

## The Limit between the Rational and Irrational Behaviour in the Economic Science

**Cristian MARINESCU**

Bucharest Academy of Economic Studies  
cristian.marinescu@macroeconomie.ro

**Abstract.** *Although three years have passed since the onset of the deepest recession from 1929, the most world economies are still fragile, the slipping into another recession being imminent for many of them. "It is a sin to waste a crisis" without learning something of the causes that generated it, said Nouriel Roubini, but this time the problems facing the economic science are related even to the own concepts of the promoted model, while to change something in the economy it is need a reconceptualization of the economic science.*

*The context of the current economic model has failed to anticipate the economic crisis and fails to propose sustainable measure of the economic recovery and this because it starts from the wrong premises, such as assuming that the behavior of the subjects within the market is always rational.*

*In this work we will demonstrate that the irrational behavior of the participants to the economic life has led to imbalances of these markets and we will try to distinguish between the rational and the irrational economic behaviors, to identify the operating area of economic science at this time.*

**Keywords:** rational/irrational behaviour; economic crisis; financial market.

**JEL Codes:** G01, G02.

**REL Code:** 2B.

## 1. Introduction

“It is a sin to waste a crisis”, said Nouriel Roubini, the great contemporary economist, who was able to anticipate the financial crisis from 2008, probably referring to the fact that it is a pity to haven’t learned something of the causes that generated this crisis (Roubini, 2010).

Although there have passed three years since the onset of the deepest recession from 1929, the most world economies are still fragile, slipping into another recession is imminent for many of them.

The economic science is now in a great dilemma: either to strengthen the conceptual basis to continuing the line of rational ideas or to record a conceptual transformation, reinventing himself.

But as long as the economic models proposed until now failed to anticipate the economic crisis and could not provide sustainable solutions for economic recovery, I think a reconceptualization of the economic science is rather required, which will have to acquire itself the predictive function to anticipate the crisis.

There are many opinions expressed in this sense, as many economists believe that the economic science needs for a new conceptual model and for a new paradigm.

The same opinion is shared by Marin Dinu, who considers that “the economy continues in its mechanistic view, the materiality and not the material, the object and not the subject is matter. But the economic science is not, as believed in some studies, all statements that can be demonstrated as true by calculation and quantitative measurement, but also through the matrix of qualitative appreciation, the economic phenomena having sense only like product of the rational and emotional duality, found in the human nature. It is comes without saying, that we have for classical economics the situation where a significant part of the consequences are not in accord with the hypothesis founding, these contradicting it. Is unavoidable in these parts to produce a radical change of the hypothesis founding to restore consistency with statements about the consequences. Maintaining the vision of the market as an infallible mechanism means to condemn economy to conceptual reverse. The excessive rationalism that created the Economy gives it the explanatory elegance, but empties it of its dual, material and nonmaterial essence” (Dinu, 2010, pp. 46-49).

Liviu Voinea considers that “the standard economic theory – the orthodox theory – seems not to correspond to the contemporary reality: it did not anticipate the global economic crisis and can not explain it convincingly while also fails to provide sustainable measures to overcome this global recession. The current proposed measures throw the world economy into another crisis.

It needs a new economic paradigm and also rethinking macroeconomic policies. Economic models have failed and it was normal to fail because they are based on false premises – the most important thing is keeping the overall balance and have limitations that not exist in the real world” (Voinea, 2009, p. 19).

Akerlof and Shiller also believe that the current financial crisis is not a ordinary one and the traditional remedies applied in these situations will not work: "This recession is different. It is not caused only by the low demand. It will be difficult and perhaps impossible to achieve the objective of full employment if the global loan need falls considerably below its normal levels. In the financial sector, the problems have arisen in the past, too. But now, the crisis is widespread, it involves the whole economy. The crisis was not foreseen and also not entirely understood by the public or by some key decision makers, because there were no principles of classical economic theory to have regard to the animal spirits. Also, the classical theory, which is part of the economic science mainstream, excludes modes of the business behavior that generates crisis, excluding trust, corruption and the role of the stories that we interpret the economy” (Akerlof, Shiller, 2010, pp. 151-168).

Speaking about the “New Economy”, based on deregulation and financial engineering, responsible for triggering the Great Depression of 2008, Stiglitz believes that it should bring us something else, like “*prosperity for all and the end theory of the economic cycles*”. But it was not so and for this reason, Stiglitz says: “*we do not want and we can not return to the world that was before crisis*” (Stiglitz, 2010).

