

STATISTICAL COMMISSION and
ECONOMIC COMMISSION FOR EUROPE

STATISTICAL OFFICE OF THE
EUROPEAN COMMUNITIES (EUROSTAT)

CONFERENCE OF EUROPEAN STATISTICIANS

Joint ECE-EUROSTAT work session
on Population and Housing Censuses¹
(Dublin, Ireland, 9-11 November 1998)

Study topic 2

IMPS CROSSTAB AND MAP VIEWER FOR DATA DISSEMINATION

Supporting paper submitted by the U.S. Bureau of the Census²

Summary

1. The International Programs Center (IPC), of the U.S. Bureau of the Census, has developed new tools for data dissemination and presentation. The tools, called CrossTab and Map Viewer, are the latest modules of the Integrated Microcomputer Processing System (IMPS), a software package for census and survey data processing used in over 100 countries throughout the world.

2. CrossTab allows users to make quick tabulations of microdata, while MapViewer provides a way to generate simple thematic maps on demand. The two modules work together, so that a user may first tabulate data, then with two mouse clicks, produce a thematic map. IPC distributes CrossTab and Map Viewer at no cost, as is the case with all IMPS modules.

3. CrossTab and Map Viewer both run under Windows 95/98/NT on PCs. While they are somewhat limited in their capabilities, they are extremely easy to use. Their simple user interfaces make them ideal for users of all skill levels. Like the other IMPS modules, they were designed primarily for use at statistical offices in developing countries. Statisticians with no formal programming skills, and minimal training, can quickly learn to use these tools to create simple but effective data dissemination products. These

1 The papers which are prepared for this work session will be treated in the same manner, as papers that are prepared for seminars.

2 Prepared by Glenn Ferri.

generated products are extremely easy for end-users to master. Statistical offices can also use CrossTab and Map Viewer to generate tables and thematic maps for their printed publications.

4. The U.S. Bureau of the Census has included CrossTab on several CD-ROM data dissemination products. These include the 1990 Census Public Use Microdata, and various iterations of the Current Population Survey.

5. CrossTab offers an exciting alternative to viewing static tables which are traditionally produced in statistical publications. Users can interact with the data to create tables of their own. CrossTab operates on ASCII data files, which can contain different record types with variable record lengths.

It can produce multiple tables in one pass through the data as well as tabulate multiple data files simultaneously. CrossTab can process data files of unlimited size and executes very quickly.

6. One can cross-tabulate up to four variables; two in the row dimension and two in the column dimension. The variables can come from different record types. One can tabulate a particular value (for example, number of children born), or produce simple counts, as in an Age by Sex table. Percents by row, column or grand total can be automatically generated. Tables can be weighted or unweighted. Tables can be produced at various geographic levels by way of special area processing. All or any part of a table can be printed or copied and pasted to a spreadsheet or word processor.

7. Map Viewer is an ideal tool for creating thematic maps. It is not intended to be a full-blown GIS product. A typical Map Viewer application contains a country, region or world map, with a hierarchy of geography, and a collection of related variables to display. A user may compare two variables with calculations such as percent change, ratio, percent and difference, and map the result. One can "drill" down to lower levels of geography, or simply choose the geographic unit from a hierarchy tree. One can customize a thematic map by specifying such legend attributes as the number of intervals, the boundaries for each interval (including "equal cases" and "equal distribution"), the color for each interval (several color combinations are provided), and legend text and fonts. Thematic maps can be copied and pasted into a word processor, slide presentation or other software package

8. One can use CrossTab to generate thematic maps. To do so, a user first creates a table in CrossTab using area processing. The user then highlights a particular table cell and clicks the map button to see the corresponding data point for each area in the form of a Map Viewer thematic map.

9. It is not difficult to create data dissemination products using these tools. CrossTab only requires the data set itself, along with an IMPS Data Dictionary to describe the data file. IMPS provides a user friendly tool to quickly and easily make the data dictionary once the data file format is known. Map Viewer requires the map file, containing polygons and geographic codes, and a map data file, containing the data points themselves. The map file need only be created once for a given country or region. IPC has

produced a collection of map files for various countries, which are available on the World Wide Web. IPC also has utilities to convert ESRI shape files into Map Viewer format. The map data files can easily be created from summary data using standard spreadsheet packages, independently of CrossTab.

10. CrossTab and MapViewer are available at no cost from the IPC office and on the World Wide Web at "<http://www.census.gov/ipc/www/imps.html>".