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EPISTEMOLOGY OF THE ECONOMY

Comments from Robert Nozick

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Abstract

In this paper we have presented arguments for simplicity as epistemological criterion of economic research. In particular, have been important aspects that show how the tradition of the theory, to make principle simplicity to represent many empirical data of experience or information, was one of the goals set by the fathers of the discipline: Adam Smith, John Stuart Mill, and Jeremy Bentham.

Keywords: Economy theory, epistemology, history of economy, public election, Robert Nozick.

Introduction

In 1993, the philosopher Robert Nozick (1938-2003) wrote *The Nature of Rationality* a work that has among its aims to join the developments made by the author in the field of rational preference theory. The main chapters of this book revolve around the question: What are the conditions that guide our behavior when choosing an alternative is relatively difficult? That is, since we can choose what conditions acceptable decisions. Nozick proposes elective complex aspects of behavior: how to do things with principles, decision-making value, rational belief, the evolutionary reasons, instrumental rationality and its limits. Finally, introduces considerations of rigor heuristic problems.

The general approach of Nozick on the explanation of rational behavior can be applied (with some variations) to the economic research theory:

What do scientists and philosophers when they construct theories is rational thought: made intellectual problems, they think of possible solutions to those problems, subject to test and test those solutions ... The study's approach explores how problems that come to discover and resolve fertility problems, which features characterizing a problem situation and what factors trigger and shape. The study of the solution of the problems attending to what a person does

and achieves in this problem: the pattern followed by attempts to solve the problem or to change it, the progress and pitfalls, how it seems that the product advancing or falls short of its goals¹.

Several cases occur in this observation: (1) The purpose of discipline (2) The means-end recursion (3) the pragmatics of the research process. Each of these points is in a position of importance in the global context that goes from the discovery of certain assumptions, to get specific results. Specifically, the economic explanation has disciplinary goals that correspond generally to the social sciences. However, researchers who build models to illustrate the data obtained on empirical data, make an effort to select cases that may fit mathematical or econometric models.

According to Nozick is an objective evaluative such that given any result, there is an answer to those problems, if the results meet this criterion. However, within an objective research process as evaluative criteria, depends largely on the skills of research, training, discipline and his army. Moreover, the selection of data, information and resources to explain a particular phenomenon dependent on the preparation of the researcher to cut the complexity get an understandable explanation. It is then, not just the technical preparation and rigorous formalism, but argued demonstrations². In broad terms, Nozick notes on simplicity a virtue epistemology of scientific explanation³.

In economics, if an investigation is an indefinite number of hypotheses that fit with many data requires a way to select those that must be accepted. Not enough to fit the data found some random theory, the theoretical approach proposed added that more emphasis is simplicity: you must believe in the simplest of between scenarios (which can make) to fit our data (and explain that)⁴. However, this simplicity is a mass practice in economic research heuristic.

¹ Robert Nozick, *The nature of rationality*, Princeton University Press, New Jersey, 1993.

² Stephen Toulmin, *The uses of argument*, Cambridge, England: Cambridge University Press, 1969.

³ Andrew, Schotter. *The Economic Theory of Social Institutions*, Cambridge University Press, 2008.

⁴ Two examples: (a) the Austrian theory of business cycles (b) explanations of how economic calculation is performed in the market, by Ludwig von Mises. Both theories are healthy because they manage to develop complex issues not previously explained the correlation between price changes and the rationale or what kind of work someone when you shop in the market.

It is not the case where hundreds of circulating an instrumental investigations immediately. The problem is that this simplicity is the rule in the teaching faculties of economics taught to students. And, true, there are no formulas to make sure that research projects work based on this criterion. Mathematical models have been separated from a tradition in the economic explanation that has a representative on the works of Adam Smith, J. M. Keynes, Arrow, Samuelson and Herbert Simon. These authors share an explanation of the problems of the economy from public areas, moving towards models that can explain complex phenomena from simple images.

According to the above, a reflection on the heuristic of research in economic theory is important for practical reasons as well as the methodological renewal order in the argument and the theoretical explanation of the economy⁵. The faculties of economics should prepare professionals who can meet the challenges theorists who are imposing contemporary societies. And the economist has to accept that his argument is made finally to be understood by educated person. But what is methodologically simplicity in economic research? How do you explain that from the scattered information economist can explain the arguments? What economic models of explanation in the classical tradition respond to the epistemological simplicity?

