**Improvements on the Brazilian Statistics Code of Practice**

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**Abstract**

*In 2013, the Brazilian Institute of Geography and Statistics (IBGE) made available its Statistics Code of Practice, disseminating a set of guidelines, principles and practices that the Institute is committed to uphold in the statistical production process, taking as reference the Statistics Code of Practice for Latin America and the Caribbean. The Code aims at standardizing professional procedures to foster best practices in statistics, which are crucial to establish institutional credibility and, consequently, trust in the information produced by the Institution. The Code sets out 17 key principles and 80 good practices, concerning the institutional environment and coordination, and the statistical processes and products.*

*In 2016, the Institute underwent an external auditing to assess its compliance with the principles and practices of the Code of Practice, which resulted in a set of recommendations that led to its revision and improvement. One recommendation was to develop and incorporate explanatory notes that clearly outline the context and objective of each good practice, in order to reduce the possibilities of different interpretations. Furthermore, a set of measurable criteria (quantitative or qualitative indicators) should be developed and incorporated to the Code as a means of assessing compliance with each practice. This paper presents the steps developed, the external references and frameworks used, and the choices that were made during the revision process.*

*The IBGE Statistics Code of Practice is also seen as a mechanism to introduce a common understanding of quality across the producers of official statistics in Brazil and align national practices with international standards. The new edition of the Code will provide the basis for a more comprehensive version to be discussed with other institutions responsible for the production of official statistics at the National Statistical System.*

**Keywords:** Code of Practice, statistical quality

**1. Introduction**

In 2013, the Brazilian Institute of Geography and Statistics (IBGE) published its Statistical Code of Practice in order to regulate and guide the continuous improvement of the statistics production and ensure institutional strengthening. In 2016, the Institute went through an external audit from a Federal Controller Unit that analyzed the adherence of IBGE to the good practices established in the Code. The audit results in a set of recommendations specifically related to the contents of the Code, such as to add explanatory texts and indicators to the Code, to improve its clarity and allow a qualitative or quantitative evaluation of its implementation and adherence.

This paper will present the IBGE Statistics Code of Practice revision process which includes the search and study of external references and frameworks, the steps developed and choices made to increase the Code’s clarity and create quantifiable indicators.

**2. The IBGE Code of Practice**

As the main producer of statistical and geospatial information in the country, the IBGE provides information for various segments of society and for government agencies in all spheres that is central to and often decisive for decision-making by its users. The quality of the information produced has always been a commitment and a constant concern in the institute. Trust in the quality of this information is essential to ensure its credibility and reputation as an independent, objective and impartial organization.

In the search for increasing confidence in statistical information, several international organizations have developed guides and protocols that propose values, principles, good practices and guidelines to promote the quality of the information produced. The Fundamental Principles of Official Statistics, for instance, were proposed in 1994 and endorsed by the General Assembly of the United Nations in 2014 to guide the production of all statistical institutes in the world. Another important step was the creation of the European Code of Practice, adopted by the European Statistical System (ESS) in 2005.

In line with these international movements, several actions have been implemented to guarantee the quality of IBGE's information production. The publication of the IBGE Statistics Code of Practice in 2013 was a milestone in quality management at the institute, establishing principles and guidelines with the objective of helping to promote the quality of the statistics produced.

The Code of Practice aims to maintain high quality of statistics produced by the institute, encouraging the continuous application of the best methods and practices of production, analysis and dissemination. In addition, it has an informative mission, both for its staff and for users and informants. In the first case, it aims to raise awareness of the mission and the fundamentals of the production of official statistics; in the second case, it aims to increase users' trust in the work of the institute by ensuring impartiality and objectivity in the production of statistics; and with regards to informants, it aims to demonstrate the commitment to statistical confidentiality, concerning the purpose of use and the protection of the individualized data provided to the institute.

The Code of Practice is composed of three sections comprehending the institutional environment and coordination, statistical processes involving statistical activity, and statistical products regarding the information produced and its availability. It contains 17 principles and 80 good practices, grouped according to Table 1 below.

**Table 1. Sections and principles of the IBGE Statistics Code of Practice**

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| **Sections** | **Principles** |
| 1. Institutional environment and coordination | 1. Institutional independence 2. Coordination of the National Statistical System 3. Statistical mandate for data collection 4. Statistical confidentiality 5. Efficient use of resources 6. Commitment to quality 7. Impartiality and objectivity 8. Cooperation and international participation |
| 1. Statistical processes | 1. Sound methodology 2. Appropriate statistical procedures 3. Non-excessive burden on respondents 4. Cost-effectiveness |
| 1. Statistical outputs | 1. Relevance 2. Accuracy and reliability 3. Timeliness and punctuality 4. Coherence and comparability 5. Accessibility and transparency |

**3. External Audit**

In 2016, the IBGE underwent an external audit by the Ministry of Transparency and General Controller of the Union (CGU), an organization of the Federal Government responsible for the defense of public patrimony, transparency and fight against corruption.

The objective of the audit was to evaluate the current degree of maturity of the institute regarding its adherence to the principles of the Statistics Code of Practice, using as parameters the evaluation of the good practices of the Code itself and those correlated with the Template for a generic national quality assurance framework - NQAF. In order to evaluate the adherence of IBGE to each good practice, a five point Likert-type scale was applied that ranged from “fully adherent” to “non-adherent”. The scope of the audit included only the first section of the Code: Institutional environment and coordination.

