

სემცია ვ. ეკონომიკური პროცესების მოღელრიბვა და მესპერიმენტული ეკონომიკა

EXPERIMENT IN ECONOMIC ANALYSIS: EXPERIENCE VS SCEPTICISM

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“Widely known beliefs can be wrong, but the experiments made gradually unable false beliefs be changed”
Vernon Lomax Smith, 2017
(from the lecture in V.N. Karazin Kharkiv National University, 29/05/2017)

Economics has been considered as a non-experimental science for a long time. After Vernon Smith was awarded the Nobel Prize in Economic Science in 2002 for implementing laboratory experiments as a tool of economic analysis, experimental economics was generally recognized as a new methodology of economic science and now it is very popular all over the world. Unfortunately, this successful methodology has not been yet spread in Ukraine as well as in other countries of the former USSR. The reasons of this situation are discussed in the paper as well as the outcomes of the first experiments conducted in Ukraine.

INTRODUCTION

As it is known, the term “experiment” (experimentum [Lat.]) has two main meanings. In the common meaning this word means to do something new, try something in order to discover what it is. In a scientific world this term is also used as “laboratory experiment” that means reproducing a real phenomenon artificially in order to study or test it.

For a long time Economics has been considered as a science which can not use laboratory experiments. The lack of an experimental component in the methodology of economic research stimulated the discussion about ways of testing assumptions and conclusions of economic science and, moreover, it also raised the question whether economics can be considered a science. “Economists are sometimes confronted with the charge that their discipline is not a science. Human behavior, it is said, cannot be analyzed with the same objectivity as the behaviour of atoms

and molecules. Value judgements, philosophical preconceptions, and ideological biases must interfere with the attempt to derive conclusions that are independent of the particular economist espousing them. Moreover, there is no laboratory in which economists can test their hypotheses.” (Encyclopaedia Britannica 1991, p. 395, cited by (Davis, Holt, 1993).

At the same time the term “experiment” has been accepted by economists in its common meaning for a long time. According to this one implementing any economic policy can be considered as experimenting. However, an experiment, as a scientific test, wasn’t so important tool in economic researches. After Vernon Smith was awarded the Nobel Prize in Economic Science in 2002 for implementing laboratory experiments as a tool of economic analysis, experimental economics was generally recognized as a new methodology of economic science and now it is very popular all over the world.

EXPERIMENTAL ECONOMICS

IN UKRAINE: TO BE OR NOT TO BE?

Unfortunately, this successful methodology has not been yet spread in Ukraine as well as in other countries of the former USSR. The reasons why this situation has occurred may be the following.

1. The skeptical attitude to laboratory experiments in economics, that is common for Ukrainian economists. As it was mentioned above, economics has been considered as a non-experimental science for a long time. This point of view is based on the opinion that conducting laboratory experiments in economics is impossible or at least very difficult due to the objective reasons concerning the subject features of economic analysis. “The use of economic experiments is very limited since it is difficult to reproduce real conditions, repeat an experiment many times, and in addition, experiments with people and enterprises can lead to negative social effects” (Raizberg B. et al, 1999).

It should be noted that similar arguments may be also relevant to experimental researches in other sciences (medicine, psychology), which use laboratory experiments as the correct method of empirical study.

2. The inertia of the scientific community and the lack of understanding the goals, reasons and the need for laboratory experiments in economics. This argument arises from the features of the economic science and planned economy development in the countries of the former USSR.

With the start of socialism the analysis of economic behaviour has dropped out of the set of actual scientific and practical problems. In the early 30-ies of the previous century, while L.L. Thurstone was conducting the first experiments on indifference curves, the grand-scale projects were being implemented as real field economic experiments on the territory of USSR.

The laboratory experiment didn't have any chances to develop: on the one hand it wasn't in demand by economic science, which didn't study such a subject as human behaviour; on the other hand, practical problems were solved with the help of experimenting in real economic life.

The economic science has been trained how to do researches without laboratory experiments, using field experiments and empirical observations. They provide the basis for originating ideas and concepts, testing hypotheses and theories.

This may be relevant also to non-soviet science, however, field experimenting has become widespread especially under socialism. Whereas in the countries with market economy it is much more strictly limited by public and economic institutions and economic reforms should be sanctioned by society.

3. Laboratory experiments are not cheap. As a rule conducting experiments requires resources, an equipped class (laboratory), computers, software. The monetary remuneration for participants is also significant.

It is be noted, the question about how monetary remuneration ensures participants' motivation and its volume influences their behaviour during an experiment is not easy and the answer to it is ambiguous. In the world practice of laboratory experiments there are examples of non-monetary remuneration of participants, moral incentives, games for "interest", etc. (Smith, 1980). Nevertheless, insufficient funding science has a negative effect especially on the implementation of new ideas and theories, which development are not promoted by numerous supporters and authorities.