This article, as proposed by Robert Nozick, intends to develop the criterion of simplicity in economic research. This purpose contributes to build a heuristic for research projects that can serve as a framework for discussion in schools of economics. That is, the aim of this paper is the history and philosophy of economics. We deal primarily with the following aspects: (1) An elucidation of the criterion of simplicity in academic research (2) Arguments in favor of simplicity in the economic tradition since Adam Smith (3) An illustration of the model of economic explanation invisible hand type (4) Finally, it presents some conclusions.

⁵ See, Beed Clive, "Naturalized epistemology and economics", Oxford University, *Journal of Economics*, Volume: 29, 2005, Issue: 1, pp: 99-117.

The criterion of simplicity in the academic tradition

Why believe in the most straightforward when conducting a financial investigation? Our own convenience in handling recall, transfer and display the results. Why believe it? Why believe that two of similar research effort is the simplest theory which is more likely to walk on the right path? Conversely, are more persuasive is not a greater volume of indicators and theorems? What is the goal with an increase of the variables?

Suppose the chosen problem is land reform. Explain the reasons for his failure as a government project, requires the use of several scenarios. We find a range of between pecuniary nature of the earth to causes related to the military control of agents and illegal armed groups. That is, we find integrated several causes of the problem can only be interpreted by methods compared. You can not catch a single independent variable as a cause of explanation, and say that agrarian reform has not been achieved because of armed conflict is clear, the subject requires delimit, restrict, narrow the range of cognitive uncertainty. It requires a point where they can have adequate statistical data management. Not cover all sides. It begins with a problem you advance through trial and error⁶.

If simplicity in an investigation depends on the texture of the theory or the type of approach to a problem, then show the relationship between the simplicity and truth would imply the interesting task of proposing the theory chosen as relevant to the empirical domain selected: cheese, livestock, cooperatives, poultry sector, political parties, institutions, land, economy mercenary, pencils, pipelines, regional economies⁷. Significantly, we must understand what kind of theory explains best represents the more relevant or specific problems.

⁶ Karl Popper, one of the thinkers of requirements. Scientific knowledge work without some uncertainty, the assumptions are continually tested for arbitration of conjectures and refutations. See: *Conjecturas y refutaciones*, Paidós Editorial, Barcelona, 1997.

⁷ The dilemma of economic schools between applied research and theoretical research also seems irrelevant, as the radical distinction equivocal divided into two economists: mathematicians and economists. There are problems of considerable practical importance: the unfamiliarity of many students of economic history, with the theory, and trade sectors, leads quickly to adjust quickly find the wildcards. The hasty positions must yield to the modesty here. Alarming that in advanced levels of study, these students do not relate to time with specific problems, as well as libraries, journals and essays with national circulation.

The question of simplicity is not a minor issue. It is difficult to conceive of any reasonable economic explanation of why the maxim of simplicity would have contributed to the success of neoclassical theory, such as. A problem unexplored. Why close to our problems as conservative thinkers like Robert Nozick or F. A. Hayek? Say something. However, many scholars are bent on denying the importance of learning from contradictory thinkers.

Explain the greatest of simplicity and not complexity is not an easy task. A econometric model? Why consider the monetary theory that explains only one aspect of the economy, is a simple part?) In short, demand simply can not believe in economics. By contrast, we find the complexity as an ideal model of economic method. Increased complexity in the explanation is, for many theorists synonymous with "better explanation". The simplicity, however, is a merit in the explanation they give us the classics on empirical problems.

Fortiori argument that assists with leading economists is in the academic tradition in Colombia. In a posthumous tribute that featured the journal *Cuadernos de Economía* Jesús Antonio Bejarano, Salomón Kalmanovitz made the following comments:

The economist who has the ability to model its capacity can be applied to any kind of theory and if you have some degree of wisdom that you seek to deliver better results both for internal consistency, predictability and empathy ideological. It is a choice few stylized facts and understand their mutual relations ... The ability to be a problem, to perceive the relevant aspects and ranking them know, be able to make the leading hypothesis, namely to make the most relevant questions⁸.

Achieving attract scattered data, meet within a set exhibition that sheds conviction on the progress of an investigation. It's everything you need. However, the powers of the world economy seem to disperse hundreds of methodological model with systematic link between their approaches. Moreover, part of the problem of economic theory is the

⁸ Salomón Kalmanovitz, "El debate debe continuar", *Cuadernos de Economía*, 31, Bogotá, Universidad Nacional de Colombia, 1999, p.185.

multiplicity of theoretical entities struggling to impose its supremacy. It is urgent to investigate these gaps between academic knowledge and the society that sustains it.

