

A shared pathway for quality in the Italian National Statistical Network

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Abstract¹

In recent years, Istat, as institutional coordinator of the National Statistical System (Sistan), has undertaken several initiatives to foster the quality of official statistics produced in the Italian data-ecosystem-driven environment, as the release in 2022 of a new edition of the “Italian Code for the Quality of Official Statistics”, a document mirroring the European Statistics Code of Practice (ES CoP), whose target recipients are the NSS entities other than the Other National Authorities (NSS-not ONAs). Besides, Istat has followed the recommendations of the NSS key institutions, namely the Steering and Coordinating Committee for Statistical Information (Comstat) and the Commission on Quality Assurance of Statistical Information (Cogis): a supplementary document, the “Guide for the implementation of the Italian Code”, has been defined. The Guide must be considered as the Italian version of the ESS Quality Assurance Framework (ESS QAF), adapted to the national context, being the NSS a highly decentralised composite network with more of 3,000 entities. The purpose of the Guide is to support the statistical offices of the NSS-not ONA bodies in the interpretation and implementation of the Code, with a set of 301 methods: recommendations, practical suggestions and best practices. The building up of the Guide has followed several steps: 1) assessment of the internationally existing Quality Assurance Frameworks; 2) analysis of the NSS protocols, Comstat directives, Cogis opinions, and current national legislation; 3) a strategic open approach (circular top-down and bottom-up process), with a massive involvement of the NSS-not ONAs relevant stakeholders: draft versions have been shared, devoted workshops have been organized. The Comstat finally approved the final draft of the Guide in May 2023, then published on both the Istat and the NSS website last October, in Italian language only, for the time being.

Keywords: Guidelines, NSS entities, Quality Assurance Framework

1. Introduction

Sistan is the Italian network of public and private bodies providing official statistical information at national and international level. It is vast and encompasses a wide array of entities, including statistical offices within ministries, diverse central and branch public administration bodies, regions, provinces, and autonomous provinces, as well as municipalities, chambers of commerce, prefectures, and various other public and private organizations involved in statistical activities. In its entirety, the NSS comprises 3,305 organizations, which also include the 13 Other National Authorities (ONAs) responsible for producing European statistics.

¹ *This paper resumes the outcomes of a work jointly carried out by the authors. However, Section 1 and 2 is attributable to Andrea Bruni, and Section 3 and 4 to Paola Giordano.*

The National Statistical System is defined in Legislative Decree 322/89, the statistical law, which also establishes Istat as the country's National Statistical Institute and outlines its duties and responsibilities, including the coordination of the National Statistical System.

The coordination function is reinforced by a high-level Steering and Coordinating Committee for Statistical Information (Comstat), which holds statutory authority. This committee plays a pivotal role in supervising Istat's statistical planning activities. Another key governance mechanism within the Sistan is the statutory Commission for the Quality Assurance of Statistical Information (Cogis). This commission is tasked with overseeing the impartiality and comprehensiveness of the statistical information generated by the national statistical system. The detailed structure of the Sistan is outlined in Table 1 below:

Table 1 - Sistan entities as of 31 December 2023

Sistan entities by type	n.	%
Ministries and Presidency of the Council of Ministers	17	0.5
Prefectures - Territorial Offices of the Government	99	3.0
Institutions and central government	23	0.7
Regions and autonomous provinces	21	0.6
Provinces	64	1.9
Metropolitan city	12	0.4
Municipalities or municipalities with at least 30 thousand inhabitants	251	7.6
Minor municipalities	2,688	81.3
Chambers of Commerce	65	2.0
Other Administrations	54	1.6
Private parties	11	0.3
Total	3,305	100.0

Source: Istat, *Collection of Identifying Elements, Resources and Activities of the Statistical Offices of the National Statistical System (EUP 2024)*.

