SOME PSYCHOLOGICAL CAUSES OF THE FINANCIAL CRISIS

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Abstract: *Besides the numerous effects that the financial crisis of 2007 has produced over the entire global economy, its onset has reopened fundamental discussions on the methodology of the economic science. One of the main controversies in the literature revolves around the nature of the neoclassical homo oeconomicus used in the mainstream analysis, with emphasis on the concept of rationality. Although the causes of the crisis are numerous, we propose to investigate in this paper only some aspects related to the psychological factors that contributed to the outbreak of this situation. The analysis is developed especially around the concept of economic rationality, arguing that the human being has a bounded rationality rather than a perfect one. Moreover, the relationship that exists between bounded rationality and the economic freedom of the individual is brought to the fore.*

Keywords: financial crisis; bounded rationality; behavioural economics; liberalization
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Introduction

From a dynamic perspective, seen under the spectrum of time, the economic activity is not uniform and linear, but fluctuating and cyclical. Contemporary economic developments are proof of this truism, which was often confirmed by the past events. While business cycles are phenomena recognized in economic theory and practice, the global financial crisis of 2007 surprised both economic agents and the majority of the scientific community. One of the main points from the crisis agenda was to clearly identify its determinants, in order to apply the appropriate treatment. Some of the major causes have been related to issues such as the role of capital markets and of financial systems, the regulation versus liberalization debate, the role of information and the complexity of the innovations, the importance of transparency, etc. Many economists, however, did not stop at the analysis of the purely conventional economic causes of the crisis, but went further and investigated the role of the psychological forces.

This article aims to investigate some of the main aspects discussed in the literature related to the possible psychological causes of the financial crisis. The analysis is mostly developed around the concept of bounded rationality. The notion aims to provide an alternative to the standard neoclassical hypothesis of objective rationality. It is based on the real nature of the individuals in the market, particularly because the cognitive limitations of the human being manifested especially in the process of obtaining and processing information are accepted. The notion of bounded rationality therefore is based on the empirical establishment that human perception, judgment, attention and memory have

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certain boundaries and that emotional and social factors are powerful elements in shaping the individual's economic choices. Finally, we propose to investigate if bounded rationality supports the free market mechanism or the state interventionism. This concern has amplified when the liberalization – intervention debate became a central subject after the onset of the economic crisis. The complexity, the amplitude and the fast spread of the effects of the financial crisis, all over the world, highlighted some shortcomings of the traditional analysis and challenged an ardent debate on its adequacy to reality.

1. The importance of the psychological forces among the crisis' determinants

One of the prominent causes invoked in order to investigate the financial crisis of 2007 was the hypothesis of bounded rationality, one of the fundamental concepts on which the argumentation of behavioural economics is built. This concept is discussed in the following part of the article, so we will not deepen the analysis here. Objectively, we can say that the economic crises are not caused by the rational behaviour (as promoted by mainstream), but by the incapacity of a human being to behave in this manner. In the neoclassical view, there is no room for emotions and attitudes, as their influence is considered exogenous. At a superficial look, we can say that if individuals would respect the perfect rationality assumption, then they will always opt for the option that would maximize their own utility no matter the circumstances. So, the preferences for risk or the optimistic – pessimistic attitudes would not influence the individual to act in the same maximizing manner. However, the mental attitudes of optimism and pessimism have been recognized by many authors (for example, John Maynard Keynes and George Katona) as playing an important role in directing the individual behaviour on the market. When the economy is in expansion, under the frenzy of a positive climate, individuals tend to be more optimistic (and less sceptical) and consequently to assume greater risks and vice-versa (when the economy is in contraction, individuals tend to have a more pessimistic attitude and be more precautious). The radiography of the crisis is an ample process, the variation of economic activity being caused by a complex network of economic forces that mix with the psychological and social ones. We believe that in order to understand these kinds of events, we must give proper consideration to the core elements on which the economic theory is build – such as the hypothesis of rationality.

George Katona was an early proponent of the view that optimism (seen as the attitude to look at the future with confidence) and its opposite, pessimism, influence the economic behaviour. The author claimed that, in some extent, the business cycle is determined by these two psychological states of the individual because they define the changes in the precautionary motives over time. In the phases of expansion, consumers are optimistic and the positive economic climate impels them to spend more, while during the recession periods the process is reversed. The author was concerned with analyzing the consumer expenditures and argued that these spending are a function which depends (Katona, 1960, p. 22) both on the individual ability to buy (which comprises mostly economic elements) and the willingness to buy (which comprises mostly psychological elements, such as personal attitudes and expectations). By pointing out this idea, the author stressed the importance of the psychological factors, along with the economic ones, in understanding the consumer behaviour and the formation of the business cycles. Moreover, in the positive climate generated by the general state of the economy, individuals tend to be more risk-seeking than risk-averse to gain bigger profits and vice versa.