A logical that had no direct relations with the economy, W. V. Quine (1908 - 2000) argued that natural selection offers a causal link between the simplicity subjective and aim truth. Models subjective innate simplicity makes people prefer other assumptions will be valid for the purposes of their own survival as long as promote and give to the success of the predictions. “Those who predict best are the ones most likely to survive and to reproduce the species ... and thus pass on their models innate simplicity”⁹.

In work that began on a reconstruction model of the field of visual perception from the theory of knowledge, the correlation between aspects of psychology and epistemology came to be complex to get a proper theoretical control. It was beginning, problems of perspective. Fortunately, an earlier trial of Rudolf Carnap on *Logical Construction of the World* [*Logischer Aufbau der Welt*] 1928) offered a version consistent logical interpretation of the problem sought. We use the model of Carnap, and extended their original hypotheses without weaken the basic work. After continuous hikes between problems of basic knowledge and logical theory, we could find a structure from which it was possible to read otherwise the proposed problem. That gave a partial advance valid within a standard theory of vision problem¹⁰.

This type of search in the investigation also describes the laureate in economics Daniel Kahneman to say:

A decision, a preference, or emotional reaction times are controlled by factors that may seem irrelevant. Some of those examples that were used by Herbert Simon under the name of bounded rationality, expressed obstacles to the achievement of rational choice¹¹.

⁹ W. V. Quine, *La búsqueda de la verdad*, Barcelona, Editorial Crítica, p.23.

¹⁰ Fernando Estrada G., *La estructura arquitectónica del campo visual desde el Aufbau de Rudolf Carnap, reconstrucción modelo teórica*, Universidad del Valle, Cali, 1999.

¹¹ Daniel Kanhneman, Amos Tversky, “Psicología de las preferencias”, *Revista Investigación y Ciencia*, número 66, Marzo de 1996, pp.100-106.

The criterion of simplicity in economic research

The greater bet on simplicity leads to simpler scenarios in different areas and levels of the economy, areas and levels in where thinkers like Adam Smith or John Stuart Mill, did not believe or chose. At least not, in the degree of advanced complexity of the manuals those are now used in schools. What is the reason that *Wealth of Nations* Smith or *Principles of Political Economy*, Stuart Mill, has stood the test evolutionary hypotheses about labor, capital and money?¹² O according to Quine connection is there between the simplicity subjective and objective truth in the economic explanation? Clearly, the economic discipline has achieved relatively complex theoretical developments. However, in the classical thinkers, the concern in his works was to make many complex data into understandable theory for its time.

Galbraith is the homage offered to Adam Smith to celebrate the 250th anniversary of his birth: The economic contribution of Smith to his own time can be considered in three categories: the method, system, and the council. The second, who lies outside, on the third is by far the most important¹³.

Willard Quine notes that "such models are also modified in the light of experience, even better adapted to all the sciences constantly growing over the life of the person (but such improvements are not transmitted genetically)". However, evaluating the training with the new economists, we can make sure that these conditions are present. If natural science models that scientists have simply modified to fit with the theories developed and taken for valid. In the case of economics, the practice of simplicity serves both seasoned, experts or scholars in the area, as well as those trying to understand what they can say the classical authors of the economy in the daily lives of ordinary people.

Show preference for simplicity should be, to put it in some way, a requirement of the rules and scope of any academic or research project economic. In normal science, according to Thomas S. Kuhn, between two theories, the simplest is called to respect

¹² Ben Saunders, *J. S. Mill's Conception of Utility*, *Utilitas Journal*, 22, Cambridge University Press, 2010.

¹³ John Kehnnet Galbraith, Selección y edición de Andrea D. Williams, Editorial Crítica, Barcelona, 2002, p. 159.

and keep as a variable of investigation. The question raised by Quine on what may become our best theories selectively to make reasonable explanations, and what the artifacts of our rules, it is extremely important. What accounts for an investigation into economic models? What are the economic factors relevant in sharing a border customs control without formal restrictions? The device chosen to work the data and theory, How far condition our beliefs?¹⁴

The key to the theoretical development of economic research is to raise a valid question about the justification of our beliefs, not on the causes of them. In economic research are artifacts that have high explanatory power of simplicity: the alienation of labor or commodity fetishism of Marx, the concept of social wealth of Walras, scarcity Marshall subjective and objective, the utility function of Pareto The neoclassical synthesis of Keynes. These are paradigmatic examples of well-formulated problems that can be condensed with an enormous simplifying property accumulated data, in turn, were dispersed. Notice how many variables are constructed these theories that are the foundation of higher education in the economy. Epistemological merit lay in achieving a few principles that explain a lot of information¹⁵.

