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INTEGRITY - A PRE-REQUISITE OF INDEPENDENCE AND CREDIBILITY OF OFFICIAL STATISTICS

Invited paper submitted by Istat, Italy[1]

INTRODUCTION

1. **Independence, integrity and credibility** are essential for an effective system of Official Statistics, a vital tool for policy-making and democratic control.

2. **Discussion** on independence, integrity and credibility **could appear sometimes repetitive**. Do we need to discuss them further ?

3. Are they evolutionary concepts? No/Yes. In any case, their development depends on the context and, above all, on the changes and evolution of the context.

4. Many **recent facts** (events) have **affected in particular the integrity and credibility** of official statistics:
- higher complexity and instability of the phenomena and their quick changes (in particular the behaviour of the economic units);
- rapid development of technologies to be used for collecting and disseminating statistics;

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[1] Paper prepared by Luigi Biggeri.

- demand for statistical information to reply to specific needs of different groups of users and to settle the conflicts among them;
- increasing activity of private bodies in the production and analysis of statistical data;
- barbarization of political conflicts with misuse of statistical data;
- highly media-dominated society, with more emphasis on data frequently presented incorrectly;
- and so on;

all this requires that difficulties and open problems to assure integrity and credibility have to be discussed and clarified. .

5. We **focus on Integrity**, trying to clarify what it means and what it is, and to evaluate the impact of the above mentioned facts on its implementation, presenting some examples of the Italian situation.

DEFINITION AND CHARACTERISTICS OF INTEGRITY

6. Independence, integrity and credibility are strictly interrelated and it is difficult to speak on them separately.

7. Anyway, looking at the documents of the International Statistical Organisations, it is evident that **Integrity is not considered a "Principle" of Official Statistics**.

8. **Definition of integrity**. In the US reference is made to the **integrity of data** (and persons?) **whereas** in the UK reference is made to the **integrity of process** (and persons?) of official statistics.
- US Office of Management and Budget (2002), Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies: "Integrity" refers to the **security of information** – protection of the information from unauthorized access or revision, to ensure that the information is not compromised through corruption or falsification. Therefore integrity is a component of quality.
- US Bureau of Labor Statistics (2002), BLS **Data Integrity** Guidelines, where it is stated that "The following guidelines must be followed by all BLS program offices and BLS employees to ensure the integrity of the information maintained and disseminated by the BLS" and where for data collection it is stated that "The integrity of the BLS data collection process requires that all survey information be sound and complete:…Therefore, employee must not deliberately misrepresent the source of data, the methods of data collection, the data received from the respondents, or entries on administrative reporting forms."
- ONS, UK, (2003), National Statistics Code of Practice, where integrity is included in the principles within the Code and where it is written that "National Statistics will gain public trust through being produced using objective and transparent methods", specifying in detail (in 8 statements) what needs to be done in order to guarantee integrity and linking integrity to many principles of official statistics, from independence from political involvement (**integrity of persons**) to methods of collection of data and to dissemination and interpretation of data (**integrity of the process**). Therefore ONS has explicitly said that **integrity is strictly connected to the trust of users** and that the responsibility to promote the integrity of national statistics rests with the National Statistician. Besides, ONS has

established a series of protocols to apply the Code of Practice and to implement the principle of integrity.

9. We can state that:

(i) **professional integrity and integrity of processes and data are inseparable and complementary meanings of the integrity of official statistics**: if we do not carry out both of them we do not have high-quality official statistics and, above all, we cannot gain the trust of users. It is important to consider also the **integrity of the official statistical system**, i.e. the consistency and coherence of the different statistical information of the system.

(ii) to satisfy the **principle of integrity** it is necessary to establish clear and transparent written **procedures and protocols** to be applied in any production and dissemination of data and to the behaviour of the statistical offices and their staff.

LINKS BETWEEN INTEGRITY AND THE PRINCIPLES OF OFFICIAL STATISTICS

10. Link with **independence** and **impartialit**y. To gain the **trust of users** not only is the professional competence of the statistical office necessary, but also its integrity in safeguarding the statistical system from inappropriate political influence (Fellegi, 2003, ISI President's invited paper). Moreover, the principles of independence and impartiality can be satisfied if the statistical agencies make decisions "according to strictly professional considerations, including scientific principles and professional ethics, on methods and procedures for the collection, processing, storage and presentation of statistical data" (2nd UN fundamental principle). Therefore the 2nd principle calls on professional and process integrity. We can also add that if these activities are carried out following the principle of integrity with clear protocols and procedures it is easier to guarantee independence and impartiality, because it is easy to demonstrate that is impossible to modify the procedures, etc.

