ECONOMICS: SCIENCE OF HUMAN ACTION VERSUS SOCIAL PHYSICS

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Abstract: The trend toward progressive professionalization and specialization which currently characterize mainstream economics led to an increasingly fragmented and unrealistic perspective on the economic problems prevailing in society. The restoration of a comprehensive, unitary and, especially, realist perspective on human society in general and on economic affairs in special tends to remain an unattainable goal as long as the approaches in terms of natures, essences, principles and final causes of economic phenomena have been abandoned and replaced by expositions of increasingly abstract and reductionist models. The current state of economic science is not coincidentally, it is in fact the direct consequence of of the uncritical transfer of the methodology of natural sciences into the realm of social sciences.

The objective of the present paper is to summarize the main shortcomings and dangers of the uncritical transfer of the methodology of natural sciences into the realm of social sciences, (especially, economics) and to synthetically outline the two opposing perspectives regarding the nature of economics: economics as the science of human action versus economics as social physics.

Keywords: human action, social physics, finalism, teleology, scientism, methodological dualism, methodological monism

Introduction

Economics as social physics is the defining paradigm of present mainstream economics. As Philip Mirowski (1989) emphasized, the economists' practice of transferring models and concepts of physics into theory of economics can be traced back to Adam Smith, David Ricardo and other economists or social thinkers before them. Even if someone is not entirely in agreement to every aspect of Mirowsi's interpretation of the history of economic science, his main thesis is hard to be dismissed. For instance, neoclassical economists like Léon Walras or W.S. Jevons explicitly intended to use analogies and metaphors borrowed from physics in order to transform

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economics into an exact science. Léon Walras (1874), in his *Elements of Pure Economics*, emphasized that pure theory of economics is a science which resembles the physical and mathematical sciences in every respect and that economists are entitled to use the same methods as those used in physics and other natural sciences. By the second half of the nineteenth century, natural sciences' methods became the criterion of theoretical relevance for all sciences. With a few notable exceptions, social scientists eagerly adopted the methods of natural sciences in the realm of social studies, ignoring the very nature of their object of study. The opposing paradigm is outlined, among others, by several nineteenth and twentieth century Austrian economists, like Carl Menger, Ludwig von Mises and Murray N. Rothbard, who emphasized that the methods of studying human actions should be different than those used to study stones, molecules and planets that cannot choose their courses, moving in a strictly and mechanical determined manner.

In the following two section of the paper two aspects will be tackled: (1) the main shortcomings and dangers of the uncritical transfer of the methodology of natural sciences into the realm of social sciences, (especially, economics) and (2) the most significant differences between two opposing perspective on economics: economics as science of human action *versus* economics as social physics. The proposed paper is a theoretical and argumentative review, aiming to refine existing arguments, to bring new arguments, and also to discuss relevant examples and cases for the announced topic.

Scientism: the Uncritical Transfer of the Methodology of Natural Sciences into the Realm of Social Sciences

The uncritical transfer of the methodology of physical science into the study of human action is, in fact, the hallmark of positivism. The influence of positivism in philosophy of science and social sciences was conspicuously manifested from the middle of nineteenth century to the first half of twentieth century. The unprecedented development of modern natural sciences resulted in the belief that methods used in natural sciences possess some inherent virtues. It was thought that comparable success would be achieved by social sciences if similar methods were accepted and used in the study of human action. The methods used in natural sciences became the criterion of theoretical relevance in general. As E. Voegelin (1987, pp. 5-6) emphasized, outside the sphere of influence of positivism or neo positivism, the idea that different objects of study require different methods was considered an elementary truth. For instance, it is not surprising if a political scientist who tries to understand the meaning of Plato's *Republic* will not use mathematical

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methods, while a biologist who study cell structure will not use methods of classical philology and principles of hermeneutics. Also, if the purpose of the researcher is to understand the source of order in human society and its validity starting from philosophical concepts and theories, like Platonic *Agathon*, Aristotelian *Nous*, Stoic *Logos*, and Thomistic *ratio aeterna*, then metaphysical speculation and theological symbolization are the right methods of research.

The uncritical transfer of concepts and methods from physical science into the study of human action is the very basis of scientism. The danger of scientism in the study of economic phenomena was noticed and emphasized among others by representatives of Austrian school of economics.