## 2. Rational behaviors in the economy

As it is well known, both theories that form the so-called neoclassical synthesis the monetarist and the Keynesian theory have focused on the assumption that the natural state of a market economy is to be in balance and the participants in economic life always act rationally, having in view their own purposes.

A statement regarding individual goals is made by Mill, who said that “often distinguishing between the ideal according to which an individual should have the right to have in view its own purposes and the consequence that, let free, he will have in view only his own selfish purposes” (Mill, 1946, p. 70).

Continuing it on Mill, Heyek tells us that “the freedom to follow his purpose is important for the selfless man, on whose scale of values the needs of others takes an important place, as for any selfish. To make your main purpose doing good to the others is part of human nature and one of the essential conditions of happiness. (...) However, the general altruism is a meaningless concept. Nobody can actually concern for the others; the responsibilities that we

can not assume have to be always customized and it may refer only to the persons about we know the concrete things and which we are linked by choice or due to special conditions” (Hayek, 1960, p. 100).

Let's see bellow how is defined the rational economic behavior in a market economy.

The individual behavior is considered “rational” when it chooses “more” instead “less” and “the choices demonstrates consistency”. When the consumer is asked to choose between two packages of goods, one of them containing a larger quantity of a good and a smaller of another in comparison with the other package, the decreasing marginal substitution hypothesis is introduced; (...) consumers will choose the packages of goods that contain a large quantities of any kind of goods, all other conditions being equal” (Buchanan, Tullock, 1962, p. 56).

Rationality plays an important role in any discussion regarding the human capacities of knowledge, decision and action. While the theoretical rationality focuses on our cognitive exercises at the opinions and beliefs level, the practice rationality refers to the ground base, on which our decisions and actions are built. The models and theories of economics science that are part of the current “mainstream”, are based on practice rationality with its two shades, *comprehensive rationality* and *limited rationality*.

The comprehensive rationality assumes that the decider, mainly, has the ability to obtain relevant information (about alternatives, benefits, costs), to process it correctly, and a model based on this kind of rationality, supposes the setting of the preferences and of the output predictability, according to the input of the decision process, which means that the rationally decider, faced with the same options and placed in the identical situations, will make the same choice. This model does not make assumptions regarding its effective use by the deciders, but asserts that the individual has the ability to decide rationally, based on the comprehensive evaluation of alternatives according with the forecasting of the costs and benefits, proposed of each considered alternatives and the decision is to maximize the benefit.

The individual rationality is “on the subject centered” and “supra-individual”, in the same time. It is “on the subject centered” in sense that requires a predefined concept of rationality, clearly defined, unique and accessible, in principle, to any subject, and, on the other hand, is “supra-individual”, in sense that it is not structured or specified by the subject in the decision or action (Macoviciuc, 2009, pp. 377-383).

The limited rationality supposes an optimizer behavior, limited by the contextual constraints, inherent to any real decision. These can be endogenous (limits the obtaining and processing of the information) or exogenous (the complexity of the decision context). As José Antonio Marina says “rationality is

not a tool for modeling and predicting the equilibrium of the world as a whole or to create a general model that takes into consideration all the variables, but it is a tool for solving of any partial and specific needs and problems” (Marina, 2006, p. 23).

### 3. Irrational behaviors in the economy

We know that in any capitalist economy there are three categories of actors involved in the economic life through a rational behavior, as it's defined above and also by irrational decisions pertaining to the psychological characteristics of deciders, such as preferences, their feelings or emotions. These endogenous constraints together with the exogenous constraints, pertaining to the access and the processing costs of the information, limit the possibilities of rational action of the participants in the economic life.

The three categories of participants on the economic markets there are: the consumer, the economic agent (the trader) and state, in its dual role, both public service provider or consumer and the market regulator, which establishes the rules of the markets.

To understand the economy, we must determine what are the irrational factors causing irrational behaviors and how the economy is influenced by these factors.

There is not a very clear demarcation, in the current economic science, between the two areas of economic behavior, namely the rational and the irrational economic behavior.