Sistan, entities undertake various roles pertaining to the collection, production, analysis, and dissemination of official statistics, exhibiting considerable diversity in terms of size, organizational structure, financial and technological resources, and ownership (both public and private). Moreover, these entities are situated within territorial contexts characterized by varying characteristics. This broad spectrum includes organizations for which the statistical function holds significant importance for administrative, research, or policymaking purposes, as well as small municipalities with more limited statistical activities. In recent years, Istat, in its role of coordinating the Sistan, has undertaken several initiatives aimed at strengthening the quality of statistics produced by Sistan entities (Ascari *et al.*, 2022b). The underlying basis of this project is the awareness, also highlighted by the governing bodies of the Sistan, that

the modernization of statistical processes and products within the Sistan must go through the constant search for compliance with the Principles of the European Statistics Code of Practice (CoP), the cornerstone of the common framework for the quality of the European Statistical System (ESS). Given that the CoP applies, by definition, solely to Istat and the ONAs, it was felt necessary to furnish other entities within the Sistan with a reference framework for ensuring quality: an Italian adaptation of the CoP was adopted firstly in 2010 and updated in 2022, targeted to Sistan not-ONA entities.

2. Theoretical framework

The effort of “importing” the CoP resulted in the drafting of the "Italian Code for the Quality of Official Statistics", approved by Comstat in 2021 (Comstat Directive No. 12, published in the Official Journal of 29 January 2022, n. 23), as the reference tool to strengthen the governance of Sistan, enhance production and spread the culture of data and its reuse. The Italian Code, mirroring the ES CoP, includes 16 Principles and 61 Criteria, tailoring the 84 Indicators of the ES CoP. In this second edition of the Italian Code, for the time being available in national language only, the adaptation in a national sense of the 16 principles of the ES CoP is accompanied by the definition of reference Criteria (corresponding to ES CoP Indicators) that better specify the Code principles. However, the Criteria formulated in the Code are much simpler than the European indicators. The underlying idea was to provide the not-ONA statistical offices with recommendations that best suit their differing level of productive complexity, resources, organization, and so on (Ascari *et al.*, 2022a).

The Common quality framework of the European Statistical System, however, is not limited to the CoP, which is, in fact, supported by the ESS Quality Assurance Framework (ESS QAF), a handbook identifying practical methods and tools for translating the guidelines contained in the CoP into operational terms, providing practical suggestions on statistical quality. In Italy, both Cogis and Comstat, upon expressing their favourable opinions on the new edition of the Italian Code, recommended the inclusion of two interpretative documents to accompany it. These documents are designed to facilitate the implementation of the Code by non-ONA bodies within the Sistan. Specifically, this entails the production of:

- a national Guide aligned with the ESS QAF, intended to offer guidance and strategies for operationalizing the Principles and Criteria of the Italian Code, as the ESS QAF in relation to the ES CoP;

- a national Handbook for quality and metadata report, taking inspiration from the ESS Handbook for quality and metadata reports, designed to foster harmonized quality reporting

within Sistan, aiming to facilitate the creation of comprehensive quality reports encompassing all statistical processes and their outcomes.

This paper aims to illustrate the shared pathway for quality that culminated in the creation of the first document, namely the "Guide for the implementation of the Italian Code for the quality of official statistics", a collection of methods with a strong practical value that aims to facilitate the application of the Principles and Criteria contained in the Italian Code through concrete indications, recommendations and good practices. Specific attention is given to the territorial dimension of official statistics, which sees in the Sistan institutions the main subjects for the realization of an information offer capable of responding to the needs expressed at local level by decision-makers and citizens (Sorvillo *et al.*, 2023).

3. Methods

As mentioned above, the Guide shows a collection of methods, representing the most operational level of the quality principles. The first operation carried out to develop the methods for the implementation of the Code was the analysis of the different Quality Assurance Frameworks existing at international level (Ascari *et al.*, 2022a), because it was considered important that the final result be limited to the standards and experience of Istat but had a wider scope.

In particular, the following frameworks were analysed:

- Quality Assurance Framework of the European Statistical System 2.0 (Eurostat, 2019);
- United Nations Quality Assurance Frameworks Manual for Official Statistics (United Nations Statistics Division, 2019);
- Data Quality Assessment Framework (International Monetary Fund, 2012);
- Code of Practice for Statistics UK (United Kingdom Statistics Authority, 2018).

The methods and recommendations contained in the reference models have certainly proved to be a useful starting point, but for the definition of the Guide it was necessary to work out a precise adaptation to the Sistan reality, with the analysis of the protocols, the directives of the Comstat, of the Cogis opinions, of the legislation in force in the national field.