11. From what we said above, it is evident that the satisfaction of integrity implies the satisfaction of the 3rd UN fundamental principle: the **accountability** and the **transparency** to facilitate a **correct interpretation** of the data by presenting "information according to scientific standards on the sources, methods and procedures of statistics".

12. The principle of (professional and process) integrity requires that sources of data be chosen with regard to quality, timeliness, costs and the burden on respondents, thus satisfying the 5th UN fundamental principle.

13. In conclusion, **integrity** is related to independence, impartiality, quality and transparency of data, and so it seems to be **a pre-requisite to assure both independence and credibility of official statistics**.

SATISFACTION OF THE PRINCIPLE OF INTEGRITY: IMPACT OF RECENT FACTS AND SOME PROBLEMS

14. We refer only to some aspects of the collection and dissemination of data.

15. Request   for more statistical information in order to satisfy the **specific needs of different groups of users** and to settle the conflicts among them.
(a) Production and dissemination of official and private statistics are more and more increasing, and it seems we are in a cage of statistics; statistics seems to be a sort of modern gospel.
But in a multi-class society it is required that statistical information be produced taking into account the different points of view. This is a very difficult task considering the higher complexity and instability of the phenomena and their quick changes (in particular the behaviour of the economic units).
Therefore, it is more difficult to agree on the statistical definitions of the phenomena we need to measure.

(b) In any case, to reply to the requests it is important to adopt **versatile and flexible surveys' designs** and to prepare and store complete and integrated data-bases coming from the different surveys.
The use of different classifications could satisfy part of the requests; but we know that to agree on standardised classification schemes takes a long time and the **risk is that the classifications used be old-fashioned**.

(c) We know that statistical information depends on the **conceptual framework** (definitions, classifications, and so on) used for the data collection and therefore the statistical measures are, at least in part, conventional. We know that **optical-statistical illusions** can occur, and we can interpret them correctly. But most users do not know them! And in any case it seems that real statistics are sacred and uses of statistics are free (Trichet in ECB, 2004).

(d) Most of the **controversies and polemics on the value and evolution of the Italian Consumer Price Index** broken out in the media during the last two years have been instrumental and caused by the opinions and interpretations of consumers' associations and political parties. This obviously depends on the fact that we live in a highly media-dominated society, where more emphasis is given to data that are frequently presented incorrectly and to the barbarization of the political conflicts with misuse of statistical data. This happened also because the different speakers refer to different concepts of inflation, and may be they do not agree on the conceptual framework adopted by the statisticians. And we also have to bear in mind that statistical concepts are not simple to be interpreted and understood by citizens, that usually have not enough statistical literacy and refer to their own perception of the phenomena. Therefore their trust in official statistics decreases (see the distinction between perceived inflation and measured inflation made by ECB). We also have to think of easier concepts and definitions, that can be easily understood by all users! Is it possible?

16. How can a **production plan of a survey** and of statistical data **satisfy both users' needs and integrity**?

(a) Users' needs are usually not clearly stated, and often data producers filter users' requests and have to make a lot of hypotheses and decisions on the goals, concepts, process of data collection and so on, with reference to different alternatives and procedures. It is clear that the **hypotheses and decisions must be made following the principles of integrity and professional ethics** (see for example Fig.1 in the appendix that sketches "A simplified production process for prices indices"). .

(b) The general approach implementing a Total Quality Measurement Model is useful to guarantee the integrity of the decisions for the whole process and to evaluate what is the importance of the different factors that affect the results in the data production process. This approach is also useful for the improvement of the quality and the review of the processes of data production. Anyway it is evident that the choices made affect the result of statistical measurements, and **users may not agree with the choices and standards defined by the official statistical community**. The only way to convince the users of the integrity and credibility of the official statistics produced is to disseminate very detailed information on the procedures followed to choice the definitions and classifications, to choice the different hypotheses adopted and the procedures followed in the collection of data and for the computation of the results. This may not be sufficient and users continue to be unsatisfied (this has happened in Italy for Consumer Price Indices). What can we do?

