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The statistical study of the Society and Economy of Spain, Complutense University of Madrid as a heavy user of surveys from the National Institute of Statistics of Spain

Topic 5 – Who uses statistics, what do they need and how should we engage with them?

Keywords: Official Statistics, Social Sciences, Survey and methodology.

Introduction

Complutense University of Madrid is one of the largest universities in Europe with about six thousand teachers and around eighty thousand students. In its 26 faculties, students can study artistic disciplines, humanities, experimental sciences, health sciences, social sciences and law, and several branches of engineering. For decades teachers and students from all the faculties have been intensive users of the studies and surveys conducted by the National Statistics Institute of Spain, particularly within social sciences.

These surveys have been the basis for a number of investigations in areas such as sociology, statistics, mathematics, economics, etc. Similarly, surveys and studies conducted by the National Statistics Institute of Spain have become a reference for Spanish academics, who evaluate them in order to improve their quality and usability. Complutense University and the National Statistics Institute in Spain are seriously compromised with the formation of future official statisticians, and also with the improvement of social statistical skills, deeply needed in modern Society.

Methods / Problem statement

Key issues in modern Society are the improvement of social statistical skills, implying education at basic levels, but also the formation of statistical technicians, in particular official statisticians ready to face recent statistical paradigms. This aim requires a close collaboration between universities and national institutes of Statistics. For example, a large number of students from Complutense University of Madrid are every year being able to carry undergraduate and graduate internship at the National Institute of Statistics of Spain. Similarly, many statisticians from the National Statistics Institute of Spain teach on different subjects in several the faculties at Complutense University of Madrid.

Moreover, the National Statistics Institute of Spain and the Complutense University have recently stressed links with the creation of the Master in Official Statistics and Social and Economic Indicators. This master's degree focuses on training students who wish to work in the context of official statistics or related fields (National Institute of Statistics, EuroStat and public or private institutions for which official statistics is a central resource). It is a curriculum that is part of the network of European Masters in Official Statistics (EMOS) and that, given its interdisciplinary nature, is aimed at students, professionals or researchers on statistics, mathematics or social sciences.

Results / Proposed solution

This joint collaboration between Complutense University and the National Statistics Institute of Spain is stressing specific fields of interests. Among these strategic issues we can refer to:

- i) Application of econometrics, social and demographic models.
- ii) Multivariate analysis applications on social issues.
- iii) Evaluation methodology, mixed methods of administrative records and surveys.
- iv) New empirical methods based on data mining or big data.

The aim of this paper is twofold. First, we aim to provide an overview of the relationship between Complutense University of Madrid and the National Institute of Statistics. In this regard, it seeks to show how Complutense University of Madrid has become one of the most important stakeholders of the National Institute of Statistics of Spain.

We will show how, in institutional terms, both organizations have created a broad set of relationships, agreements and activities, some of them at basic educational levels. Second, we show a number of empirical studies conducted by researchers at Complutense University of Madrid, based upon data provided by the National Statistics Institute of Spain. These studies are part of the above priority lines of cooperation and cover social sciences, statistics and mathematics. The social impact and perception of official statistics are also declared objectives of study.

Conclusions

One of the most important issues in the field of sociology in Spain is the development of the Information Society. Several research groups at Complutense University of Madrid have systematically used the survey on equipment and use of information and communications technology in households conducted by the National Statistics Institute of Spain.

Specifically, analyzed through path analysis models and logistic regression, which sociodemographic, socioeconomic and attitudinal variables allow us to explain the use of Internet in Spain. Thanks to those statistical methods, researchers from Complutense University of Madrid have been studying other issues linked with the use of the Internet as digital skills and e-administration, for example.

Two particular illustrative studies conducted by researchers at Complutense University of Madrid are presented in this work, both in the field of Economy. The first one has been developed using data from the survey on the Consumer Price Index for Spain and Europe, and some issues related to reducing inflation in the euro zone were analyzed. The second study focuses on Economically Active Population Survey, analyzing the evolution of unemployment in Spain. We also refer to other examples of research conducted at the Faculties of Mathematics and Statistics at Complutense University of Madrid, focused on different technical and methodological issues.