These two factors, along with the triggering of the crisis itself, are questioning the economic quantitative (econometric) models in the extent to which these instruments serve to a large extent as guiding elements of the economic and especially financial decisions. It was shown that these elegant models of forecasting are unable to predict the true course of the evolution of real events, but they have often played a central role of forecasting in the modern economic systems. The error can sometimes be very high, however, since such models fit extremely well historical quantitative data, but ignore new information, the subjective human judgment and most of the qualitative social and psychological factors. Moreover, uncertainty as an incompletely defined variable (from a mathematical significance) is always a part of the future and it is unpredictable. As much as we would like, we can not anticipate the unexpected.

The failure of these models is considered by many scholars among the factors that have caused the financial crisis. For example, Barberis (2013, pp. 18-21) asked how could the banks accumulate such a high volume of subprime loans and "toxic" financial products and expose by this to a high risk, and gave three possible answers, namely: "poor incentives", "bad models" and "bad luck". These are three possible scenarios that are not necessarily exclusive, but may represent variants that overlap. The "poor incentives" scenario suggests that the bank's employees were aware of the possible risk, but ignored it, since the consequences did not affect them directly and they were mostly rewarded for short term performance. We can add that in this case the individual preference for the present manifests because the immediate gains appear to dominate the long term ones, being more than obvious that the collapse of the financial institution means in fact the loss of the job. According to the "faulty models" view, the representatives of the banking institutions were not really aware of the real dimensions of the risks embedded in the instruments with which they were operating. The reason supports the idea that their forecasting capacity failed. These models use historical data to extend the past trends and do not have the ability to take into consideration the uncertainty of the future and most of the qualitative factors – this is why they did not highlighted any worrying risks. However, the use of the mathematical models could also help the individuals to manage their ambiguity aversion, especially in this dynamic sector as finance is. Throughout the so-called explanation of "bad luck", any rational person would have considered unlikely such a scenario of events, even with adequate incentives. In the same manner with the author, we believe that this version does not seem to be very plausible, since rationality would assume an objective and deep accurate analysis of all the future consequences associated with the options.

However, the author made an analysis of some important psychological factors that stand on the basis of the economic crisis, which represent important topics on the behavioural economists' agenda. Besides the three explanations mentioned, another cause comes directly from the branch of psychology through the concept of cognitive dissonance. Although the bank employees were to some extent aware of the risks implied by the used business models, they manipulated their own beliefs and have convinced themselves that the options deserves to be pursued to achieve profits. In this context, the feeling of discomfort caused by the risks' recognition, although extremely real and menacing for the bank and for the whole financial system, was annihilated by the individual through manipulating its beliefs about the negative effects. We can add to this that the opposite solution for the individual would have been to renounce to such operations. In this situation the individual could be put in an additional dilemma, because this fact would affect the incomes and, if the information would be found somewhat inaccurate, even the image in the society. Cognitive dissonance is at the basis of a frequent cognitive error, namely the confirmatory bias (Jermias, 2001, p. 146). A main effect of this error is resistance to new information, individuals rejecting those which are contrary to their previous preferences and beliefs. However, this is not the only cognitive error which had a significant contribution in the outbreak of the financial crisis. Among other shortcuts in reasoning, overconfidence played an important role. Overconfidence lies in the spectrum of optimism, because it denote people's tendency to have an excessive confidence in their own capabilities. An important consequence of it is represented by the estimation error in planning (or planning fallacy), because individuals tend to attribute to a situation more favourable characteristics than it actually has and to consider the goals more easily to accomplish (Kahneman, 2011, p. 255).

As in the case of the consumer behaviour, the factors and relationships that describe phenomena that occur on the capital market are numerous, and experts often focus only on some specific issues, fact that leads to the fragmentation of the overall picture. In this context, all the advanced explanations ignore some important influences of other factors (than the considered ones) which affect the behaviours. In the same time, for the same problem different arguments are advanced, which can describe it from different angles and are not mutually exclusive. The profoundness and rigorously of an analysis requires such a fragmentary study focused on certain specific elements and ignoring other complex ones. However, its real pertinence should be seen and interpreted throughout a dynamic overview image.

