in-

ternational statistical standard. Examples of compilers' guides are the Energy Statistics Compilers Manual and the Manual on Statistics of International Trade in Services Compiler's Guide. In terms of nomenclature, the compilers' guides and referred to as Compiler's Guides and Compilers Manuals.

3.2. *The consultative cycle of mandates, research, drafting, consultations, and adoption of statistical standards*

For the United Nations System, the convening power is one of its greatest strengths supporting its normative work. It sets norms and standards for peace and security, socio-economic development, human rights, the rule of law, health and environmental sustainability, and others. The UN's leadership role in normative work remains one of its most vital comparative advantages.

The Statistical Commission of the United Nations is the global statistical system's highest decision-making body, bringing together the Chief Statisticians from its member states. As the apex entity of the United Nations, it provides the forum for the global statistical community to coordinate international statistical activities, exchange knowledge, and share best practices on statistics and data across all domains and to develop, establish, and maintain standards and norms, tools, and methodologies. Its coordination function extends to the specialized agencies, funds and programs, the regional economic commissions of the United Nations System, and other relevant programs of the UN Secretariat with the request to cooperate fully with the Statistical Commission in coordinating their long-term programs and work in new directions.

The consultative cycle depicted in Fig. 1 for the development or update of the statistical standards and applicable to the three categories of international standards, international guidelines, and compilers' guides is initiated by a mandate provided to an expert group, which could be standing or ad-hoc expert group. The Statistical Commission could also initiate the exploration of a mandate by creating a Friends of the Chair Group on a particular topic or new directions, which may lead to the request for new international standards. In its most elaborate consultative cycle, the expert group will subsequently prepare a research agenda on issues relevant for the new or the update of existing statistical standards. The expert group forms task teams to prepare the issue papers, also referred to as guidance notes which contain the new recommendations for the statistical standard. Expert group signs off on these is-

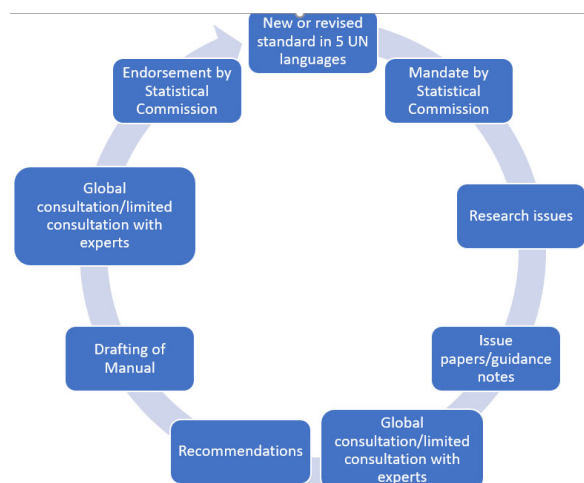


Fig. 1. The consultative cycle of mandates, research, drafting, consultations, and adoption of statistical standards.

sue papers for global consultation with the focal points of the domain experts in each member state. These issue papers reflect best practices from experimentation and testing the recommendations and extensive consultations with users. The consultation can be limited to the expert group members only for the compilers' guides. Following the global consultation of the issue paper, the paper and related recommendations may be redrafted based on the comments and suggestions received. The purpose of re-drafting of the issue papers and their global consultation iterations is seeking consensus on the new recommendations for the statistical standard. Subsequently, the Statistical Commission is requested to approve the submitted consolidated recommendations for the updating of the statistical standard. Following endorsement, chapters of the statistical standard are drafted, which may be subject to global consultation. Ultimately, the complete document of the statistical standard is submitted to the Commission for adoption as a statistical standard. The Commission always adopts the statistical standard on a consensus basis. Furthermore, the Statistical Commission always accompanies its adoption of the statistical standard by requesting:

1. member states to implement the standards in their national statistical system
2. the expert group to make the document available in all UN languages, support the implementation with a capacity building program, and report on the progress of implementation of the standard.

On a final note, the statistical standards are adopted for implementation on a voluntary basis in contrast with some norms such as conventions which could be legally binding upon ratification and oblige member states to comply with the terms of the norms. Also, the reporting on the implementation of the statistical standard by the member states is on a voluntary basis.

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