THE CAUSES OF ECONOMIC CRISIS. A BEHAVIORAL FOUNDATION.

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The cyclical path of economy is a common place in the economic theory. The economic crisis that started in 2007 was not only one of the most severe since the WWII but it came unexpectedly. The cause of the crises and of the surprise consists in the economic models and theories that were founded on the rationality and maximization behavior of the economic actor. People lack the rationality the mainstream economics assume. This is why both economists and simple people do not act as theory predicts and finally economy does not tend toward equilibrium but suffers recurrent crises. This crisis started as a financial one, because of the subprime loans made in USA, but have spread in production sector because of credit frozen, is now in transforming into a social crisis because of austerity measures taken by governments. The paper analyzes the theoretical foundation of economic theory and how the facts that characterize the recent economic evolution fit with the non mainstream theories. It presents the figures of the economic evolution in the last 3 years and explains them based of the agent's behavior described by Herbert Simon and Daniel Kahneman. Their challenge of mainstream economics is based on an analyze of human behavior. Herbert Simon introduced the concept of bounded rationality as opposed to perfect rationality postulated by neoclassic economics and Daniel Kahneman realized experiments that proved that people cannot stick with the performances assumed by mainstream economics. Their conclusion permit to understand the approach of George Soros who says that people actions are bounded by reflexivity and as a consequences sometimes economy move not toward but far from equilibrium, creating bubbles that end in financial and economic crises. As Akerlof mention the cause of the crisis is the reliance of a false theory which said that we are safe. The conclusion is that we need new theories more close to the real life and an agent description that capture the limited characteristics of the human being despite the abstract "homo oeconomicus".

Keywords: economic crisis, efficient markets, behavior, rationality, ideology

JEL codes: D01, D83, E21, G14

I. Introduction

The cyclical path of economy is a common place in the economic theory. Rarely, in the last century, we saw a period longer than 20 years without an economic crisis. The latest, which started in 2007, should not surprise us. A long list of disequilibrium's accumulated. This crisis started as a financial one, because of the subprime loans made in USA, but have spread in production sector because of credit frozen, is now in transforming into a social crisis because of austerity measures taken by governments. The curious thing is that almost nobody predicted it. The large majority of economic analysts presented optimistic predictions even at the beginning of 2008, when the crisis already started. For instance
the forecast of the GDP growth and unemployment rate was missed by 101 out of 102 experts (1) (Morris 2010: 7). Thus it is not surprising that the crisis came totally surprisingly. With the Gary Gorton and Andrew Metrick's words "The financial crisis of 2007-2009 was the event which was not supposed to happen, but it did." (Gorton and Metrick 2011: 2)
The problem doesn't passesd unnoticed by the most important economists of the last century "What had people been thinking? Why did they not notice until real events - the collapse of banks, the loss of jobs, mortgage foreclosures - were already upon us?" (Akerlof and Shiller 2009: 2) After the events the facts that were seen as impossible became considered as inevitable.

And the explanation seems compeling and quite simple. People acted in a way that led to the greater disequilibriums after WWII, being sure that the economy is in a natural state of equilibrium, predicted by the mainstream teory. „There is a simple answer. The public, the government, and most economists had been reassured by an economic theory that said that we were safe." (Akerlof and Shiller 2009: 2) The reality shows that they were wrong and the effects may be are still to come, as the taken measures – mainly quantitative easing - relieved the pain but didn't cure the disease. At the local level pressed by the EU an IMF constraints, the government took austerity measures that deepened the crisis.

II. The foundation of economic behavior

There are an extensive literature about economic growth, business cycle and the behavioral foundation of these theories. The first is called mainstream economics that rely on the rational and maximizing behavior of the individual. It is based on several axioms. They are:

- For every individual A and any options x and y, is true one and only one of the following three statements: A prefers x for y, A prefers y for x, A in indifferent between x and y
- The preferences of A between alternatives are transitive
- A tries to maximize his utility, where utility of an option x is bigger than the utility of an option y if and only if A prefers x for y. The utilities of two options are equal if and only if A is indifferent between them.
- If option x consists in getting the bundle of goods x', and option y in getting the bundle of goods y', and y' contains a quantity at least as big of every good as x', and at least for one good a bigger quantity, then all agents will prefer y for x.
- Marginal utility of a good x for an agent A is a decreasing function of quantity x which A dispose.
- The behavior of any agent A is maximizing, the consumer maximizes his utility through consumption of goods, and the producer maximizes his profit.

These axioms reflect a behavior that is perfectly rational and maximizing. The individual ("homo economicus") is an abstractization of the real individual, which doesn't influence the theoretical conclusions. But are they realistic? The critics of this model are very strong and are sustained by the results of other sciences: psychology, sociology, and biology. Ronal Coase, a Nobel prize winner agree that there are "a lot of
complaints about formalism in economics – the elegant but sterile reasoning and so on – but also talks about the lack of realism in economic discussion." Coase 2002: 5)

A consistent criticism to the concept of "homo oeconomicus" came from Herbert Simon. His main critics at the individuals' behavior considered by the mainstream economics consists in the following observations:

- people have major difficulties in gathering information necessary for decision making, in order to generate all the possible alternatives;
- the human brain has a limited computing capability leading to difficulties in analyzing and comparing the alternatives;
- people have difficulties in getting aware of their our own preferences.
- the values, needs and demands of the individual changes in time and are influenced by the environment;
- people haven't a consistent utility function (Simon, 1992)

As a solution to these shortcomings in the rational behavior Herbert Simon defines bounded rationality as a substitute for perfect rationality. He defined the concept of satisficing option, meaning that people don't maximize, but stop their decision process when arrive at a good enough solution. This along with the idea that human brain has computing limitation represent the core of the concept of bounded rationality.