2. The meaning of bounded rationality

What is the concrete significance of bounded rationality? The central argument of the notion (which is not synonymous with irrationality in the strict sense of the term) is that given a limited knowledge, typical to the current situations in which individuals (including as representatives of groups) act, the decision strategies are different from those specific to a complete knowledge, to which the neoclassical model refers. It was introduced and mainly developed by Herbert Simon (1957). Thus, the concept represents a feature of the complex human mind which involves that rationality is never perfect and it is not confused with irrationality.

First, there are some reasons which sustain the fact that human rationality is bounded. For example, it is influenced by the way in which the individual manages to gather, collect and process information about the situation in question. In this regard we can only mention the imperfect memory, the limited attention, the heuristics and the cognitive biases that occur in the decision making process. Human mind has its edges. Also, perception, which is a first step in the process of interpreting and representing the external stimuli, has a subjective nature. This manner, in which the individuals understand reality, causes that two persons exposed to identical stimuli in the same apparent conditions perceive them differently. Moreover, man is also influenced in his actions by emotions, by will (which is also bounded) and by the social, cultural and moral values to which he reports. All these non-economical variables, mostly qualitative, affect the manner in which man decides to act, even on the market. Past experience and imagination also play an important role in the decision making process.

Second, the fact that man actions are not in accordance with the neoclassical definition of perfect rationality (namely maximization) does not mean that his decisions are irrational. Bounded rationality should not be confused in any case with irrationality. However, many behavioural economics' scholars frequently used both in the academic and media speech the term of "irrationality" to emphasize the difference from the neoclassical view. We believe that the use of this expression, although has the power to catch attention, can cause confusions, especially to the large public. The concept of bounded rationality recognizes the real capacity of the human mind and departs from the neoclassical hypothesis of "omniscience". The economic man behaves in accordance with the rationality standard (in a general sense of the notion) even in the conditions in which he is not self-interested pursuing the utility maximization or his choice is not optimal.

Simon argued that in real market situations, contrary to neoclassical theory, the individual fails to achieve the best[*] solution and he is most of the time far from a suitable consideration of it. Specifically, in this respect the author noted: "The capacity of the human mind for formulating and solving complex problems is very small compared with the size of the problems whose solution is required for objectively rational behaviour in the real world – or even for a reasonable approximation to such objective rationality" (Simon, 1957, p. 198). The decision making is a complex process. Its understanding requires the consideration of many interdisciplinary variables (economic, psychological, social, cultural and even situational ones). Furthermore, in many contexts, the deliberation among different alternative choices demands a short period of time. The author specifically emphasizes on the computational abilities of man, which are in general reduced when is considered a "reasonable time" to make a choice. We can claim that bounded rationality represents a recognition of the real human capabilities and, in the same time, it is in opposition with the neoclassical hypothesis of "objective" (or "perfect") rationality.

The author emphasizes, however, that bounded rationality does not identify with irrationality. In this regard he argues that if, on the one hand, some economists have attributed to the human being full rationality, on the other hand, some psychologists after Freud, attempted to "reduce all cognition to affect" (Simon, [1947]1997, p. 81) and have tried to demonstrate that unconscious dominates many of the choices. However, Simon hoped that the "next" generation of economists will describe an individual with a less sublime rationality than the one considered in the neoclassical tradition, but will not fall in the other extreme of considering man dominated by instincts, thus, keeping a more realistic middle ground. Here, we could mention that the concept of bounded rationality outlines a man with a psychology that lies between the neoclassical model of perfect rationality and the

[*] In general, perfect rationality is associated with the neoclassical standard of maximization (of utility or profit). Klein argued, for example, that Simon mostly used the term of optimization as a synonym of maximization, respectively, "the selection of best choice, the one with the highest expected utility" (Klein, 2002, p. 103). However, in one of his first definitions of rationality, Simon stated that: "a decision may be called "objectively" rational if in fact it is the correct behaviour for maximizing given values in a given situation" (Simon, [1947]1997, p. 85). However, even when the decision making process does not relate to maximization, but to optimization, objective rationality is not possible to achieve from mostly the same principal reasons (for example, the cognitive human limitations and the future's uncertainty). Optimization is more complex than maximization and requires a most detailed evaluation of the alternative choices. In these conditions, bounded rationality opposes and dispenses both maximization and optimization process.

behaviourism theory (which is excessively and exclusively deterministic and negates rationality by the fact that it denies individuality and the role of mental functions).

