THE SOCIAL PHENOMENA AND THE UTILITY OF MACROECONOMIC MODELS

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Abstract

The purpose of this article is to demonstrate that the usefulness of econometric models is quite limited in the field of social sciences, particularly in economic science. From Walras to our days, the economists imagine that macroeconomic models can be built to serve as a decisional basis for economic policy. The social phenomena are characterized by complexity and continuous change. The contemporary human societies are composed by a lot of people. The direct or indirect contacts between individuals, possible by means of rapid communication, generate a complex and fluid social order. The complexity and the fluidity of social order prevents the economic system representation in the form of macroeconomic models. The main problem of such models is that they contain an excessive number of variables. The huge amount of knowledge generated by the relations between individuals cannot be structured in a systematic manner. Therefore, it can not be taken into account, modeled and introduced into macroeconomic models. They would be helpful if there were the possibility of obtaining, processing and use real-time knowledge of the entire volume generated by the social order. But this is impossible for two reasons. First, the human knowledge is manifested in time and space, it is dissipated among members of the social order. The costs of concentrate it are impossible to cover. Second, the human knowledge is essentially subjective, unspeakable and non-transferable. For these reasons, the macroeconomic models can only be an oversimplification of reality. Basically, they cannot be used to make predictions. In the best case, can help to realize qualitative predictions, but not a quantitative ones.

Key words: complexity, change, knowledge, models, predictions

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One of the most important consequences of evolution is the structure and the functioning of human brain. Unlike other creatures, man has a brain whose particular qualities make him have a unique perception of time. Gifted with a superior memory and intelligence, the individual is able to make a clear distinction between past, present and future. The others brain possessors live in a quasi-unidimensional universe of time. They quickly forget the past, retaining a vague memory of it, and, despite any arguments, almost do not perceive the future. Therefore, the largely preprogrammed brain and behavior of animals are adapted to an frozen present, despite the fact that these creatures can learn from experience and can posses a conduct adapted to future by preprogrammed or instinctive behavior. An enigmatical accident of the evolution made the human brain structure have a completely and very special form. Thus, the nerve cells are arranged so that the average distance between them is minimized, allowing a very fast communication and an extremely sofistificate networks formation. Therefore, man perceives time as a dynamic process of successive stages of development and not as a petrified photo. One of the major consequences of this human characteristic is that its actions take place in an environment perceived as a very rapid sequence of steps. In fact, the barrier between the phases (past, present and future) is so fine that we would have to say that time should not be seen as running the "pictures" but an incessant stream, as a "flow" or as a process. The analysis of social phenomena have to start from this reality of human nature. If our perception of time is a dynamic one, the researchers of the phenomena involving human individuals should take into account that the social order cannot be explained in terms of static equilibrium but using a dynamic approach (Huerta de Soto, J., 2008).

Man perceives his own actions in a fluid, moving and dynamic time. Due to the fragile barrier between the three conventional stages (past, present and future) and given that the human action has an important intentional component (because of the relative superiority of the brain), we can say that, in fact, all our actions aim the future. Taking account that the action in the past is logically impossible, that the present represents an infinitesimal fraction of our life, we may conclude that human action is directed essentially to the

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future. However, the same architecture of our brain makes the future to be appear as another sequence of steps that occur, that is, the near future and the distant future. In other words, the brain helps us to "split" that part of the time and exhibit what economic theory calls for the time preference, according to our own subjective desires.

MATERIAL AND METHOD

The human action is directed toward the future. Therefore, it depends on its expected effects. Thus, every individual decides now what to do in the next second, tomorrow or a year, waiting for a particular result from the action resulting from a judgment. Even if we admit that human actions are not fully rational, we can not deny that, as a rule, between the present decision and the effect of its implementation by the action, the two being separated in time, there is a causal relationship. The temporal separation between the decision to act and the desired effect of action forces us to take into account as far as we can, some development in the future circumstances of time and space that will have a material effect on the outcome and, therefore, on the present decision. In other words, any human man is forced to anticipate that evolution of the circumstances exercising a critical pressure on its action. The intentional human actions imply a somewhat expected result and, necessarily, need to resort to predictions. The main hypothesis of this paper is that individuals can use only the qualitative predictions. Due to the complexity of the social environment, they can not use quantitative predictions. To support this hypothesis we used an old philosophical conception, specific to the Scottish Enlightenment, that human reason is imperfect. This theory has led many thinkers to consider that the knowledge necessary to build a complex social order is dissipated and can not be concentrate. We will use this philosofical point of view and we will apply it to the realities of a sophisticated social order.

