

**UNITED NATIONS STATISTICAL COMMISSION and
ECONOMIC COMMISSION FOR EUROPE
CONFERENCE OF EUROPEAN STATISTICIANS**

UNECE Work Session on Statistical Dissemination and Communication
(12-14 September 2006, Washington D.C., United States of America)

Topic (ii) Statistical literacy

DEVELOPING STATISTICAL LITERACY IN THE CASE OF MACEDONIA

Supporting Paper

Submitted by State Statistical Office of Macedonia, Republic of Macedonia¹

I. INTRODUCTION

1. In our modern, knowledge-based society and economy, the population is confronted with figures on a daily basis. Modern technology gives easy access to a huge amount of data, and data are everywhere. In these circumstances, data providers should change their approach of how to make real data accessible to users. It is important that citizens are able to take these ever-present data, understand what is being presented, and use them appropriately for real life, decision-making applications.

2. Modern technology makes new challenges for statistical offices: there is a need to disseminate our statistics in various forms and communicate at many different levels with our users. It seems that in order to make statistics easier to understand and use, it is of primary importance to educate users on how to use statistics, and secondly, to make statistical services easy to access and understand.

3. The process of transition of Macedonian economy and society was reflected in the statistical system of the State. The State Statistical Office of Macedonia (SSOM), as the main actor in statistics, was involved in this process in two mainstreams: (1) statistics should record, by relevant statistical methods, changes in Macedonian economy; and (2) national statistics should be transformed and adjusted to statistics in market societies. In order to achieve the first objective, SSOM emphasized transformation of its production process, including study and application of new methodologies. The second priority was the work on data dissemination and educating the public on statistics.

4. This paper describes the activities completed so far, our achievements and the challenges for the educational activities of the SSOM, to achieve a wide use of statistics and educating public about statistics.

II. STATISTICAL LITERACY ACTIONS

A. User orientation as the first step for building statistical literacy

5. The State Statistical Office of Macedonia, in 1999, adopted the its first Dissemination Strategy for the period 2000-2005. As stated in this strategy, user oriented production of statistics and communication with data users was the focus. In order to develop user-oriented statistics, the first step was to produce statistics that are easy to understand. The starting point was:

¹ Prepared by Mrs. Mira Todorova (mira.todorova@stat.gov.mk).

- Improving the layout and content of tables (to be easy to understand) in all cross-subject statistical publications
- Unique approach (as template), and short explanations to statisticians, for writing the methodological explanations in publications
- Starting activities on design and application of statistical terminology in Macedonian language in CODED 2000
- Co-operation with the educational sector

6. The main characteristic of statistical publications was very long tables, each detailing many economic or social characteristics, a feature making them difficult to understand by non-statistical users. Therefore, the process for redesign of statistical tables was started. The people in our dissemination sector started this process with cross-subject statistical publications (like our Statistical yearbook), explaining the idea for redesign of tables to statisticians and drafting templates for new tables. In the first two years we had difficulty convincing some statisticians about the need to redesign the tables, but this process has proved its worth and nowadays some of the statisticians ask us for ideas to improve the tables in their subject-matter publications. Their main reason for accepting this idea after some time was the decrease in questions by dissemination staff or users.

7. Encouraged by these positive results, a new conceptual and editing layout for our News Releases was defined at the beginning of this 2006. Due to some human resources constraints, the implementation of this idea is postponed until 2007. The main improvement in conceptual design of this edition is changing writing style from pure presentations of facts with short textual explanations, to storytelling about the relevant subject and statistical interpretation of data.