In addition to the consultation of the literature, a central factor in the implementation of the Guide has been the participatory approach, which has seen a structured process of comparison with potential stakeholders, and with the two coordinating bodies, Comstat and Cogis.

The open approach to sharing in method building has fostered a circular process that integrates both top-down and bottom-up perspectives. Initially, Istat experts formulated a first draft of the methods, drawing from national and international experiences (top-down approach). Subsequently, this draft was presented during dedicated meetings with not-ONA bodies, the intended recipients of the Guide. Here, valuable suggestions and observations were collected, which were then incorporated into subsequent iterations, ultimately shaping the final document (bottom-up approach). This interlocution phase, which constitutes the true added value of the Guide, has included activities of a different nature: from seminars tailored to each of the primary target groups (Municipalities, Provinces, Regions and Autonomous Provinces, Central Administrations, Prefectures and other entities), participation in scientific conferences, and organisation of discussion opportunities at the national level. These activities served not only to gather useful feedback for enhancing the Guide, but also to spread the new Code, raising public awareness on the Sistan issue to the production and dissemination of high quality statistics.

The opportunities for discussion and comparison started from the XIV National Conference on Statistics (November 2021) and then continued during the National Conference of the Association of Statistics Offices of Italian Municipalities - USCI (March 2022) with the seminar Istat - Coordination of Regional Statistical Offices on "Quality in official statistics at regional level" (May 2022), with the seminar Istat - Coordination of Statistical Offices of the Italian Provinces dedicated to "Quality in official statistics at provincial level" (June 2022). Subsequently, with the same intention of collecting the opinions of the non-ONA Sistan subjects, two seminars were organized respectively to the Ministries and other subjects (public and private) of national importance (June 2022) and the Prefectures, Chambers of Commerce, Regional Unioncamere (September 2022). Istat also sent a draft of the Guide to Cogis (September 2022), and then organised a joint workshop (December 2022) on quality in official statistics. Other opportunities for discussion were the Public Administration Forum (June 2022), the "10th European Conference on Quality in Official Statistics - Q2022" (June 2022) and the XLIII Annual Scientific Conference of the Italian Association of Regional Sciences (A.I.S.Re) (September 2022).

It is crucial to underscore the pivotal role of the interaction with Comstat throughout the entire process of developing the Guide. In fact, the involvement of the Committee has been decisive from the initial approval of the Italian Code for the quality of official statistics to the subsequent phases of drafting the methods, and finally to the approval of the Guide's final draft in May 2023.

