

# Economic Statistics On-line: Course Developers' Challenges and Dilemmas

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## 1. Course on European Economic Statistics: Background Information

Development of high-quality economic statistics, based on common standards that link national statistical systems, is one of the prerogatives for efficient functioning of the European Union. Eurostat has been paying considerable efforts to appropriate training of professional statisticians in EU and CEE countries. However, the initiative of training wider (non-professional) audiences (e.g. students of business and economics, students of social sciences, government officials, researchers and analysts both in private and public sector etc.) is left to the countries themselves.

To fill in this gap, the Course on European Economic Statistics (CEES)<sup>1</sup> is being developed at the Faculty of Economics in Ljubljana/Slovenia (FE) with the help of the consortium of partners. The consortium also includes Faculty of Electrical Engineering from Ljubljana/Slovenia, Faculty of Economics and Business Administration from Sofia/Bulgaria (FEBA) and the Training of European Statisticians (TES) Institute from Luxembourg.

The CEES course should provide learners with appropriately structured information on availability and quality of the Eurostat's and national official statistical data. It should also provide them with insight into harmonisation of national statistical practices with EU regulations. Finally, learners should be taught how to explore and appropriately use databases available on Internet.

## 2. Course on European Economic Statistics: Preparation and Development

When preparing on-line study courses, course developers have to revise almost everything they know about traditional study materials preparation. They also have to familiarise themselves with potentials of hypermedia (especially with their non-linearity). It is pretty obvious that participants in an on-line study course do not have to follow a course in a set manner (e.g. from page 1 to page 2 or from chapter A to chapter B etc.) as they are obliged to do in a traditional learning process. Instead, they are free to roam around the application on their own, to explore available semantic links and already established logical relationships among different topics, to try designing their own hierarchy of studied issues etc.

The easiest and most rational approach to the on-line course development is the **course modularisation approach**, where the fundamental hierarchically built structure of a traditional course is split into topics. Each topic contains several blocks. Blocks can embody either course contents (in our case *Overview*, *European Standards* and *National Application*) or pedagogical support with guidance to additional sources of information (in our case *Objectives*, *Activities*, *Resources* and *Links*). The breakdown of the course by topics and blocks leads to a **matrix**

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**presentation of the course**, which helps course developers to create nodes and links in a consistent, transparent and meaningful way (see Figure 1).

**Figure 1: Matrix Presentation of the CEES Course**

Topics	Blocks	Objectives	Overview	European Standards	National Application	Activities	Resources	Links
<i>Introduction</i>		Html Page 1_1						Html Page 1_7
<i>Statistical Units</i>								
<i>Classifications</i>								
<i>Registers</i>								
<i>System of National Accounts – Principles</i>								
<i>System of National Accounts - Description</i>								
<i>Index Numbers - General</i>								
<i>Index Numbers - Practice</i>								
<i>Integrated Index Numbers</i>								
<i>Population and Labour Force Statistics</i>								
<i>Enterprise Statistics - Production</i>								
<i>Enterprise Statistics - Labour Input and Productivity</i>								
<i>Use of Statistics - Sources</i>								
<i>Use of Statistics - Analysis</i>		Html Page 14_1						Html Page 14_7

Each cell in the matrix represents a basic html unit. If necessary, some cells can be further divided into new html pages or can be left empty. Each html page can contain **several types of links**: explanations and cases within an html page (in the so-called “pop-up“ window); internal links (links to pages within the course) and external links (links to other web-sites). All these features are supported by corresponding navigational tools.

### 3. Teaching Economic Statistics On-line: Lessons Learned

The creation of CEES html pages with all types of links was finished at the beginning of this year.<sup>2</sup> Pilot course delivery was carried out in February and March at the University of Ljubljana/ Faculty of Economics as a part of a regular second year undergraduate study programme. The course was run in two different delivery formats: in a traditional distance education format (with about 100 students) and in a virtual classroom (with 15 students). Pilot delivery was followed by a comprehensive formative and summary evaluation based on students', tutors' and independent external experts' participation. At the moment, the results of evaluation have not yet been fully analysed. Nevertheless, some interesting observations can be pointed out:

- Students were very motivated to embark on a new way of study, but their insufficient skills for independent study and use of modern information technology forced them to rely heavily on the pedagogical support; consequently, teacher-student interaction by various communication means was improved, but teachers' workload also increased.
- Development of an on-line study course is not a finite action, which is terminated by instalment of the course on Internet. The Internet dynamism itself requires its continuous upgrading and updating. However, the rigidity of a traditional university heavily jeopardises these newly emerged tendencies and needs for flexibility.
- On-line learning makes life-long learning easier and more feasible. The concept of a life-long learning is of a special importance for statisticians and users of statistics because of constant changes and updates of professional knowledge and expertise, induced mainly by permanent technological progress and harmonisation processes in the field of official statistics.

<sup>2</sup> The present outcomes of the project are a printed textbook, an on-line course with about 400 html pages and a CD-ROM course version, all of them in English and Slovene language.