



# Economic and Social Council

Distr.: General  
29 May 2019

English only

---

## Economic Commission for Europe

### Conference of European Statisticians

#### Sixty-seventh plenary session

Paris, 26-28 June 2019

Item 6 (a) of the provisional agenda

#### **Emerging role of national statistical offices as offices for statistics and data**

#### **Session 1: Emerging data system opportunities and issues**

### **Statistician's ethics – guarantor of statistics reliability**

**Prepared by the National Institute of Statistics of Romania**

#### *Summary*

The document describes the close link between statistician's ethics and the reliability of official statistics. It argues that to further improve statistics, particularly by its modernization, it is necessary to maintain the professional ethics of statisticians and enhance the status of official statisticians at international and national levels.

This document is presented to the 2019 Conference of European Statisticians seminar on "Emerging role of national statistical offices as offices for statistics and data", session 1 "Emerging data system opportunities and issues" for discussion.



## I. Introduction

1. It is widely known that the reliability of statistics is the basis for recognition of statistician's work. When speaking about reliability of statistics, we take into account independence, integrity, relevance, accuracy and transparency criteria derived from the ten Fundamental Principles of Official Statistics.
2. However, the views on objectivity and accuracy of statistics are often polarized, particularly in case of official statistics, depending on the perspective of users. Such divergence of opinions sometimes does not depend on how well the statistics is compiled by the data producer but rather on how the development of the described economic phenomenon or process is perceived.
3. For instance, if key macro-economic indicators, such as gross domestic product (GDP), consumer price index (CPI), unemployment level, employment rate, etc. show positive developments, the users from the government side are satisfied. At the same time, the opposition parties will look for other explanations for the increase (or decrease) in such indicators, attempting to reduce the merits of those in power. In such situation, the statistician is a passive player, at least in the understanding of the academia, researchers and media, and at the same time a controversial person, suspected of data distortion and having been influenced by the party in power.
4. Famous persons also expressed both positive and negative opinions on statistics. For example, H. G. Wells, who anticipated the positive evolution of statistics, said: "Statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write". Similarly, a well-known Romanian economist and statistician, and the founder of the Romanian official statistics, Dionisie Pop Marțian, argued 160 years ago for the importance of statistics: "Statistics is the only safe land on which a far-sighted government needs to base its rationale for reforms". There are, of course, many other opinions which are favourable to statistics but we cannot ignore contrary opinions either. Mark Twain put statistics among the three kinds of lies: lies, damned lies and statistics. A well-known Swedish scientist Andrejs Dunkels said ambivalently: "Apparently, it is easy to lie with statistics, but it is hard to tell the truth without them".
5. Some people see official statistics as a closed and rigid environment that cannot be objective and reliable. Such a claim is undoubtedly false. In the modern age, the statistician is, perhaps, the closest to the Renaissance man of many talents, and is able not only to understand and quantify the social and economic phenomena in all their complexity but also become proficient in areas that have no apparent connection to his or her field. In statistics, the gates to novelty are and always will be open. Statistics is continuously adapting to novelties by developing new concepts or by implicitly borrowing them, as far as possible, from related fields.
6. The statistician seems to evolve into a data scientist. However, there is a dilemma between preserving the statistician's status and losing their identity since a data scientist is not necessarily identical to a statistician.
7. It is imperative to preserve, renew or redesign not only the status of official statisticians, but also their ethics. This is necessary to preserve the professional integrity and to resist any pressures to distort, over- or under value the statistical results. Professional ethics is closely linked with relevance and reliability of statistics.
8. To meet the ethical challenges, the statistician must understand the ways in which the ethical principles and professional criteria are perceived and applied, and know his or her responsibilities, rights and obligations described in the "Declaration on professional ethics" adopted by the International Institute of Statistics in July 2010 and revised in October 2011.

## II. The relation between statistical ethics and statistics reliability

9. Applying the Fundamental Principles, in particular those relating to integrity, independence, relevance and accuracy of the data, is indispensable for the appreciation of the work of statisticians and of data reliability. But this is not sufficient. Very important for

reliability is the society's perception of statistics, its results and methods and techniques. The users of statistics need to be confident that the data reflect reality and that the statisticians who produced these data knew well the theory and practice behind the data.