In the attempt to save the concept of a rational maximizing behaviour, the mainstream economics extended the decision making area including information gathering. The individual is assumed to maximize his utility function, function that includes the cost of obtaining the necessary information. It was an promising approach but in this case the individual doesn't know if this worth the effort involved by this action, he doesn't know when to stop, when he has enough relevant information. Thus he doesn't know if his choice is optimal. Moreover the individual takes into account the expected benefits and not the the real ones, when he decides to stop the information gathering, because he don't know the latest.
Other criticism comes from experimental economics. In this field Kahneman and Tversky used relevant experiments in the area of rationality, arriving at the conclusion that there are many areas and situations when people don't act rationally, and the maximizing behavior is at best an desire. To name jus few of the heuristics and biases discovered: representativeness, availability, adjustment and anchoring. (Kahneman and Tversky 1974). Thus we cannot say that the people have a rational maximizing behavior. We can make an assumption that in certain conditions we can approximate the real behavior with the theoretical one. But if the theory works well in normal conditions it fails during the major crises because the markets are irrational, and largely overreact.

III. The relationship between behavior and economic evolution

The human behavior at the microeconomic level determine through aggregation the economic behavior at the macro level – GDP evolution, savings, investments, deficits etc. The ideology underpinning that specific behavior, the shared mental models, according to Douglass North play also an essential role. For instance the deregulating principles, based on the assumptions of efficient market, prevailed for about 30 years, starting from the Washington Consensus, at the beginning of '80. Their core idea is that the market is always better than government (people know always what is good for them better that others) and because of market efficiency is always in a near equilibrium point. Any adjustment will take place mainly smooth because the market is very vigilant. But is this correct? Are the markets efficient? The answer is mixed. They are efficient in conditions of economic normality when there are small deviations from the equilibrium, but inefficient when the economy is far from equilibrium. George Soros show, from real life facts, that future actions of people depend on the expectations they have, but their actions changes the reality and the expectations of the other actors. Thus the curves of supply and demand are not independent, but based on the people expectations. For instance "the decisions regarding buying and selling of stocks are based on the expectations about future prices, but the future prices depend on their actions of buying and selling." (Soros 2008: 58)
The people with their bounded rationality are often victims of the general ideology which lead to overreaction both positive and negative. This approach is consistent with Douglass North, mental models and ideologies. However according to North the performance of an economy is strongly related with the ideology and, based on it, the institutions a country develop through time. (North 1999: 107-117)
People believed the same ideology that markets are efficient, and have the same mental model that prices are going up because in the last 20 years, they do so. Thus when the prices go up creates an expectation for further rising, through a process of reflexivity, synonym of "self-fulfilling prophecy". The same is the case when the there is foreseen a pessimistic scenario. A decreasing of the incomes leads to reduced spending and creates the conditions for further decrease of the incomes.
A similar thing happened on the financial markets. After the massive deregulation in 80' and 90' many financial products were issued, like CDS and derivatives. The idea, based on perfect equilibrium theory, was to spread the risk by hedging and transferring it to other financial institutions. But while it could seem to be a solution at the microeconomic level, in fact it creates

a systemic risk that could not be calculated by a bounded rational individual, even if he dispose a huge electronic computational power. As Soros explained regarding the situations close vs. far from equilibrium the economic experts were right in periods of relative lull but deadly wrong in the time of rapid falling of the economy.
The government also acts according to the bounded rationality principles. The public decision maker suffers from the same shortcomings regarding rationality and computational power. Thus their decision can be suboptimal and this crisis proved that, through poor interest rate management of FED to mention just one item, it was actually the case.