The analysis of CGU's audit team pointed to the IBGE's high adherence to good practices related to the principles of Institutional independence, Statistical mandate, Statistical confidentiality and Impartiality and objectivity. On the other hand, for the principles Efficient use of resources and Commitment to quality, it was evaluated that there is partial adherence to the recommended practices.

The audit concluded that the development of a Statistics Code of Practice as a central element of the institute’s quality policy demonstrates IBGE's concern with the quality of its products. However, the effectiveness of the presented practices should be sought through the unfolding of the Code in a work plan that aims to continuously improve the Institute's performance.

Additionally, among the recommendations proposed by the Ministry, two are pertinent to the subject of this paper. The Ministry recommended that the institute develop and incorporate to the Code explanatory texts that clearly outline the context and purpose of each good practice to reduce the possibilities of different interpretations. It was also recommended that the IBGE develop and incorporate measurable (quantitative or qualitative) criteria for the evaluation of each good practice.

In response to the external audit, the IBGE developed and implemented an action plan to improve its adherence to the good practices of its Code. Within this plan there are actions referring to the two recommendations mentioned above that will be described in detail in the next section.

**4. Code of Practice Revision**

The first step taken to comply with the recommendations proposed by the external audit was to seek and study international reference documents that would aid in better understanding the meaning of each good practice. This understanding would facilitate the creation of clear, objective and relevant explanatory texts and indicators.

The documents that served as support and inspiration for this work were:

* Guidelines for the Template for a Generic National Quality Assurance Framework – NQAF;
* Quality Assurance Framework of the European Statistical System – QAF;
* Self-assessment Questionnaire on the Implementation of the European Statistics Code of Practice;
* Questionnaire on Cooperation/Level of Integration Achieved by the European Statistical System;
* Questionnaire on the Coordination Role of the National Statistical Institutes;
* United Nations Fundamental Principles of Official Statistics – Implementation Guidelines;
* Eurostat – Code of Practice Compliance Activities 2013;
* Recommendation of the OECD Council on Good Statistical Practice.

After reading and assimilating these documents it was possible to begin writing the first draft of the explanatory texts and to make a preliminary selection of indicators for each good practice. At this stage, it was noted that, in addition to creating explanatory texts, it would also be necessary to improve the writing of parts of the Code to increase clarity and avoid misinterpretation. This editing of the original text along with the creation of explanatory texts and indicators considerably increased the complexity and time of execution of the project. Therefore, the new Statistics Code of Practice will only be available in 2019.

A possible misinterpretation was found, for example, in the Good Practice 4.5 that read as follows: “The main uses and limitations of access that apply to the information obtained by the Institute from the informants should be explained.”

This text could be misinterpreted for not making it clear to whom should be explained the main uses and limitations of access. As a result, the text will be changed to: “Informants should be communicated, during the data collection, of IBGE's commitment to the protection and confidentiality of personal data, and that the information obtained will be used for statistical purposes only.”

After completion of the first draft of the explanatory texts and indicators, they are going through a review to identify possible errors and improvements in writing. Throughout this review the standardization, cohesion and consistency of the texts and indicators are also evaluated in relation to the good practice to which they refer and the text of the Code in general.

The finished text containing all editions in the Code, the explanatory texts and indicators will undergo a final revision before being sent to the final analysis and approval of the Institutional Quality Committee and the Directing Council of the IBGE. After approval the Code will be published and disseminated.

The following is an example of a good practice with its explanatory text and indicators:

Good Practice 4.6: Access to non-anonymized microdata must be subject to confidentiality protocols established for external users who access them for the purpose of research and analysis.

Explanatory text: There should be documented and publicly available guidelines and procedures regulating the access of external users to non-anonymized microdata for previously authorized studies and analyzes. The IBGE should apply security procedures to ensure the protection of confidentiality of information, such as the provision of a secure and controlled environment for this type of access, the removal of variables that allow the direct identification of informants, the prevention of file copies and printing of data, and verification of analysis results to avoid potential risks of disclosure of individualized data. In addition, users must sign a confidentiality commitment term where rules for access to microdata are established, as well as penalties for failure to comply.

Indicators:

1. Are there publicly documented guidelines and procedures governing the access of external users to non-anonymized microdata for research and analysis? Non-adherent / Low adherence / Partial adherence / High adherence/ Full adherence
2. Are control and security procedures applied to ensure the confidentiality of information in the access of microdata by external users? Non- adherent / Low / Partial / High / Full
3. Do external users accessing non-anonymized microdata sign a confidentiality commitment term containing the rules and penalties applicable in case of non-compliance? Non- adherent / Low / Partial / High / Full

**5. The new Code and the National Statistical System**

The publication of the new Statistics Code of Practice also aims to promote the discussion about the quality culture in the statistical production of the various organizations of the National Statistical System - SEN, as well as to support the elaboration of a more complete version of the Code that covers all members of SEN. This SEN Code of practice will deepen the coordination of the System and the production of information by other producers. For this future SEN edition, the IBGE will promote internal discussion forums with other organizations responsible for the production of official statistics in the country.

**6. Conclusions**

The IBGE is continually seeking to improve its quality management. The external audit came to help the institute identify its strengths but also show aspects that could or needed to be improved. The insertion of explanatory texts will help the understanding of what is being proposed in the Code by all stakeholders, but mainly by the lay public. In turn, the addition of indicators for each good practice of the Code will help the institute make periodic evaluations of the adherence to the Code in a structured and quantitative manner and thus achieve the continuous improvement of the process of statistics production.

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