

METHODOLOGICAL BASIS OF THE APPLICATION OF ECONOMETRICS FOR DECISION-MAKING

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Modern technology provides the ability to quickly process any amount of data. To do this you need not only a computer and software, but you need a specialist with knowledge of the possibilities, limitations and requirements for statistical analysis. The results of applying any procedure of statistical analysis will be reliable only if the necessary conditions for its application are observed. A student's isolation from practical statistics can be overcome if he is given the opportunity to collect data independently, process them by all the given methods, draw conclusions and compare with his own empirical conclusions. Using the data of official statistics, the student will be inclined to draw conclusions based on "book", not his own experience. In the case of a lack of data, conclusions that contradict the expected result will create the conviction that such work is unnecessary.

Therefore, it is invited to introduce the practice of data survey processing conducted by students in their own environment, and the application of various methods of econometric analysis. In addition, the experience of such work will make it possible to apply it in the process of working at an enterprise, in studying, for example, questions of consumer preferences for the products.

Since primary data often have a non-numerical character in conducting surveys, the main methods of econometric analysis invited for use are: rank, binary and partial correlation. These methods are fairly simple and easy to implement in Excel.

The advantage of the rank correlation method is that it is applicable to any quantitatively measured or ranked data and allows to determine the strength and direction of the correlation relationship between two characteristics or two attribute hierarchies.

To calculate the rank correlation you need to have two rows of numbers that can be ranked. The gradations of the investigated data are as follows.

1. Two attributes measured in the same group of variables (for example, the average mark of a student in a semester and the amount of time that he spends on his physical training, henceforth this data will be called "study-sport").

2. Two group hierarchies of characteristics (for example, the correspondence of the "study-sport" data) made by one student group to the election of another one).

3. Individual and group hierarchies of characteristics (for example, a comparison of the individual hierarchy of the student's life values on the issue of "study-sport", the group's opinion on the same issue).

In this case, the main limitation of the method of rank correlation: the availability of a selection of at least 5 and no more than 40 respondents does not complicate but rather simplifies the process of collecting information.

The data "study-sport" can be viewed in a binary scale, grading the data for, for example, "average score above / below 7.5" and "does sports / doesn't do sports". And if in the given example the indicator "study" has a simple and unambiguous numerical characteristic, then the difficulties with determining the hours of doing sports are eliminated. Next the conjugacy tables are constructed and the r-Pearson criterion is processed.

However when using the binary correlation method it should be taken into account that the use of the ϕ -coefficient is substantially limited. The greater the asymmetry of the distribution of 0 and 1 for each variable the less accurately the ϕ -coefficient reflects the relationship between the binary variables. Therefore, the application of the ϕ -coefficient requires approximate equality of the number 0 and 1 for each variable.

Very often, two variables correlate with each other only because they both change in accordance with a third variable. In fact the relationship between the corresponding properties is absent, but manifests itself in a statistical relationship under the influence of a common cause.

For the numerical determination of the degree of interrelation of two variables, with the exception of the influence of the third, the methodology of private correlation is used. Expanding the example used, one can examine the relationship between academic performance, time for physical training, and time for studying.

Comparing the results of research on these methods will the studying skills to use them. And the questions that the student asks himself in the course of the work will mark the way to more complex, specifically oriented topics.

The research done will give the following opportunities.

1. Preparation of a student for the use of methods of econometric analysis.

2. Providing the skills of mastering both Excel functions and building his/her own simple macros, the methodology for creating comfortable working conditions in Excel.

3. Skills for compiling accurately and specifically constructed questions for future professional work.

4. Teaching skills to compare and analyze the methods used in the study.

5. It will enable students to compare his/her own life values with the values of the group.

6. And if you use the data of the above example or similar questions, it may be an additional confirmation of importance healthy lifestyle.

The modern graduate is entering a large and complex world, where besides academic knowledge he will require health, initiative, communication skills and perfect computer skills, and our goal is to provide comprehensive training.

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ИСПОЛЬЗОВАНИЕ ИННОВАЦИОННОГО МЕНЕДЖМЕНТА В КАЧЕСТВЕ ЭФФЕКТИВНОГО ИНСТРУМЕНТА УПРАВЛЕНИЯ ОРГАНИЗАЦИЕЙ

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