Maybe bounded rationality could be better understood throughout its opposition with perfect rationality. In this regard, Simon identifies three limitations of the neoclassical standard of objective rationality (Simon, [1947]1997, pp. 93-94). Firstly, the objective rationality implies that the individual has the capacity to perfectly foresight all the consequences associated to each future action or choice that he will make. Secondly, the future consequences must be both anticipated and evaluated, giving them a meaning and an importance. Thirdly, objective rationality implies the consideration of all the potential alternatives to accomplish a certain aim. These assumptions are hard to satisfy for certain reasons. The main argument is probably represented by the fact that man must predict a further outcome and, moreover, he must assess its future significance. This process is always "fragmentary", as Simon mentioned, and it can never be complete. When the individual evaluates a result, he will take as a reference point the similar past experiences. Most of the decisional process' variables are instead dynamic in time. Both the external and internal influences can change anytime. In this regard, we can think only to the manner in which social media can affect the individual perception in a very short time. Nowadays, the technological advance made possible a fast exchange of information between people all around the world. Future is always open, both through individual's imagination and external uncertainty. Regarding all the alternatives to solve a problem, frequently the individual does not have access to all the relevant information. There are situations, for example, in which man does not have enough available time to collect all the relevant data or in which the asymmetric information plays an important role. Moreover, even when this assumption is accomplished, in short and very short time, the human mind does not have the capability to process a large amount of data, especially when this process requires solving complex problems.

In von Mises' ([1949]1998, p. 18) tradition, the behaviour is rational as long as it is consciously directed towards a specific purpose. This way of looking at the problem differs from the omniscient rationality promoted by the neoclassical economists. Complete knowledge is denied to man and the situation is even more complicated when the analysis regards the future. This should not be demonstrated by any scientist – it is a fundamental feature faced by any human being in everyday life. However, bounded rationality represents an attempt to outline a scientific theory of rationality in economics which lays to the real characteristics of the human mind.

3. Bounded rationality – an argument in favour of liberalism or state interventionism?

In general, behavioural economists advocate the replacement of the objective rationality assumption with bounded rationality. Its acceptance, however, would involve a reassessment of the decision making theory and of the market institution. Market can be seen as a mechanism that provides to the individual proper means to satisfy his needs, even in the condition of limited access to information and man's bounded rationality. To this regard, Simon emphasized von Hayek's vision and argues that on a free market the auto-regulation mechanism allows the formation of acceptable agreements, even if in many situations the optimality criterion is not reached. In everyday life, market is the place where real man, one without a genuine rationality, acts "more or less intelligent" (Simon, 1983, p. 89). In this part of the paper we propose to answer a fundamental question: "bounded rationality supports the policy of state interventionism or that of liberalism"? The fact that man does not have the unlimited cognitive powers and he is unable to find, in general, the best objective solution to a problem is an argument which justifies the market intervention or, on the contrary, an argument that favours the self-regulative market mechanism?

In this regard, an important concept developed mostly by Sunstein and Thaler (2003) is "libertarian paternalism". The authors claimed that it is not an oxymoron, as one would be tent to believe at first appearance. Specifically, it refers to the manner in which the individuals' choices can be influenced while respecting the freedom of choice. It is paternalism because public and private institutions could help individuals by outlining some directions of the choice, especially in the conditions in which preferences are often unclear or formless[*]. In other words, from this point of view, the interventions of the institutions in the personal decisions are justified, but only in the directions that are considered to increase the individual's welfare. It is libertarian because it respects and promotes the freedom of choice. This means that man can or cannot opt for the specific provided arrangement. Carlin *et al.* (2013) argued that some of the main reasons that support the libertarian paternalism are related to the fact that such a policy could help individuals to orientate (for example, in the growingly complicated contemporary financial system) and to protect them from some forms of exploitation that can arise due to lack of information or / and expertise (for example, because not everyone understands the particular terminology of the banking system, some can have difficulties

[*] One of the findings of behavioural economists is that some of the individual preferences are not well-defined, for example when the situation is relatively new. In this context, because the individual did not face that specific situation until that moment, he does not have a strong particular opinion about it and did not attribute it any valence. The preferences can be viewed in his case as a constructive process and even context-defined (Tversky and Thaler, 1990, p. 210), for example, depending on the preferences of the majority, etc.

when approaching a credit). However, its implementation requires additional costs (to produce the required influences) and significant precautions. The authors have shown that libertarian paternalism may lead to a decrease of people welfare, a final effect contrary to the expected one. Even if it is a soft type of paternalism, its effects are manipulative and can generate distortions in the information's production into economy.