While skeptics are discussing these questions, laboratory experiments has been already conducted around the world. The mentioned above facts and other arguments can explain the current situation concerning this methodology development in Ukraine as well as in other post-soviet countries, but they should be no longer an obstacle to spread the ideas and establish experimental economics in

these countries.

EXPERIMENTAL ECONOMICS: FAQ

The main skeptical questions about the necessity and reasonability of laboratory experimenting in economics can be defined as the following. What does an observation of human behaviour in simple laboratory conditions give us to understand complex phenomena in real economic life? What are the advantages of laboratory experiments comparing with empirical observations? Why need economists laboratory experiments?

The main advantages of laboratory experiments are replicability of outcomes and control of conditions. Replicability guarantees that findings can be verified independently by other scientists who reproduce the experiment. The non-experimental data obtained from observing real processes don't have such a feature due to constantly changing natural context. Control means manipulating the laboratory conditions in order to fulfil the theoretical assumptions. Thereby behaviour observed in experiments can be used to test hypotheses and policies correctly. It often is impossible to find such an economic environment that strictly matches the theory assumptions.

Vernon Smith (Smith, 1994) specified the following reasons to use laboratory experiments in economics: to test hypotheses and theories; to uncover empirical regularities; to test the behavioural implications of institutions and incentives; to uncover the structure of peoples' attitudes towards risk and uncertainty, their time preferences and their social preferences; as a pedagogical tool in education (Isaac et al., 2000).

Experimental methods are not only used within economics, but increasingly also in management, social science, political science, psychology etc. So, the experimental economics is recognized in the world as a methodology for interdisciplinary studies.

EXPERIMENTS IN KARAZIN UNIVERSITY: THE FIRST STEPS AN EXPECTATIONS

One of the popular researches, which use experimental economics methods, studies behavioral features of human cooperation. The cooperation is outside the strictly market relationships based exclusively on equivalent exchange. The interaction of people concerning public goods is a classic example of cooperation, where "free-rider" behaviour is disclosed.

Laboratory experiments which were carried out in order to identify the factors, influencing individuals' cooperation about public goods, have a sufficient history over the world (see, particularly, Ledyard, 1995, Fehr & Gintis, 2007), and the activity of such researches has been in progress since the end of the last century. The basic assumption of theories explaining phenomena of collective actions and cooperation have been tested in the laboratory.

The outcomes of well-known PG-experiments (Public good game) and the findings based on them were used as grounds for our experiments conducted in Karazin University in 2009 for the first time in Ukraine. It was the game with repeats and punishment. The instructions for this experiment were kindly provided by Mr. Benedict Herrmann (Nottingham University). In the literary sources there is no information about PG-experiments conducted by Ukrainian scientists. Our main goal was just to reproduce the experiment and verify the findings obtained abroad.

As to the expectations concerning the outcomes of our experiments, I thought they would significantly differ from those obtained abroad and the participants would demonstrate cautious behaviour and a tendency to low contributions and high penalties.

In general, the expectation of slight variability of the participants' behaviour was pretty sure. The grounds for this belief raised from certain objective circumstances: the participants represented a sufficiently homogeneous sample by a number of features (such as age, education, etc.), as well there were rather subjective notions of "post-soviet mentality" and the behavioural characteristics of "post-soviet" people.

I am pleased to note that almost all expectations have not been met, and this is encouraging. We carried out 12 experiments during 2009 – 2014 with different participants in different universities of Ukraine. Our findings have been presented in Ukraine and abroad (Merkulova, 2010, Merkulova&Bitkova, 2012).

The most impressed result of our experiments was the reproductibility of some outcomes, first of all, the average value of initial participants' contributions that is about 50% of the initial income with a very slight deviation. And it completely corresponds to the results of similar experiments conducted by foreign scientists.

Conducting the experiments we expected to obtain some quantitative characteristics of what is called as "our mentality", and usually used as an explanatory factor, when there are no other arguments. And such quantitative assessments were mined and as it is turned out they are similar to foreign experiments results.

Our first experience has made us optimistic, because it gives the reasons to believe that "our mentality" is not so bad in order to realize reforms leading to increasing our country well-being. Although we are only at the very beginning of the research and the obtained results rather raise questions than give us answers, but nevertheless if we talk

about the features of economic behaviour in Ukraine the first experiments allow us to hope that Ukraine has more in common with European developed countries, than divergence from them. Finally, the first experience inspires hope that experimental economics will no longer be a distant star for Ukrainian economic science but will be in demand as an effective methodology of economic analysis.

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