An approach which worth mentioning here is the Robert Shiller's assertion, that refers to the link between efficient markets and excessive volatility, that caused a heated dispute on this subject in the early 1980's. Shiller brought more evidence that the capital markets from US were extremely volatile in comparison with the long-term economic fundamental principles. Those debates have resulted in a consensus related on the idea that the markets can be inefficient because they are unable to rationally reduce the future cash flows and the financial asset prices there are often influenced by the behavior, that divert them from the economic fundamentals principles, for a while (Shiller, 1981).

Another approach belongs to Blanchard and Watson, who developed the concept of “speculative agitation” as an explanation for the excess volatility highlighted by Shiller on the capital market. The idea that buying the overvalued financial assets during a speculative agitation can be defined as an rational behavior. For this reason, a decision to continue buying in the hope of greater profits in the future can be a perfectly rational decision (Blanchard, Watson, 1982).

The latest theoretical models attempting to explain the irrational behavior of an investor in the financial market refers to dimension of the risk premiums on the shares and the paradox between the excess preference for the shares versus the treasury certificates (Mehra, Prescott, 1985). For example, between 1962 and 1992 the risk premium was 6.1% in the US, according to a study by Siegel and Thaler 1997, although the economic models of the rational behavior proposed a much lower risk premium.

Another way to research on the rationality of the financial markets is the descriptive – qualitative.

A new group of economists who criticized the quantitative models as a means to analyze the efficiency of the financial market have studied the “speculative agitation” in the past (such as “tulip mania” of the seventeenth century in Holland and the stock market crashes of 1929 and 1987), concluding that the decision to invest is strongly influenced by the latest information (latest information available on the market – the central banks having an important role, as the spreader of rumors, intervening on the market to support a currency or different companies) and this tends to amplify the price movements (Kahneman, Slovic, Tversky, 1982).

Thus, the Dehesa's opinion is that the efficiency rational models of financial markets can not explain volatility of the financial market from the developed economies and less the emerging market decisions, where information is less transparent and asymmetric, giving rise to irrational decisions (Dehesa, 2007, p. 229).

Interesting is the opinion of Alan Greenspan, former chairman of the Fed which, referring to the distinction between rational and irrational on the financial market, says “Maybe, someday the investors will be able to appreciate when the market deviates from rationality and becomes irrational. But I doubt. The innate propensity of the human beings to always oscillate between euphoria and fear, it seems to be permanent. The whole generations of experience do not seem to have tempered this tendency. I would like to think that we really learn from the experience. For example, to the question: What kind of imbalances and problems are looming beyond the predictable horizon?, I invariably answer that seldom the financial crisis can be anticipated by market participants” (Greenspan, 2008, p. 469).

With increasing globalization, people have changed itself, their priorities have changed, their preferences and also their goals have changed. People became more selfish, more eager to make money with minimal effort and the financial market offers this possibility, but only for the owners of capital. The innovations in financial markets over the past twenty years, and the loan

expansion from the productive economy to the consumption have changed the choices of the participants to the economic life.

Keynes warned us long time ago that the economy is governed not only by rational factors, which "as a invisible hand" that will be arranged in any transaction for the mutual benefit of the individuals, as the classics believed, but also he appreciated that a significant proportion of the economic activity is governed by "*animal spirits*".

People have uneconomic reasons and do not always act rational when they follow their economic goals. According to Keynes, the animal spirits are the main cause for the economic fluctuations and also for the voluntary unemployment. Thus, as "invisible hand" of Smith is the key of the classical economics, "animal spirits" of Keynes is a key for a different view on the economy, a view that could explain the fundamental instabilities of capitalism (Akerlof, Shiller, 2010, pp. 15-17).

The "animal spirits" metaphor is coming on Latin pathway and it has a history covering at least 2,000 years. It is believed for several centuries ago that "animal spirits" means "nervous fluid" which makes people can feel and move, like a "spiritual blood" – what today we would call probable "psycho-emotional factors of motivation". According to Descartes, the "animal spirits" are in the blood and are responsible for the muscle movement and for the communication of motion to the brain. Although physical, it seems to play the role of intermediary between body and soul. In a broad way, the "animal spirits" refer to the liveliness and enthusiasm, in other words to the natural mood of a healthy animal. In the economic context, Keynes spoke about the intrepid vigor and vitality that determine people to take bold decisions and to invest money and time in the business initiatives (Akerlof, Shiller, 2010, p. 23).