Glaeser (2006) suggested that bounded rationality supports a minimal government, rather than a paternal one (even on the form of libertarian paternalism). The bounded rationality of man is reflected inclusively in the government policies decisions. If the decision making process is ruled by governments (even through incentives that orient the individual behaviour), as their power increases, more and more errors are expected to occur (including throughout the conflict that may appear between the personal and social motivations that guide the decisions). Although private decision makers often commit mistakes, the market mechanism offers strong incentives for their correction. On the contrary, the errors are more likely to occur on the governmental process because there are not enough correcting means (sometimes, on the political stage strong coercive measures are almost entirely lacking). Moreover, the governors' errors have greater effects and can affect the entire economy of a country for a long period of time. Individuals have incentives which are more efficient, powerful and cheaper to overcome errors, compared with the bureaucratic system.

Our opinion is that bounded rationality is not an argument for market intervention, but on the contrary. Eventually, government policy makers are human beings facing the same bounded rationality as everyone else – with imperfect information, motivational matters, cognitive errors, social influences and so on. These, in conjunction with the inability to forecast the future using historical data, are the main arguments that support the free market, regulated by a minimal set of appropriate rules. The bureaucrats (state representatives' of supervision and regulation institutions) are characterized by a limited rationality, which is likely to produce errors. The fact that human beings cannot be completely objective and rational reinforces the belief that nobody has the absolute knowledge and that only the market can provide a right mechanism for natural pricing and for correcting errors and imperfections (resulted, for example, from information asymmetries, from subjective decisions, etc.). Moreover, the present times are characterized by complex and dynamic innovative processes. The legal decision makers sometimes cannot respond to the market realities in a reasonably short time. Seen throughout the bounded rationality perspective, the financial crisis of 2007 was not due a lack of states' intervention, but maybe throughout the governors' errors when interfering on the market mechanism and due to the absence of a simple system of appropriate, updated and adequate regulations.

Conclusions

An important aspect emphasized by the financial crisis of 2007 is the inadequacy of the framework on which the neoclassical analysis builds its arguments. It was demonstrated that faulty premises have significant implications for understanding the real results and courses of actions occurring on the market. The rationality is not a perfect attribute, and this assumption was strengthened by the psychological studies. Between the most important psychological causes that led the entire global economy in collapse a main importance is given to the optimistic – pessimistic opposite attitudes (which manifest a strong influence of the attitudes toward risks – risk averse and risk seeking – too), the cognitive errors (in which the confirmatory bias, the overconfidence and the planning fallacy played a central role), the impossibility to forecast the future with historical data (used inter alia to overcome the effect of the ambiguity aversion), the preferences for the present gains, the cognitive dissonance, etc. All of these are nothing else, but a recognition of the human bounded rationality, which contrast to the neoclassical hypothesis.

The assumptions underpinning the neoclassical theoretical construct of *homo oeconomics* have endowed the human being with characteristics that depart from reality. In these circumstances, the trigger of the financial crisis drew attention to the fact that although the economic science investigate only the market phenomenon, the way in which researchers do this is very important. The neoclassical economic theory assumes that rationality is perfect and, thus, individuals are able to act in the sense of maximizing their economic rewards on the bases of an objective reasoning. This objective rationality almost never occurs in practice. The individual who is acting in real life, as opposed to the neoclassical economic man, does not take decisions on the premise of complete information and does not have the cognitive ability to process a large amount of data in a short and very short period of time as it happens many times on the market. In this case, man frequently uses heuristics (cognitive shortcuts) to solve difficult problems. Furthermore, individuals do not always perceive information accurately or in the same manner and the issue of economic rationality became even more complicated if the role of emotions and of (bounded) will are taken into consideration. The decision making is presently a multidimensional process in which different variables are involved, from the economic factors to psychological, social, cultural and even situational ones.

The concept of bounded rationality discusses both the citizens' ability to make the most effective decisions and the one of the legislators. From this perspective, state intervention is reduced to the actions of the government actors. A first impression might be that the bounded rationality of the individuals is a powerful argument supporting paternalism. At a closer look, however, we can see that the state institutions' representatives don't have the right incentives (and sometimes even the capabilities) to make the best decisions. Governors are affected by the same influences as everyone else, from the internal factors (related to the affect influence, motivational issues, heuristics and biases, etc.) to the external ones (social and cultural elements, limited access to all the relevant information, etc.). We can claim that the argument of bounded rationality weakness the reasons for state intervention as far as public institutions' decision makers are likely to make errors whose correction is poor compared with the one provided by the market mechanism. Furthermore, because governors make decisions for the public interest, their errors' effects can affect all the citizens of a country.

By appealing to the *homo oeconomicus* restrictive model, the mainstream ignored and even denied many important aspects of the complexity of human nature. The actual financial crisis has determined a reconsideration of its essential principles. The crisis from the real economy has emerged eventually in a crisis of the economic science, to the extent that mainstream theory is guided by neoclassical assumptions of the illusory *homo oeconomicus*.

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