The simplicity arises frequently added as a reason to help decide on the various scenarios that fit the data $D1$ available at any given time $T1$. Another way would be decided based on a greater accumulation of data. But this can not solve the real problem, because for many $D2$ facts to accumulate, and many old assumptions that remove $D2$, will be an indefinite number of hypotheses that fit with $D1 + D2$. The issue is how to cope with the same assumptions¹⁶.

Simplicity as a result is related to the simplicity as an information source for the research process. A job that introduces students to research can become a headache if the accumulated data are multiplied in many directions. Like, if you have little idea of

¹⁴ Mauricio Rubio, *Crimen e impunidad, precisiones sobre la violencia*, Tercer Mundo, CEDE, 1999.

¹⁵ See, Moulines, Carlos Ulises, 1982, *Exploraciones Metacientíficas*, Madrid, Alianza Universidad, pp. 88-107.

¹⁶ See, simple analytical method for explaining the illustration provided by Albert O. Hirschman to demonstrate how the changes occurred in economic theory underlying the concept of utility capital, from a critical exploration of theories of human passions. How were they separate the notions of usefulness and value of its most primitive passions and interest, See, *Las pasiones y los intereses, argumentos políticos a favor del capitalismo previos a su triunfo*, Ediciones Península, Barcelona.

the scope explanatory hypotheses proposed. The key is a good start; prepare to take into account the limits of the problem formulated and the relevance of theoretical artifact which is available. Once you trust the simplest hypothesis that fits the data, you can get to set up a defense of it¹⁷.

In economics beliefs are simple and natural stages of macro-object's entity ordinary media, because the ideas of these authors (Smith, Mill, Walras, Jevons, Ricardo, Marx) who fancied our certainties are complex, left no descendants among our contemporaries. Consider the theory that removal of passion from the economic field and gradually replaced by a discourse on the interest and money, how does the hypotheses on trade in this case? What factors such veiled moral conditions in financial transactions? What broke the transmutation of a human passion in the interests of the market? What about the notion of money?¹⁸

From the time that sequence checking and provisional acceptance lead to end up believing in the simplest hypothesis compatible with the data, a retrospective will find that simplicity is successful, the things that go wrong are simple. Moreover, even, for, as Quine says, our simple models tend to change culturally transmitted so they fit more snugly with what we have just given as good. This is exactly what Kuhn has in mind when he says that "Identify the leaders of the modern vocabulary of the disciplines requires access to a semantic field which includes activities with respect to dimensions such as accuracy, beauty, predictive power, generality, etc". Although one can speak on a sample of an activity using many descriptions, only those expressed in this language disciplinary allow their description as, say, science¹⁹.

In the classical theories of the economy shows a correlation between the simplicity and success of the hypothesis, a modest induction-evidently simple, but that is how we tend to think, lead us to close that the two things go together and, so, rely on simplicity. There are different ways of thinking about induction, partial information is taken on an

¹⁷ The example is Adam Smith. The place is known explanation for the erosion of feudalism in Chapter 4 of Book III, *Wealth of Nations*, entitled "How to trade in the cities contributed to the improvement of the country." With a huge property, Smith succeeds in a simple function of the complex and cumbersome system that is not satisfactorily explained the idea that the growth of wealth and reduction of power goes hand in hand.

¹⁸ Albert Hirschman, *Op. Cit.*, p. 121.

¹⁹ Thomas S. Kuhn, *El camino desde la estructura, Ensayos filosóficos 1970-1993 con una entrevista autobiográfica*, James Conant u John Haugeland (compiladores), Paidós, Barcelona, 2002.

issue, and leading to induction will compose the puzzle with the hypothesis at hand. On the way we discard information, we add another. Or we realize that the assumptions do not help us much. Data must be corrected, set derived, and again, by trial and error.

What is required to be demonstrated? The inference of hypotheses should allow the best explanation of the data. We start with the observed relationship between the simplicity and acceptance rules are usually shared by the scientific community. Then he explained the basis for proposing connections between each of them and the truth: we propose that the acceptance of hypotheses to be valid rules in economics is correlative to its truth, and the simplicity of the hypothesis is related to the truth of the same.

It begins with simplicity only as a result and just using it in the research process. When searching for simplicity work is affected in two ways: first, trying to conceive particularly simple scenario, and second, knowingly uses simplicity as a criterion for choosing between hypotheses. *Ceteris paribus*, the sequential process as a result gives the simple yet so effective.