RESULTS AND DISCUSSIONS

Human action is neither perfectly rational nor fully biologically pre-programmed. As Kant says, it is placed somewhere between instinct and reason. In fact, our actions are based very little on instinct, much on the rational thinking and enormous on cultural component, habits, rules of conduct, etc. The brain reliability have allowed us to work well above the blind reactions of injected biological evolution and to establish a logical connection between intention, the means (action) and the purpose envisaged. But imperfection of this thought apparatus have induced people to resort to other means to carry out a personal plan. The need to use these additional but important tools is due to an obvious fact: the individuals live and work in a more and more sophisticated social order.

The population growth and the inconvenience of autarkic life have forced the humans and the small groups to unite in an increasingly sophisticated social order. The increasing degree of complexity of the social environment have imposed that human action take into account more and more social circumstances. The action plan made by a isolated man only depends on the circumstances of natural environment. Robinson Crusoe's decision to go fishing will be influenced by weather, the presence of sharks, ie the elements of nature. If he decides to fish tommorow, he must anticipate the particular circumstances of time and space that is generated by nature. Despite its indisputable advantages, the social life complicates the circumstances of time and space of human action because it combines the natural enviroment and social order which consists in other individuals acting. Robinson Crusoe act and re-act solely in a natural environment, even if the ability to predict, for example, weather complicates his existence. A social man is immersed in a natural and social environment at the same time. Therefore, he must simultaneously adapt to its circumstances because the cohabitation makes others to exercise a major influence on his own actions. This environment is becoming more sophisticated as it includes an increasing number of individuals living in an inherent interdependence. The social coagulation and the uninterrupted actions of the individuals lead to the creation of a mottled and fluid social order, whose temporal and spatial circumstances can not be aggregated and made fully understandable by any human mind immersed in it or some hypothetical "observer" of them. Therefore, each member of an sophisticated social order act and re-act (ie, adjust in time and space their course of action) in relation to the actions and re-actions of all other people, assembled minimal, spontaneous and non- intentional. Any person of this complicated social warp acts taking into account his own purposes, the available means, the effect exerted by his own action on others and the influence of all the other actions incomprehensible coagulated in a dynamic social structure.

In these conditions, the individual ability to predict the arrangement in space and time of the circumstances with a great impact on personal life is vital. Unlike Robinson Crusoe, the individual of a complex social order must take into account a multitude of circumstances in a constantly change when designs your own plan of action. An individual who wants to buy a home through a

twenty years mortgage loan must take account the changes in interest rates, the changes in labor market, the wage growth and many countless other factors that are not under his own control. For example, the long-term interest rate depends on time preference of members of all social order, a subjective, changeable preference. In addition, in the short run, it can be influenced by the monetary policy interventions, the other economic policies that encourage or discourage saving, the occurrence of any drug that prolongs life etc. All these circumstances that have an influence on the interest rate are impossible to control by the man who goes to the bank for a mortgage loan since the huge number of individuals composing the social proximity and their interaction generate a volume of knowledge impossible to know an predict in detail or accurately. In fact, the social man action is getting more complicated because the huge number of their fellows, by their actions and interactions, and by the huge amount of spatial and temporal circumstances generated by the mutual personal adjustments. Each individual continuosly readapt his personal action plan to the specific reactions of the environment in which it runs. All individuals adjust their personal decisions and plans taking into account the reactions of all other people, but not in sense that they would know the details but the elements of synthesis seen in the social environment. (For example, the dynamic system of relative prices summarize with some precision what happens in the economic field; even if it is the only reliable tool for working in this field, it is only an imperfect tool).