IV. The economic crises and its behavioral roots

The current economic crisis is the worst from WWI. The magnitude of fall of GDP, and the level of unemployment, in many countries, is unprecedented since then. The worse is that the crisis in not finished yet. The measures taken by the governments and central banks didn't cure the disease but postponed the end. What happened? What were the measures used? What is the solution?
Let's see first the US example, the starting point of the crisis. The economic figures show that we had a bubble on almost all markets: real estate, stocks, and commodities. The plain facts are that after a long period of steady increase of GDP, in 2007 started a brutal fall of the values of assets, and incomes. The Dow Jones Index went down about 50% in less than a year, the Case Schiller index of real estate market lost about 20%, and the price of oil felt from 150 USD to 40 USD in the same period.
Suddenly people and economists started to talk about many major disequilibrium on different markets: real estate, stocks, derivatives, etc. What said economic theory about these facts?
What was the mechanism?
If the market were efficient this could not happen. Efficient markets allow adjustments, but smooth ones. This kind of crisis is simply impossible. But they happen. Why? And we come to the question from the beginning: Are the markets efficient?
The real life conclusion, despite the theoretical appealing, is a clear NO. Where comes the discordance from? The problem is fundamental and come from the very foundation of economic theory, the rational maximizer "homo economicus". The real despite non obvious roots stems from the non perfect rationality and non maximizing behavior of the economic actor. "The idea that economic crises, like the current financial and housing crisis, are mainly caused by changing thought patterns goes against standard economic thinking. But the current crisis bears witness to the role of such changes in thinking. It was caused precisely by our changing confidence, temptations, envy, resentment, and illusions—and especially by changing stories about the nature of the economy." (Akerlof and Shiller 2009: 5)
An interesting and informed opinion has George Soros. He said that the economy follow a cycle of bubble creation and severe falling then.
The bubbles were created by the irrational behavior of the people, both specialists and simply people. FED kept the interest rate at 1% too long fostering credit and assets bubble. People were happy to borrow at a very low rate, believing that the prices will go up forever. Investors, who disposed from sophisticated models and huge databases, were wrong, too. And the reflexivity, the term described by a genuine speculator, George Soros, played for a time in their team. According to Soros prices can rise too much through a process of reflexivity, when people expect for the prices to rise and as a consequence they buy more thus the price rise even more enforcing the expectations.
Another effect was that people stopped to save conducting to disequilibrium between saving and investments, that had to be financed through external capital. The easy credit euphoria pressed also to prices increase toward unsustainable levels creating the illusion of wealth.

The same happened at the public authorities. Pressed by the increasing social expenditures they borrowed heavily in the hope that the future growth of GDP will allow them to repay the credits (public deficits). But the economy grew thus based on unsustainable stimulus, cyclical measures that leave a very small maneuver space for the government when the crisis hit.
The public authorities myopia is thus even more dangerous and non understandable taking into account that they benefit from huge research and analytical resources.
The Romanian case is quite similar, excepting the interest rate, much higher because of he historical high level and the joining to EU which enhanced the trends. The real estate prices went up, about 700% in 5 years, the stock exchange index increased 500% in 4 years (from 2004 to 2008). After the peak in 2008 the real estate properties lost about 50% in 2 years and the stocks lost about 80% in about 1 year.(3) The GDP felt 7,1% in 2009 and 1,3% in 2010. The pattern of crisis and of its roots are quite similar with the other countries. An euphoria of credit spending, fostered by cheaper money that came from abroad after joining EU in 2007, increased all assets prices, to unsustainable levels, leading to an steep decrease after the peak.(2) The NBR and government measures were rather pro cyclical by easing the credit conditions – credit only with ID – and by running a budget deficit -4,8% in a year - 2008 - with an economic growth of 7,1% .
Could such things been avoided? The answer is yes in an ideal, neoclassical world, populated by rational maximizers people. Is such a world, proposed by mainstream economics, the disequilibrium's would be rapidly absorbed and neutralized. The people would analyzed the unhealthy increase of the assets prices and voluntarily restrained from making more credits. The policy makers would took counter cyclical measures – budget surplus in steady growing years and deficits in negative growing years – which would smooth the trends. The real life individual prevented these rational but difficult actions, and the results are seen in these days in the life we live.
We can conclude as Akerlof and Shiller do about "important economic events […] that their causes are largely mental in nature." (Akerlof and Shiller 2009: 2)

V. Conclusions

The economic crises that started in 2007 started new debates about human behavior. How could it appear in a period of the spreading of free market that assures, on medium and long term, all the equilibriums in an economy? This paper analyzes the causes of the crises from the point of view of economic behavior. Both those who support the presuppositions of rationality and maximization of behaviour and those who are against them have solid arguments. Yet, the debate went outside the academic rooms. The effect of a wrong economic theory, which impacts on the public policies accompanied by a corresponding ideology like free market efficiency, which impacts on all economic actors can be devastating. It is not about academic recognition, but about human lives. This is why even neoclassical theory is mainstream, it is inevitable an in depth inquiry in psychology and a dynamic approach to economic processes.
The reality offer permanently example of situations in which one ore more of the rationality and maximization axioms are broken. In this respect Herbert Simon defined bounded rationality as a substitute for perfect rationality from standard economics and Daniel Kahneman proved through various experiments that there are many biases in human behavior. The conclusion is that, in order to avoid the huge disequilibrium's that led to the actual crisis we need new theories more close to the real life and an agent description that capture the limited characteristics of the human being despite the abstract "homo oeconomicus". People, specialists and non specialists, have to be aware of the difficulties to make a perfect rational decision and to learn to avoid the irrational phases of economic cycle.

VI. Notes

1. The actual evolution of GDP was -0,8% (2008/2007) compared with an average forecasted of 2%, while the actual unemployment rate was 6,9% compared with an average forecasted of 5,2%(2008/2007) .
2. In fact we can see that the faster the bubble increase, the steeper the fall.
3. The value raised from 2000 points in 2004 to over 10.000 points in 2008 and returned to 2000 points in 2009.

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