10. The data users and data providers may have an opinion about the way statistical data have been compiled. Respondents often show some reservation linked to the fact that data could also be used for other than statistical purposes. Good communication skills are needed from statisticians to explain to other stakeholders how the confidentiality and privacy of data providers are guaranteed.

11. To react to these claims of data provider, some essential measures have to be adopted. It is necessary that the statistician, as data producer, would bring together around the same table the data providers and data users, in accordance with the appropriate legislation, norms and rules adopted at international level. It goes without saying that all staff engaged in official statistics activities should know the standards adopted in the field of statistics.

12. The commitment to the principles of ethics is mandatory and even more imperative for the Chief Statistician or for the person exercising the respective function in official statistics, since he or she is potentially more frequently subject to the pressure from different interest groups. In this respect, data protection in compliance with confidentiality and privacy rules should be a core objective, as a prerequisite inseparably linked to statistics reliability, the ultimate goal of official statistics.

### **III. Data confidentiality**

13. We can ask ourselves the question: is data confidentiality, as sine qua non obligation in statistics, an ethical matter as well? The answer to this question is affirmative. Data confidentiality is directly related to the interests of data providers. It is an unequivocal obligation of the statistician who is taking over the information, to preserve total discretion, ensuring the necessary conditions in complying with data confidentiality. The statistician should be aware that any deviation from this principle would discredit the entire statistical process.

14. The information received for statistical purposes (i.e. for further processing purposes) is the raw material indispensable to achieve the objective of returning to the society the aggregated information meeting the manifold requirements of users, in particular those relating to quality and timeliness. Even if the statistician is convinced of the need to observe confidentiality as a personal commitment, they should be aware that without the thorough knowledge of principles, rules and practices related to confidentiality, they would not be able to achieve the desired objective.

### **IV. Highlights on our undertakings**

15. Over the years, Romanian statistics faced various issues and options regarding confidentiality challenges and the compliance solutions. During the former, planned economy regime, the confidentiality pyramid had been inverted (with the tip of the pyramid pointing down). The individual data of economic and social units, and even those of personal nature (the base of the pyramid) were not seen as confidential. On the contrary, that regime had focused on aggregate information as confidential, since the real situation was not supposed to be known by the public, but rather, as general rule, it was an exclusive privilege of the leadership.

16. After 1990, with implementing democratic standards in the statistical system, things have changed so that the compliance with the principles of official statistics became *modus vivendi*. Beyond the radical transformations of the statistical system, tools to apply criteria and rules of personal data confidentiality were adopted, and standards and methods of data confidentiality protection were thoroughly stipulated in the legislation and in the statistical practice. Moreover, the core ethical values such as the respect for others, professionalism, integrity and rightness, self-control in difficult times, avoidance of conflict stories and the preservation of confidentiality criteria became mandatory elements in the statisticians' life.

17. In parallel, attention was paid to training and preparing statisticians who were supposed to meet the necessary requirements and have skills for ensuring high quality and reliable statistics. Practical tools were also developed and implemented to educate statisticians on their rights and obligations, and the following criteria and principles were adopted:

- Guidelines to public servants
- Guidelines to newly employed staff in the National Institute of Statistics (NIS)
- Operational procedure on the ethics advisory activities for the NIS staff
- Statistician's Code of Conduct
- Oath of the statistician joining the statistical system on complying with the legal framework governing statistical activities related to professional integrity and ethics
- Commitment on statistical confidentiality.

18. The above-mentioned instruments, except the last two on the list (the oath and the commitment), include details from international rules, such as those issued by the International Statistical Institute (ISI), Eurostat, OECD and Conference of European Statisticians, as well as from other countries' expertise, literature and our own practice.

19. It goes without saying that the statistician employed in the statistical system should not only acknowledge and apply the written rules but should also take specific training courses and workshops. At the same time, various actions were undertaken to raise awareness of the providers and users of statistical data, public figures from scientific environment and academia, business environment and media about statistical reliability, statisticians' ethics and the need for cooperation and collaboration. These undertakings enabled to spread knowledge and appreciation for the role and importance of official statistics.