17. Often users require **more detailed data** as well as **new data** on new phenomena.

(a) For an official statistical office it is very **difficult to implement a new survey in a short time with professional integrity**. To implement a new survey it is necessary to follow a systematic research-evaluation of the new production process as an iterative process cycle (see Fig.2 in the appendix). In fact, before implementing the final process, experiments, analysis of the results and verification of users' satisfaction need to be carried out.

(b) Sometimes the data are available in **administrative registers or data-bases**. Their utilisation is important to reduce the burden of the respondents and official statistics must have the possibility to access these registers and data-bases by law. But this in not enough, because usually administrative definitions and classifications differ from statistical ones and statisticians have to do a lot of costly work to transform the administrative data. It is necessary that the **official statisticians be involved by law from the beginning** in the definition of the characteristics and content of the administrative registers and data-bases.

18. Is it possible to achieve more **timeliness** in the dissemination of statistical data?

(a) The integrity principle requires that the conflict between accuracy and timeliness be solved, and obviously good solutions can be found. But, in any case, to do that, it is necessary to disseminate provisional data subject to subsequent revisions. The principle of integrity calls for a clear definition and the publication of the **data revisions policy adopted** by the statistical office.

(b) We must be careful, because this kind of procedure is not agreed by users and, in particular, by the media that tend to consider even small revisions of data as corrections of errors made by the statistical office (at least in Italy).

19. Is it possible to prove the overall **integrity and coherence of the different data** on different phenomena provided by the national statistical system?

(a) The system of national accounts is a good model for the verification of the integrity of data on macro-economic aggregates, but there is not a similar model for social phenomena.
(b) In Italy every year we present, in an official event, a big Report on the situation in the country referring to the previous year. The Report refers not only to the macro-economic evolutions but also to detailed analyses of the competitiveness of economic units, efficiency and productivity of the labor market, characteristics of the welfare system, and so on, thus showing the integrity of the statistical system and usually increasing the credibility of the official statistics from the users's side. The preparation of the Report, by a special task force with staff members belonging to all sectors of Istat, is also an occasion to ask for ideas of interesting analyses and checking of the quality and consistency of different data on the same phenomenon and data on different phenomena. Finally, the Report   shows the interesting findings contained in the statistical results (increasing the value added of the presentation of the single surveys) and gives indications and contributions to possible solutions of public policy issues.

20. To achieve the credibility of official statistics by users it is necessary that the integrity of the statistical system be evident and stated in written protocols and procedures. Yet, this is not enough. Official statisticians cannot be only "self-referential" to gain the credibility from the users. The internal assessment of the data production processes is surely necessary and useful, but the integrity and reliability of official statistics must be guaranteed by a specific **committee or a scientific council as an independent guardian**, in order to avoid possible criticism. To this end, sometimes also peer reviews of particular survey or the organisation of the overall system of national statistics could be useful.

21. In Italy, there is a "**Commission for the guarantee of official statistics**", that is an independent body whose key role is to guarantee the impartiality and completeness of official statistics, in particular by monitoring:
(a) the impartiality and completeness of official statistics, and especially the compliance with the confidentiality regulations involving data supplied to the National Statistical Institute (Istat) and other agencies of the National Statistical System (Sistan);
(b) the quality of statistical methods and data-processing techniques used for surveys and for dissemination of statistical data;
• the compliance of surveys with the directives of international and the European Union organisations.

FINAL REMARKS

(a) Integrity of official statistics refers to the statistical staff, processes and data, and these meanings of integrity are inseparable and complementary. Therefore there is a "point of view" from which the data producers implement and guarantee the integrity of official statistics.

(b) Integrity is also a component of the quality of official statistics perceived by users and, in general, by citizens. Therefore it is a "point of view" from which all users can judge the independence and credibility of official statistics.

(c) The producers of official statistics have to start from the principle of integrity to re-examine and integrate aspects that apparently are separate and different from the principles driving our activities.

(d) The reference to integrity is a "flatus voice" if we do not establish a clear series of accountability, of responsibility and of rules (code of practice) and a series of internal protocols and procedures for their implementation (to be published and disseminated to the users); and also if we do not establish an independent guardian (body) to evaluate the application and satisfaction of the UN principles of official statistics.