The actions and the interactions, the adjustments needed to incorporate expectations in the personal decisions generate a changing social structure, in fact, an moving, dynamic, sophisticated order, impossible to be analyzed from quantitative point of view and imposible to be consciously organized. Therefore, the social science ca hardly make quantitative predictions. It seems downright surprising, but people can accurately calculate in minutes and seconds the time of sunrise, the next eclipse of the moon, but cannot accurately predict exchange rate of a currency. The explanation lies in the complexity degree of this type of phenomenon. Even if individuals can not exert any influence on the two celestial bodies, they can predict its trajectory because the simpliplicity of phenomena, a simplicity produced by repetitive moving.A researcher can accurately predict that on September 3, 2081, ie at a distance of at least seven decades, Sun, Moon and Earth will reach a precise arrangement between them so that a certain area of Romania will enter in the dark in broad daylight. Due to the relatively simple relationship between the three components of the universe and relatively stable relations between them, the researchers can calculate with precision the particular arrangement of time and space will lead to a such event. In other words, the existence of relatively stable relationships, the regularity of "behavior" and the interaction of the only three elements allows for quantitative predictions. Natural sciences enjoy the privilege of quantitative prediction because the relative simplicity of the studied phenomena, because the existence of somewhat stable relationship in phenomena analyzed and because the possibilities of observation and experimentation. Moreover, all these circumstances can lead to prediction using mathematical laws or formulas that allow high precision prediction of expected effects. Astronomy, physics and chemistry have reached excellent results in this respect precisely because treating such phenomena and, therefore, resorting to such methods of quantification, measurement and prediction.

The individual can accurately predict a solar eclipse, a phenomenon beyond their will, but they were not able to anticipate, at least with a reasonable margin of error, the start of the current economic crisis (2007 to present). To be more precise, we must say that the onset of the Great Depression of the `30 has not been predicted accurately, ie, in quantitative terms. Moreover, two of the leading economists of the time, John Maynard Keynes and Irving Fisher, the first of these being in love with mathematics and an author of a treaty of probabilities, the second, an scientist passionate of the stable relations between macroeconomic aggregates, were convinced, shortly before triggering one of the major economic crisis in human history, that the boom of the `20 will go on forever.

The fact that the Great Depression of the `30 and the recent crisis started by a massive slump of the stock prices, unanticipated even in terms of days, is the supreme proof that the economists claim to use predictions quantitative is a mere arrogance. With very few exceptions, the most important economists of mankind failed to gather wealth even if they declare that their fundamental concerns are "the nature and causes enrichment of nations". Although the most attractive place for the acquisition of wealth remains the stock exchange, there are not known economists or mathematicians considerable enriched by anticipating accurately the stock indices. Of course, there are exceptions. Keynes may be one of them, but we must consider that he won and lost on the stock market, that lost money through casinos and that much of his wealth

was acquired by the privileged position that he held in British administration. Obviously, the stock market can gather impressive wealth but the number who have relied on earnings resorting to quantitative predictions is very small. Even in their case, we suspect that the chance was the main factor.

In the social processes, the quantitative predictions would be possible only when we would have the possibility to take possession of all knowledge generated by the incessantly interaction between the members of social order, suposing that we would posses a tool to aggregate it in order to obtain specific results materialized in circumstances of time and space, after processing it. But this is simply impossible. The first barrier is that we are dealing with knowledge dispersed among the many members of the social order, which may content millions or even billions of people in the open societies. There is and probably there will never be a way of transmitting information from each one to a center capable of processing this knowledge and a logical structure in a way that information can be logical interpretation and therefore have some utility. Secondly, if we assume that the transfer of individuals to the center which collects, stores and processes the huge amount of knowledge would be possible from technological point of view, it appears an insurmountable barrier: the human knowledge is a subjective, non-articulated, unspeakable, ie, logically impossible for "packaging" and "delivered". Many human actions are based on a knowledge that we can not formalize, clarify, or rationally understand (Polanyi, M., 1966; and Polanyi, M., 1958). Therefore, it becomes obvious that nobody can send to a processing center such kind of knowledge. Assuming, however, that fact is possible, there is another critical issue. The information gathered is a picture of the social order at a defined moment but time is a stream that forces the processor to capture the knowledge every moment, every minute to process and distribute it at once. But this is really impossible because, rdespite of technological development, nobody can do that. This inability to capture, process and organize konwledge in a logical manner impede the quantitative prediction in social processes characterized by dynamism and relative ignorance of each participant.