Ludwig von Mises (2007, p. 243) explained that in economics, there are two main varieties of scientism – pan physicalism and behaviorism – both aiming to replace the teleological treatment of human action with a purely causal treatment. Both varieties of scientism decline to recognize the fact that men aim purposefully at definite ends and denies any essential difference between natural sciences – like physics or biology – and social sciences. Nevertheless, according to Mises, social events and facts can only be explained by resorting to teleological methods. Rejecting finalism in the sphere of human action means to reject the only method that works and it is appropriate in studying social phenomena. F. A. Hayek (1955, p. 16) emphasized that scientism represents a "very prejudiced approach which, before it has considered its subject, claims to know what is the most appropriate way of investigating it." M. N. Rothbard (2011, p. 3) pointed out that scientism is "the profoundly unscientific attempt to transfer uncritically the methodology of physical science to the study of human action". The key to scientism, according to M. N. Rothbard, is its denial of human conscience and will, which "takes two main forms: applying mechanical analogies from the physical sciences to individual men, and applying organismic analogies to such fictional collective wholes as «society»." (Rothbard, 2011, p. 10)

Some of the analogies from physical sciences (concepts, methods etc.) noted and criticized by Rothbard (2011, pg. 10-13) are the following:

Man as servomechanism, which means that man is conceived as merely a complex form of machine; in this case it is forgot that machines unlike human beings are devised by man to serve its purposes and cannot act differently or adopt new goals other than those established by its creator.

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Social engineering, which basically means that all aspects of social life can be planned and shaped exactly in the same manner as engineers design and build bridges or any other technological products.

Building modelsof economy and society instead of theories; while in engineering building model means to devise an exact replica in miniature maintaining the exact quantitative proportions, relationships and structures existing in the real world, in economics and models consists in concepts and equations which cannot exhaust the complexity of an economy.

Measurement and **mathematical methods**. Given the positivists' dogma that science means measurement, the idea that social sciences must use mathematical methods seemed unquestionable. But measurement is possible only if an objective extensive unit exist to serve as measure. Also, in economics the magnitudes are intensive (e.g. utility, preference, choice etc.) and therefore they are not measurable like any other extensive magnitudes. According to Rothbard (2011, p. 12), this is one of the main reason why using mathematical instruments in social sciences and philosophy represents an illegitimate transfer from physics. Moreover, mathematical relations are functional implying that variable are interdependent and entities do not provide themselves causes for their actions while in the realm of human action the cause of actions is self-generated by individuals. Therefore the mathematical concept of interdependent function is not appropriate in the sciences of man unless a deterministic and mechanist view of human action is presupposed, denying the existence of free-will. Also, Rothbard (2011, p. 13) explained why the concept of "variable" in the sphere of human action does not make sense. The idea of "variable" is intelligible if there are some identifiable constants, while in the realm of human action, the free-will precludes the existence of quantitative constants, including constant units of measurement. Furthermore, using mathematical instruments such as calculus in the sphere of human action is completely inappropriate, according to Rothbard (2011, p. 13), because of assuming "infinitely small continuity", which legitimately may describe deterministic paths and events. Instead human action can occur only in "discrete, non-infinitely-small steps", which are large enough to be perceivable by a human consciousness (2011, p. 13). M.N. Rothbard notes also that a series of concepts like "equilibrium", "elasticity", and "velocity of circulation" and "friction" are transplanted from physics and are potentially misleading.

Organismic analogies of scientism by which consciousness or other organic qualities are attributed to social wholes are contested by M. N. Rothbard (2011, pp. 14-16) because such

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analogies connote also a mechanistic and deterministic view on human action, individuals being considered merely "determined cell" of such collective organic wholes. For instance, social wholes like nations, market economy etc. are considered sometimes like entities that "choose", "react" or "act" while individuals' activities are viewed as determined by the behavior of such organic collectivities etc.

Economics: Science of Human Action *versus* Social Physics

The main insight of scientists and philosophers that reject scientism, *i.e.* the use of the methodology of physical sciences into social and human sciences is that the methodology of science must depend on the object of study and also it must be subordinated to the objectives of research. As E. Voegelin (1987, p. 4) noted, "*if the adequacy of a method is not measured by its usefulness to the purpose of science, if on the contrary the use of method is made the criterion of science – then the meaning of science as truthful account of the structure of reality as the theoretical orientation of the man in his world, and as the great instrument for the man's understanding of his own position in the universe is lost.*"

The object of study in social science is represented by human actions and human interactions. Therefore, a genuine scientific approach must take into consideration the essential characteristics of human actions and human interactions and not an abstractedly conceived social physics. Ignoring such important aspects, like free-will, human consciousness, the teleological nature of human behavior (*i.e.* the fact that man aim purposefulness at definite ends). pervert the meaning of science which basically aims to give a truthful account of reality (social and physical). Just because human action cannot be properly studied or explained using methods that proved useful in the case of natural sciences it does not prove that things like ends, means, choices, free-will or human consciousness doesn't exist or that there are no other appropriate methods of studying them. Not least, if individuals' ends and values are not properly taken into account by researchers the objects of study of social sciences would be dramatically changed. For instance, in the case of economics, if purposeful behavior of individuals is not accepted as a reality, economic science would be a purely technological discipline. Even more dramatically, if it is assumed that human choices are purely mechanical and that no weighing of alternatives and genuine decision from the part of individuals takes place, then theory of value, theory of exchange and theory of prices – which represent the core of any treatise of economics – would be more appropriately simple

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chapters in applied mathematics textbooks. The fact that economics became more and more a sub-branch of applied mathematics is not coincidentally, it is the consequence of adopting a determinist and mechanistic view on social phenomena and of rejecting the finalist approach in social sciences.