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Appendix

Fig. 1 - Sketch for a very *simplified production process* of the price indices as a system of inputs and an output
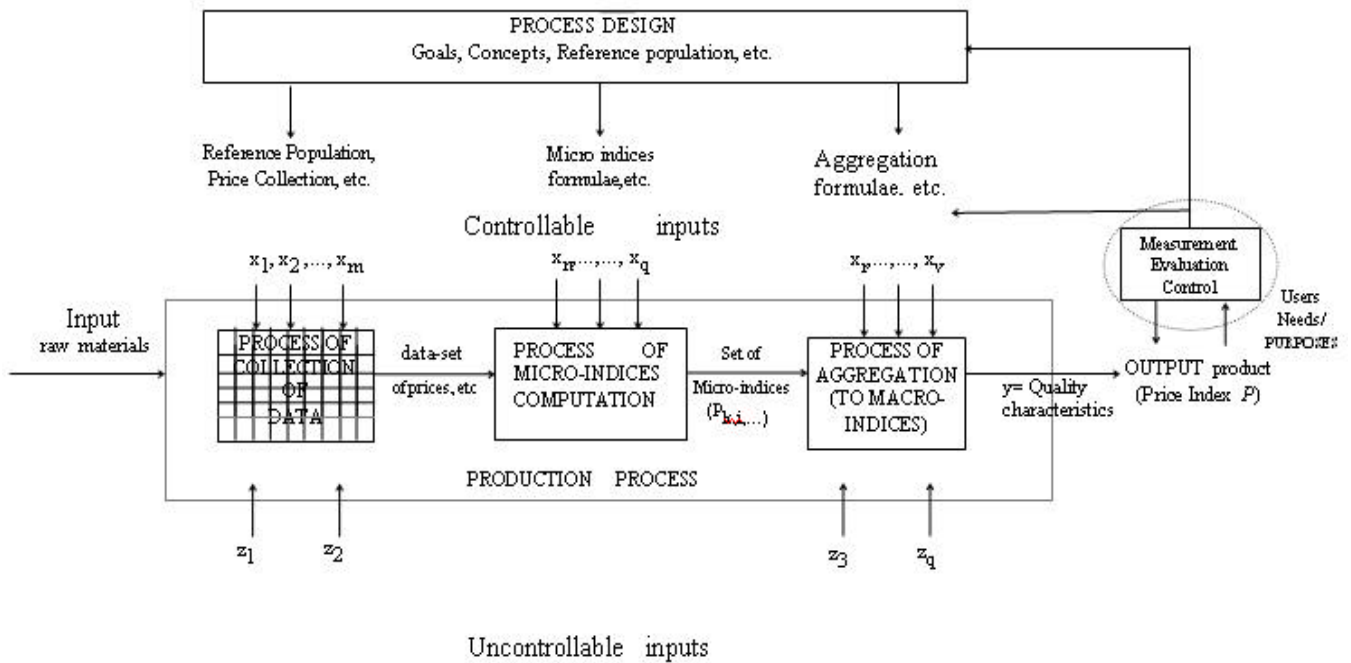
Fig.2 -A simplified production process for the definition of the survey design and program and their evaluation
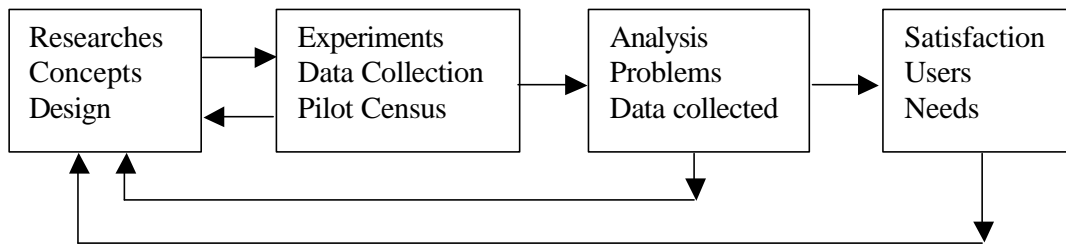
Systematic Research-Evaluation as an Iterative Process Cycle