The arguments in favor of quantitative prediction in social processes are based on the use of econometric models, mathematics and statistics. Unfortunately, the ability of these tools are extremely limited. For example, the econometric models use variables arranged in a logic manner that can reach a particular result; as a consequence, we can make accurate predictions. The scientists that use some methods ignore the critical fact no matter the complexity of the proposed model, this model will never be a mirror of social processes. To be operable, the models must include a reasonable number of variables, but in a complex social order there are millions of such variables (all the components of this dynamic order). Thus, the users must enter the model all individual variables or they must be forced to simplify. But by simplification, they will get a caricature of "social picture", at the best a qualitative prediction. If their aim is to make quantitative prediction, they are obliged to consider each "variable" part, which exceeds any imagined possibility. If we take into account that the information they need from each component of the social process has a non-transferable character, we realize that the economic models, regardless of sophistication can only be unsuccessful simplifications of reality. Regarding statistics, its role is rather an archeological one than to make predictions (Huerta de Soto, J., 2010). It can discover some relatively stable relationships between data, but cannot be used to make accurate predictions because there is no solid guarantee that the the past stability (very questionable if we consider that data is past history, and history can not be objective, but a subjective interpretation of certain individuals on certain events) of varying sizes, values will be transferred in future in order to serve quantitative predictions.

Many scientists say that a reasonable way to make predictions is to use so-called economic laws. Indeed, the present economics textbooks use many stable relations, as the laws demand, Okun's law, etc. For example, the so-called coefficient of demand elasticity claim that a reduction of 5% in cars price will increase a 3% the required quantity for gas; in other words, that we can accurately predict the evolution of fuel prices if we know the change in the price of personal cars. This type of quantitative prediction present at least two weaknesses. The first is that what we call "price of gasoline" is a hyper-simplification of reality. In an economic system there is a price for gasoline, but it take different values over time and space. First, there are several types of gasoline, many gas stations that,despite the "reference level", are free to establish a proper price, subjected to certain restrictions (the most important being the intensity of demand from customers). So there is no a single price for gasoline, in time and space, but there are prices that manifests itself in certain places and in certain times. (This is an argument for which there is no "price level".) For example, in Romania

there may be thousands of such gas stations. Who knows all these prices at any time and in every place? The idea to establish an average is unhappy and dysfunctional because the gas stations can be extremely heterogeneous in terms of sales volume and of price fluctuations; therefore, there are serious difficulties establishing an "aggregate" price for fuels. Second, a supposed law of demand for gasoline is manifested in an very complex and dynamic economic system, which continuously changes its temporal and spatial circumstances. As all elements of economic system are interdependent, the gasoline prices are the result of fluids circumstances of the sophisticated economic order. Obviously, a meeting of OPEC exerts a higher pressure on these prices, but a strike at a factory tires on cars can also have an influence. Virtually all the gasoline price are influenced by subjective preferences of those who belong to the economic system because their owners decide, in time and space, for example, to buy an extra liter of gasoline or to spend that amount on an ice-cream, a newspaper or pair of socks. As strange as it may seem, all the subjective preferences of individuals in the economic system participate directly or indirectly in gasoline pricing. However, when we formulate "laws" such as "a reduction of 5% in cars prices generates a 3% increase in sales volume of gasoline" we resort to hyper-simplification absolutely unjustified and unscientific. Obviously, the formulation of such laws becomes impossible by taking into account all consumer preferences. Therefore, we use *caeteris paribus* assumptions (Hayek, 1964), a latin equivalent of the phrase "all else being equal". However, in the dynamic economic order of complex societies everything is in motion and interdependence. When we want to make quantitative predictions resorting to such "law of demand" we unreasonably isolate the relationship between gasoline and cars, considering as frozen all the spatial and temporal circumstances in which the relationship occurs. However, if we would use this laboratory experiment, the result would be meaningless. It is possible that a 5% discount in the price of cars would lead to an increase of 3% in the number of cars sold but this can only be achieved in laboratory experimental conditions. This means to isolate the two variables and suppose that they depends only each other. But this is simply unacceptable. The order of complex economic systems is fluid, interdependent, in which every element depends on many other moving parts (finally, the subjective preferences of consumers). Thus, it is impossible to isolate the relationship gasoline-cars treating them as if it is outside of time, space, the economic order and the subjective preferences of individuals. Due to the complexity, the ability to experiment in social processes is dramatically reduced. Thus, obtaining predictions based on "laws" on the grounds *caeteris paribus* is completely unscientific and unproductive. Assuming the contrary, that we can make predictions resorting to such laws, we must consider that in very large extent, they have no practical use because people do not live in laboratory experimental conditions but in time and space circumstances that constantly change. Man does not live in sophisticated econometric models, but in a real world resulting from interaction with all other peers.