Among Austrian school economists, Carl Menger and Ludwig von Mises endorsed finalism in scholarly research. Carl Menger explains that „*the goal of scholarly research is not only the cognition, but also the understanding of phenomena. We have gained cognition of a phenomenon when we have attained a mental image of it. We understand it when we have recognized the reason for its existence and for its characteristic quality (the reason for its being and for its being as it is)*." (Menger, 1985, p. 43) Ludwig von Mises pointed out that finalism cannot be completely ruled out neither in natural sciences nor in social sciences. Mises emphasized also that the finalist approaches must be undertaken in social sciences for pragmatic reasons just as causal approach was followed in natural sciences because of its effectiveness: "*The reason for the natural sciences' neglect of final causes and their exclusive preoccupation with causality research is that this method works.*[…] *But the same pragmatic proof that can be advanced in favor of the exclusive use of causal research in the field of nature can be advanced in favor of the exclusive use of teleological methods in the field of human action. It works, while the idea of dealing with men as if they were stones or mice does not work.*" (Mises, 2007, p. 248) Also, M.N. Rothbard emphasized the importance of introspection, although behaviorists and positivists deride this kind of approach as unscientific: "*each human being knows universally from introspection that he chooses. The positivists and behaviorists may scoff at introspection all they wish, but it remains true that the introspective knowledge of a conscious man that he is conscious and act is a fact of reality*" (Rothbard, 2011, pp. 4-5)

Although economic phenomena such as exchanges, prices, profits manifest themselves empirically, their essential characteristics are intentional. For instance, every market exchange involves a teleological aspect: people exchange goods because they value more the thing to be acquired than the thing to be given in exchange. Other examples that perfectly illustrates the role of teleological contexts in defining economic concepts are: the definition of the economic good given by Menger (2007, p. 52) in *Principlesof Economics*, and Mises's definitions of human action, human cooperation, production, human society, division of labour (Mises 1998). For instance, according to Mises, human action "*is will put into operation and transformed into an*

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agency, is aiming at ends and goals, is the ego's meaningful response to stimuli and to the conditions of its environment, is a person's conscious adjustment to the state of the universe that determines his life."(Mises, 1998, p. 11) Also, according to Mises, cooperation is the result of a deliberate effort to harmonize human actions; society is, par excellence, an intellectual and spiritual phenomenon (Mises, 1998, p. 14) and production is a spiritual, intellectual and ideological phenomenon. Also, material changes are the result of changes in the spiritual world according to Mises (1998, p. 141).

Austrian school economists' thesis is that the essences of economic phenomena consist in their teleological and intentional content. Positivists deny the "scientific" character of teleological approaches. The essence of this opposition is captured also by the antithesis between methodological dualism and methodological monism. The teaching that the procedures of physics are the only scientific method of all branches of science and that the language of physics is the universal language of all branches of knowledge, without exception denotes the acceptance of methodological monism. In opposition methodological dualism implies that there are many cases when the object of study and the purposes of research require different methods and different approaches. The main arguments in favour of adopting methodological dualism are emphasized by Ludwig von Mises (2007, pp. 1-2): firstly, humans differ fundamentally from other objects in the external world and secondly as far as h it is not yet known if and how external events (physical, chemical, physiological) affect an individual's thoughts, ideas, and judgements of value, this ignorance splits the realm of knowledge into two separate fields, the realm of external events, commonly called nature, and the realm of human thought and action and forces the social scientist to adopt a dualistic approach to these two classes of phenomena.

Conclusions

The main conclusions of the present paper are that: (a) scientism denies any essential difference between natural sciences – like physics or biology – and social sciences and on this basis embrace a monistic perspective from a methodological point of view, *i.e.* the idea that the methods used in natural sciences possess some inherent virtues, being the very criterion of theoretical relevance; (b) the methods used in physical sciences are not appropriate for studying human action and social phenomena mainly because essential features like free-will, human consciousness, purposeful behavior cannot be taken into account using such methods (c)

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dogmatic adherence to methodological monism changed significantly not only the form of presentation but also the content of social science; for instance, economics became more and more a sub-branch of applied mathematics, increasingly resembling a technical science (d) the restoration of a comprehensive, unitary and, especially, realist perspective on human society in general and economic affairs in special require a shift of focus in social sciences researches from a purely causal treatment to a teleological treatment of human action and social phenomena.

The triumph of positivism in philosophy and sciences in general changed dramatically the methods and content of social sciences. Economic science slid from an essentialist and teleological perspective to a mechanistic and atomistic conception about human society and market economy. From this latter perspective, individuals are either absorbed into an abstractly conceived organic whole, or it are defined as merely functions integrated into a complex mechanism. Bringing back the banished questions and judgements about natures, essence and final causes from the corner of meaningless sentences to the centre of legitimate accepted knowledge may be the right way to overcome reductionism and lack of realism that characterize current mainstream economics, and to restore intelligibility in the treatment of economic problems both in theory and practice.

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