B. Unique approach in presenting methodological explanations

8. The next step in this work to improve the usability of statistical publications was the work on wording for methodological explanations. The SSOM, like other statistical institutions, included in all publications a set of methodological explanations linked to the subject of the publication. When we checked the methodological explanations in our publications, we noticed a large difference in presentation of methodology. Different writing styles were noted, and the choice of different aspects of methodology to be explained across different publications. Therefore, the employees in the dissemination sector, in co-operation with methodological experts, drafted the template for writing methodological explanations, providing guidelines and examples on how to write them. This was successfully implemented for all cross-subject publications, but was not completely followed for subject-specific publications. The main reason for this was the human factor, and different understanding by employees about the importance of this action. In the near future, the SSOM, in co-operation with Statistics Sweden (through the SIDA Fund²), will commence a project on establishing metadata in SSOM, and it is expected that the work on standard methodological explanations will be included within this project and later transmitted in data dissemination.

9. Changes in the method for presentation of methodological explanations have a positive impact on improving and understanding statistical numbers. We have an increasing number of users who not only read, but are also willing to discuss with us many specific methodological issues. Our work with journalists to read not only numbers, but also methodological explanations, had the result that many are willing to include explanations as comments in their text.

10. However, the work on dissemination of methodological explanations is not finished. This should be seen only as starting point in educating users on statistical methodology. There is also a need to expand activities to increase statistical knowledge across different user groups. The SSOM should make efforts to organise training in specific statistical areas with relevant user groups, the first priority being governmental officials.

² SIDA is the Swedish International Development Cooperation Agency. The SSOM has benefited from their development assistance in several areas.

C. CODED 2000³

11. A few years ago, within the National PHARE Project -SOP 98⁴, the work on establishing statistical terminology in the Macedonian language was started. The following topics were included in the project: labour market, external trade, national accounts, and business statistics. This activity was done using EUROSTAT's CODED Database, version 2000.

12. Staff recognised that establishing statistical terminology is a long-term process that should be done in co-operation with proofreading experts in the Macedonian language. The main problem was the difficulty in establishing statistical definitions for those characteristics that differ between departments. It was also problematic to harmonise definitions according to CODED standards. In order to partially solve this issue, we decided to use two definitions with notes for some statistical terms.

13. After finishing this project, this activity was discontinued due to some other priorities, such as the Population Census in 2002. However, this year, our proof-readers and some of our statistical experts expressed their interest to continue with this action, considering this work very useful not only for users, but also for statisticians. We are now discussing a change in the organisation of this work in order to get more acceptance from staff and to develop technical support through our Intranet. With these initiatives, we have to re-check the work done, and develop a work plan to achieve our goals, to make this terminology available to our users.

III. EDUCATION SECTOR

D. Experience in the work with students

14. The majority of students studying statistics are taking a "servicing" course in preparation for a career where statistics will be a professional tool rather than a central skill. Such students come from a wide variety of disciplines: law, economics, social sciences, etc. Most of these students are learning statistics from a theoretical view and they have a lack of practical experience in statistical explorations. For that reason, we have discussed with faculties the need to create more case studies on statistics in which the SSOM will be involved.

15. This idea has been implemented in several ways. Some students are given more topics on statistics for their seminar works, and they work and communicate with us while preparing these studies. One private university took the initiative to encourage students to have practical experience working in our office. This is a very good approach and the SSOM welcomed the placement of young students in the premises of our institution, enabling them to build on their theoretical understanding of official statistics. This should be implemented as a standard practice with other university faculties. It is clear that the process for educating students about statistics will start with teachers, and there is a need for the SSOM to invest more money and time to make official statistics more familiar to teachers as well as students.

IV. SUMMARY

16. In preparing this paper I tried to present the activities undertaken by the SSOM in recent years to improve statistical literacy. However, all of these activities are in the early phases, and there is a need for more action. When we talk about statistical literacy, we should not forget that literacy has a direct impact on the image of the statistical institution. If an institution is willing to improve its credibility in with the public, then the starting point is to invest more money on educating the public about statistics.

17. The actions undertaken in the past, and the results achieved, encourage us to continue this work with confidence that further results will be visible for some years.

³ CODED is a EUROSTAT developed tool used for statistical terminology as well as for metadata purposes.

⁴ National PHARE Project, funded by the European Union, comprised technical assistance and equipment for building institutional capacity of the SSOM.