## V. Some considerations and suggestions

20. In the beginning of our paper, we have mentioned a few quotes. Below is another quote that describes the role of statistics as it has been shaped in the past and how it is preserved nowadays.

21. Here it is what Ronald Fisher said about statistics: "From the statisticians we are going to get answers to the most serious problems raised by the great adventure of our time. Whenever something important is done, statisticians are behind the scenes."

22. In our opinion, this message had double meaning. On the one hand, it indicates the indispensable role of statistics in substantiating the decision-making at government level and beyond. On the other hand, it shows the stand-by position of the same statistician, being in the background and operating in support of the user. Of course, the question is not to change the role of the statistician as supporting the major steps of the decision-makers. On the contrary, should the statistician remain always behind the scenes? It is a question with implicit answer. If we envisage enhancing the social position of the statistician in society, reformulating the message of the quote, would it not be appropriate for the statistician to get to the stage, that is to say, leave the backstage and become an actor in the process of major decision-making?

23. It is quite difficult to find the answer. The perspective seems to favour the adoption of a more active attitude of official statisticians than the current one. Questions are arising: What should we do? How deeply could the statistician get involved in defining economic and social policies? To what extent is the statistician accepted in such debates? How much could the statistician assume comments on produced statistics and other versions and solutions leading to a potential agenda of the Conference?

24. Let us be more explicit in this regard with our own example: Romania's government structure includes a body called the National Commission for Strategy and Prognosis. The Commission develops strategies and forecasts economic and social indicators, particularly in the medium and long term, based on the information provided by official statistics. The

president of National Institute of Statistics of Romania was invited to take part in the major phases of the forecast process. In this way, he would be seen as being directly involved in the decision-making process. The position adopted by the representative of statistics was somehow reserved, surprising the other stakeholders by saying that he could participate only in providing the necessary statistical data, not in the elaboration and the validation of indicator levels in the future. This attitude is currently explained by the fact that, as a matter of principle, statistics should not undertake obligations beyond simply making available to the notified body the required statistical data.

25. Should we set our limits to this role? This matter can be approached and solved through a series of measures aimed at promoting knowledge and rising the profile of statistics: education; communication; action.

(a) **Education:** it is not the first time when the topic of statistical literacy in a broad sense has been raised by statisticians in the educational environment. Statistical education, especially in tertiary education, leads to more effective use of statistical data and, as a consequence, a better micro- and macroeconomic decision-making.

(b) **Communication:** a greater involvement of the scientific and academic environments is required. This is especially the case in the context of data revolution, digitalization, mega data (big data, open data, etc.).

(c) **Action:** the focus is on enhancing the status of statisticians, through promoting their integrity and professional ethics.

26. The Fundamental Principles of Official Statistics acquired universal value and significance due to their adoption by the United Nations General Assembly in 2014. This makes us wonder if the statistical community could proceed in a similar way with the statisticians' status and ethical criteria.

27. We allow ourselves to mention that Romania suggested such an undertaking to the recent session of the United Nations Statistical Commission. We believe that enhancing the status of official statisticians, together with a renewed package of professional ethics criteria, would elevate statistics reliability to a higher level in the society.

## VI. References

- Declaration on professional ethics – International Statistical Institute (ISI) July 2010, retrieved October 2011
- European Statistics Code of Practice for the National and Community Statistical Authorities – February 2005, retrieved October 2011
- Ethics and statistics plans and reports – Statistics Norway – 2007
- Ethical guideline for Statistical Practice – Committee on Professional Ethics of the American Statistical Association – April 2018
- Ethical challenges in statistical research – Anca Stefanescu, Mariana Florentina Stefanescu, Paraschiva Grigorie – <http://megabyte.utm.ro/en/articole/2011/StiEc/vol2/AncaStefanescu.pdf>
- Ethics and Statistics – Open Data and Open Methods – Andrew Gelman
- Une nécessaire exigence éthique – Le point de vue d'un citoyen – Alain GODINOT, *Statistique et société*, Vol. 2, no. 4, Décembre 2014
- Integration of Romanian statistics into the European Statistical System – Ilie Dumitrescu, NSI –Romania Publishing house
- Knowing centenary Romania –Romania in the European Union – Prof. Tudorel Andrei, Ec. Ilie Dumitrescu, 2018