An invisible hand explanation of type

An example is possible to extend the hypotheses on the need for a heuristic of the research process in economics. This comment illustrates the point with one of the core theoretical principles of classical economics, *the invisible hand*. A criterion that can be judged, rightly, as a principle of the classical tradition in thinkers like Adam Smith, John Stuart Mill and Jeremy Bentham²⁰.

Economists generally characterize the explanatory model of type invisible hand including person agents choose rationally (although this is not the only possible way, can also be guided irrationally). The key argument of choice is not always required to act in accordance with most expected utility. Have been proposed, such as, rules for maximizing the value of the decision, where is the weighted sum of the value expected by chance, the utility clearly expected, and symbolic utility.

²⁰ The criterion of "invisible hand" in Adam Smith remember his famous statement: "Any person ... just think about your own gain, but in this as in many other cases, led by an invisible hand to promote an end which was not in their intentions".

Robert Nozick applied this rule to the Newcomb problem and the dilemma of prisoners with original results. The novelty consisted, first, to derive the same models to explain how the invisible hand, as the result of the interaction of agents whose conduct is going to keep up this broad rule of decision. They were on the way wrong assumptions about the neoclassical theory of utility where it argued for an idealized rationality. The gradations and limits of utilitarian rationality, gave important sites relevant to the role of emotions.

Within this explanatory scheme Nozick postulates general conditions of the form:

1. The person prefers S to meet the requirements not fulfilled
2. The person prefer (ceteris paribus) the means and preconditions to fulfill the conditions S
3. The person prefers to first-order preferences are consistent with the preferences of second-order
4. The person prefers to give the necessary conditions for the preferred choice, and not put obstacles to the capacity to formulate and make a preferred choice (there are more complex conditions added)

When an individual's preferences conform to these structural conditions (and similar), we say that their preferences are reasonably consistent.

A notable development detail of the late developments of the model was able to confirm its successes in applied economics. Whereupon, by expanding the idealized conditions of rationality of expected utility, allowed to assimilate certain psychological conditions restrictive determinants of the choice, without using its original character type invisible hand. A preference is rational only if it was actually generated by a rational process that produces consistent preferences as a result.

By introducing these variants extended to the structural conditions of rational choice, Nozick was exposing more than the satisfaction of such conditions added by the same preference as the processes that human beings can indeed be used reliably to produce

consistent preferences form a restricted class, and may be impossible to generate a specific preference for any process of this kind, though in itself does not violate the structural conditions.

One line of research in this perspective has yielded a novel work of economics with significant results²¹. Assuming that people interact with restricted rational preferences. Or in the words of Herbert Simon, person who acts based on the *bounded rationality*. A consumer in the market to change your preferences or a gambler decides to change the preferred series. With the basic units of rational choice among a few person has been possible to explain the workings of the organization or some other institutions.

In the cases cited (and other) patterns of rational behavior can? According to Nozick: the theory of minimal state, or the interpretation of Thomas Hobbes's social contract, the concept of "original position" of John Rawls, the theory of collective choice and social welfare in Arrow. In all these cases, personal or collective actions and their results do not depend solely on the subjective behavior. In the cases cited (and other) patterns of rational behavior is as rigidly supported in the space being vacated by the puzzle of the acts of others, in which the shape of each one of these other pieces are similarly based thanks to the pieces around him.

Conclusions

In this article we have presented arguments for simplicity as epistemological criterion of economic research. In particular, have been important aspects that show how the tradition of the theory, to make greatest simplicity to represent many empirical data of experience or information, was one of the goals set by the fathers of the discipline: Adam Smith, John Stuart Mill, and Jeremy Bentham.

On the contrary, what prevails today in the faculties of economics of information is disorder. With mathematical models, the students believe that increased complexity is its goal. Instead, change this scheme requires the effort to advance a dialogue between teachers and students, what models simplify the explanation in economics?. Achieving

²¹ See, Juan-Camilo Cardenas, T. K. Ahn, and Elinor Ostrom, *Communication and cooperation in a common-pool resource dilemma: a field experimente*, Documentos CEDE, Universidad de los Andes, 2004.

simplicity and analytical approach is also to promote economic discipline approach to culture average people. However, the simplicity of explanation means greater rigor in expression of the processes of research. Economic theory as applied science can only be done by a severe and quantitative control model.

As noted by Robert Nozick, in their views on the functions of instrumental rationality with respect to scientific research, a top central explanation in the sciences: "reduces a difficult problem to an easier set of problems, and uses other heuristics to solve the latter".

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