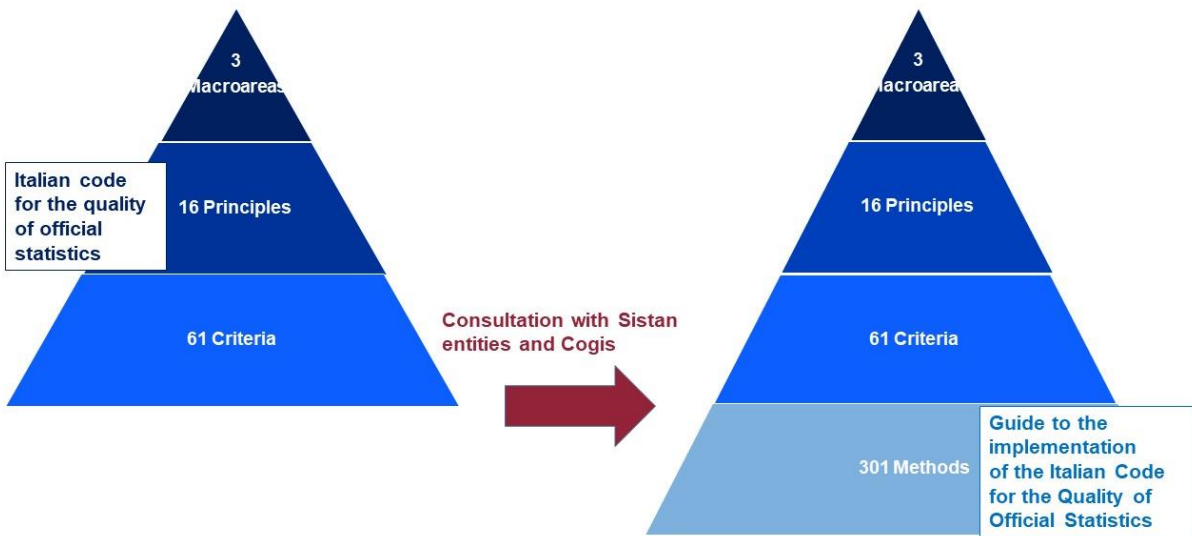
4. Results and Conclusions

The release of the "Guide for the implementation of the Italian Code for the quality of official statistics" in October 2023, currently available only in Italian², marks a significant milestone. Comprising 301 methods, this guide serves as a crucial resource aimed at fostering and reinforcing the culture of quality within the Italian statistical system. It offers a comprehensive set of recommendations, including activities, operational standards, tools, and best practices, designed to facilitate the effective implementation of the Principles outlined in the Italian Code. These recommendations and practical suggestions are adaptable by each Sistan institution to their specific conditions, empowering them to enhance the quality of their statistical activities.

A strategic cornerstone in the development of the Guide has been its open approach to knowledge sharing. This involved not only internal collaboration within Istat, where fruitful partnerships were fostered among the Central Directorate for External Relations, international relations, the press office, and the coordination of the Sistan, as well as the Central Directorate for Methodology and Design of Statistical Processes, but also extensive engagement with Sistan institutions. These engagements, whether on an individual basis or through coordination structures, provided invaluable feedback and comments throughout the process.

As previously mentioned, this Guide essentially serves as the Italian counterpart to the ESS Quality Assurance Framework, undergoing revisions and adaptations to suit the national context. Analogous to the approach taken with the Code, this Guide represents the fourth and most operational level, as illustrated in Figure 1.

Figure 1 – The hierarchy within the Italian quality framework



² <https://www.istat.it/it/archivio/288619>

With the release of the Methods, the analogy between the ESS quality framework and the Italian quality tools for not-ONA entities is fully achieved, as illustrated in Table 2.

Table 2 - Correspondence table between the European and the Italian not-ONA quality framework

ES CoP/ Italian Code Principle	ES CoP Indicators	Italian Code Criteria	ESS QAF Methods	Italian Code Methods
Professional Independence	8	5	37	18
Coordination and cooperation	3	2	25	12
Mandate for Data Collection and Access to Data	4	5	33	19
Adequacy of Resources	4	3	24	13
Commitment to Quality	4	5	29	24
Statistical Confidentiality and Data Protection	6	6	27	36
Impartiality and Objectivity	8	4	30	22
Sound Methodology	7	3	33	16
Appropriate Statistical Procedures	7	3	49	25
Non-excessive Burden on Respondents	6	5	25	23
Cost Effectiveness	4	4	20	16
Relevance	3	2	18	11
Accuracy and Reliability	3	3	12	10
Timeliness and Punctuality	5	3	16	13
Coherence and Comparability	5	4	20	17
Accessibility and Clarity	7	4	41	26
Total	84	61	439	301

The Guide proposes Methods as uniform and general as possible, in the objective impossibility of modularizing them to suit the specificities of the different categories of Sistan entities. In fact, not all Methods are applicable nor have the same relevance for each entity, but they represent a range of possibilities and ideas on how to proceed towards improving quality. Therefore, the Methods outlined in the Guide should be viewed as opportunities rather than limitations. For instance, Methods initially perceived as ambitious by some entities can serve as benchmarks for future advancements. Finally, it should be noted that the Methods set out in the Guide do not delve into about specific organisational procedures, methodologies or techniques to be applied, for which reference must be made to specialized literature and other sectoral documents.

Furthermore, it is important to consider in the middle-long term, activities to monitor the improvement in quality within Sistan entities. The objective of monitoring is to gather information and data that enable the measurement of the quality levels within Sistan entities and offices, as well as and to verify their stages of progress over time, in order to determine

whether the System has adopted consistent solutions for the effective implementation of the Code. Enforcement should move beyond the idea of formal/administrative compliance and be the vehicle for office, ultimately leading to an improvement in the quality of statistics (both processes and products). To realize this objective, future activities may include:

1. the definition of a model for monitoring the implementation of the Code;
2. the identification and design of tools to facilitate monitoring;
3. the experimentation of the tools to assess their effectiveness;
4. the redesign and fine-tuning of the tools;
5. the initiation of the monitoring.

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