

**STATISTICAL COMMISSION and  
ECONOMIC COMMISSION FOR EUROPE**

**CONFERENCE OF EUROPEAN STATISTICIANS**

**ENGLISH ONLY**

Work Session on Statistical Output for  
Dissemination to Information Media  
(Perugia, Italy, 25-27 May 1999)

**WORKING PAPER No. 6**

**“STATISTICAL LITERACY – A KIND OF NUMERACY?”**

Paper submitted by the Hungarian Central Statistical Office<sup>1</sup>

“Information is expensive – but lack of it is much more expensive.”

Yves Franchet, head of Eurostat

The Hungarian Central Statistical Office would like to take the initiative in the compilation of three possible manuals for the general public through the joint efforts of the Conference of European Statisticians. There are a great number of statistical recommendations in the field of applied methodology but, outside schools and offices, there is an obvious lack of devices serving the occasional needs of journalists and the public. The creation of some sort of “text-book” with an internationally determined content may promote a better reception of statistical figures and statistical terms. This project requires only a modest task-force consisting of statisticians, journalists, film-producers and experts in computer techniques.

The promotion of statistical literacy may be considered as a multi-level task as the interpretation of data will be a very different for initiated statisticians, for experts analysing the data, and for the general public respectively. Promotion of this sort of literacy has more to do with the explanation of basic terms, definitions and boundary-making than with the mysteries of mathematical calculus.

Moreover, after dissemination of the statistical figures, presumably only a few people from the official statistical services know about the fate of the data (feedback is fragmented). The output is not necessarily accompanied by metadata information. In Hungary, for instance, press releases have for years included a short methodological glossary in their appendices, but journalists read them only after being requested to do so. If essential information on applied statistical terms is not offered there is a danger that the use and interpretation of the data will not be optimal.

---

<sup>1</sup> Paper prepared by László Holka.

If the production of statistical information is expensive, then its lack is far more expensive and could also be a loss. To understand what statistics can offer, even the general public “should have at least a nodding acquaintance with statistical procedures”.<sup>2</sup>

An old definition of statistics is that they are an “illustration of the conditions and  
<sup>3</sup> It would be an achievement to elaborate an illustration of this kind by means of a film; to be able to depict the way in which the units of observation are transformed from raw data into tables, from rows in tables into characteristics of frequency, from tables into graphs – right through to the production of indices. Bearing this in mind, one can visualise three such educational manuals for the general public, all of them concise and consisting of several sections, chapters or episodes, logically interlinked, emphasising mainly terms (not figures) used in statistics and demonstrating the descriptive branch of statistics.

The first ‘manual’ could be a film with “x” number of episodes. Every episode would require a story in order to avoid the description becoming boring. Historical examples are gratifying, visual illustration needs experts. Content may include, for instance:

- scenes of family life (to reveal how households keep a budget, make purchases and maintain accounts - leading to household surveys and hinting at vital statistics);
- price registration on markets, shops, barbers, etc. (to illustrate the composition of the CPI);
- farm scenes (with animal husbandry, eggs, harvests, etc. – to emphasise the importance of agricultural censuses);
- manufacturing (with the same aim plus the importance of accumulation of stocks) to demonstrate the way economic information systems work;
- scene in a travel bureau: a clerk arguing with passengers, all going to different destinations (composition of tables, establishing frequencies);
- etc.

A more numerical educational textbook for the general public could be compiled both for computer-users and for Internet-users and would be more slanted towards the explanatory branch of statistics. In this case, it would be necessary to create a step-by-step program permitting the user to continue only after having resolved previous exercises. All of these examples would be accompanied by glossaries on terms used. One possible approach for the whole programme is the use of questionnaires in a play form: this offers the opportunity to demonstrate how statistical data is collected and also what caution needs to be taken. The

---

<sup>2</sup> Webster, Allen: Applied Statistics for Business and Economics. Irwin, Homewood. Boston, 1996. 996 pp.

<sup>3</sup> Schumpeter, J.A.: History of Economic Analysis. George Allen and Unwin. London, 1954. 210 pp.

majority of mathematical formulae are available in various software formats, so presumably their use would not alienate potential “customers” of the textbooks.

Today, the growing amount of information creates unforeseen problems for everyone. To find the path to the required data necessitates road-signs, which would be represented by the complementary information in the manuals necessary to understand the statistical data. Therefore, promoting statistical literacy could imply an introduction to numeracy. The realization of this proposal requires, of course, a feasibility study as well as some academic discussion of the concept. This is why no details are put forward here.