Even if the possibility of quantitative prediction proves to be a mirage, everyone needs a specific dose of predictability in their actions given that life can not run in absolute uncertainty. Therefore, the imposibility of quantitative predictions must be supplemented by qualitative predictions. In this respect, man uses the rules of conduct, the uniformity of behavior, habits, traditions, codes of ethics, moral or traffic rules, his own personal experience or the experience of the other people, etc.

Certainly, a network of supermarkets can not accurately predict the sales of Christmas trees but before resorting to experience, at a minimum level of stability in its consumer preferences, it will know that, in principle, the sales of this article are almost zero in August and very intense in December. The habits of the Christian world show that usually many people adorns such a tree on the eve on which celebrates the birth of Jesus Christ, making the demand to become more intense in the last month of the year. Because this phenomenon is repeated regularly through relatively stable preferences of Christians, the trees vendors can easily predict an increase in sales of this article. But they cannot use quantitative predictions. Whatever method, the best sales professionals cannot determine exactly the quantities and qualities of this article demanded by customers. Thus, it exists temporal and spatial disparities between supply and demand leading to unmet customer needs and surpluses of trees. However, the quantitative prediction failure was partially complemented by a qualitative prediction based on a somewhat expected behavior of clients. However unscientific it may seem, such a method is superior to the method based on mathematical models or specific data. In fact, it is only reasonable that we have. Of course, the prediction depends on our intelligence, on the ability to assemble and interpret dispersed knowledge, to draw logical conclusions, to use personal experiences, but all these never help us to make accurate predictions.

Therefore, the tradition proves superior to any econometric model. In fact, the individuals always use it to reduce the uncertainty of individual action plans in a social environment. Using predictable behavior in relation to the other, they get answers relatively stable, which greatly facilitates the work to predict the social environment responsein which implement their intentions. The tradition shows in Easter time, the christians eat red eggs; therefore, the enterpreneur producing eggs can count on increased sales of that product without knowing the precise amount they requested. Appealing to tradition, he makes a qualitative prediction that includes in his business plans long before the three Easter days. He will never know precisely the circumstances that will lead to a certain amount of egg consumption, but can resort to a trend or a qualitative prediction.

A good theory can help us to make predictions, but qualitative ones. For example, the Austrian business cycle theory states that a massive reduction in interest rates by the central bank will cause an economic boom, reducing unemployment, increasing the asset prices and, then, a financial crisis followed by economic depression. In addition, the theory states that the intensity of the boom and of the depression will depend on the degree of central bank intervention. Hayek used this theory and anticipated the arrival of the Great Depression of the `30. However, the using the Austrian business cycle theory enables us to make qualitative rather than quantitative predictions. Hayek was not able to accurately specify the start and the end of this event, its dimension, because he knew that something was impossible. Despite of its validity, a theory can not tell us if a specific bank would fails, the time that stock prices will fall, how many people will lose their jobs, etc. because all these things depend on circumstances that nobody can take into account. To some extent, the quantitative predictions are illogical. If we would know precisely that at a certain time the stocks would have a certain price, we sell or we buy from now, which it will cause prices to change already denying the prediction. The mechanism can work as long as predictions are very limited and exceptional. In other words, I will win in anticipation of a stock price increase, but if everyone does the same this price will immediately increase. A prediction can be made only when a small number of persons is right and others not. This is the only way to become rich using the stock exchange. But this shows that, in fact, the ability to anticipate in the very precise terms is an exception and not the rule. If everyone had correctly anticipated the evolution of the European Monetary System in 1992, George Soros would not be the sole author of prediction was crowned with a gain of one billion dollars. For example, if everyone would have been capable of such an anticipation of events, say, 100 million investors, the earning of the famous investor would have been equal to zero.

CONCLUSIONS

Unlike the natural sciences, the social sciences deal with sophisticated, dynamic phenomena which generate a volume of knowledge that can not be interpreted in a structured and logical manner. The inumerable and incessant interactions the social order greatly hampers the human ability to use complex mathematical methods in order to make quantitative predictions. In the best case, people can use tools for qualitative predictions. Social norms, traditions, repetitive behavior, codes of conduct, habits are some of the most important methods used to predict future developments in the social order. Even if can not provide quantitative predictions, such tools helps make trend predictions.

ACKNOWLEGMENTS

This work was supported by the project "Post-Doctoral Studies in Economics: training program for elite researchers - SPODE" co-funded from the European Social Fund through the Development of Human Resources Operational Programme 2007-2013, contract no. POSDRU/89/1.5/S/61755.

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