Starting on the statement of Smith, that the people pursue rationally their economic purposes, Keynes says that people are driven sometimes by uneconomic or irrational motivations. Keynes tried to explain unemployment starting from the animal spirits and from the emotional motivations behind decisions. These decisions were behind the current financial crisis, which is caused by the changing people's feelings, by confidence, by illusions, by temptations, by the desire to get rich quick, by greed and by all the changing stories about the nature of the economy.

According to Minsky, there are facts that moved the feelings of the authorities and corporations from fear to greed, and led to revitalization of the "animal spirits", about Keynes talked, respectively: *the option of Greenspan* – belief that Fed will not allow to happen nothing bad, the proof being the saving of the investment fund, Long Term Capital Management and the monetary policy of the Fed, to promptly reduce the interest rate in the following period to

the crash of the “dot-com” shares; *the boom of Clinton and the small recession of 2001*, that increased the idea that without inflation the expansions could be more robust, and recessions could be benign and short; *securitization*, hedge funds that seem to transfer the risk only to those able to bear it (Minsky, 2010, p. 39).

Starting from his famous taxonomy of financing profiles, Minsky says that during an expansion, the financial statements evolve from a fully funding covered to a speculative funding or even Ponzi type, and for this reason the fundamental instability of the capitalist economy will grow up to become a state of frenzy speculative (Minsky, 2010, p. 23.)

In the economic literature, there are two different kinds of views about the financial crisis (Mishkin, 1991). The first theory is the monetarist, developed by Friedman and Schwartz, who believes that the banks panic is the trigger of the financial crisis, because the massive bank withdrawals in a relatively short time lead to decreasing of monetary reserves and unable to cope with demands and also the tightening of economic activities. As a solution in this case, the monetarists proposed the central banks to take the lead and to become the “creditor of the last resort” as a measure to prevent crisis. This exceeds the neoliberal ideology that promotes the idea of restricting the role of the state in the economy (Friedman, Schwartz, 1963).

So it happened with the economic crisis of 2008: until the outbreak of the crisis, it went on a broad deregulation of the financial system, and after the crisis it was considered that “the banks are too big to be allowed to fall”, and the state, through the central bank, must come to save them.

The second theory on financial crisis belongs to Minsky (1986). Unlike other studies that blame the “shock”, the “irrational exuberance” or “reckless policies”, Minsky argued that the processes that generate financial fragility are natural and endogenous of the system. Minsky rejects the notion of “overall balance” that prevailed economic science as irrelevant in analyzing of a real world belonging to a capitalist economy with complex and overstated inputs and instead of the overall balance, he proposes “quiet period”, characterized by a robust financial system and less innovation. Minsky believes that market forces acting when a system is stable will push it towards instability, which means that, even if they could reach to balance state, this should trigger some behavior reactions which would quickly remove the economy from the balance state (Minsky, 2010, p. 363).

Another approach of the irrational behavior on the market is related to the information asymmetry. Grossman and Stiglitz were the first economists who have argued that the market efficiency is not possible, primarily in terms of information, because the efficiency disturbs the balance. The market efficiency hypothesis according to which the prices reflect all available information and



the informations have a cost would leads, in fact, to the collapse of competitive markets (Grossman, Stiglitz, 1980).

According to Dehesa, the total lack of informed investors is not a situation of equilibrium, because each investor, taking the price as good, has the feeling that he can gain higher profits if he was better informed. The efficient markets hypothesis shows rightly that the information without charge constitutes a sufficient condition for prices to reflect all the necessary information, but is not a necessary condition. Hayek (1945) believes that this statement is a “*reductio ad absurdum*”, because “the price systems and competitive markets are important only when the information has a cost”. According to efficient market hypothesis, the balance is reached only when the information has a very low cost or when investors get accurate information (Dehesa, 2007, p. 219).

David Smick believes that financial markets have always worked under asymmetry of information, saying that “for the financial markets, the world is round and it can not see beyond the horizon. We are always taken unprepared and for that the world has become so dangerous” (Smick, 2009, p. 14).

The information advantage of the debtor in front of the financial institutions leads to the classic problem of the “lemon”, described by Akerlof. The problem of “lemon” takes place in the credit conditions when the creditors have a problem to determine the real risk of the financed project. Thus, when the creditor can not establish with accuracy the risk of the financed project, if it will succeed or not (“lemon” from the Akerlof's example), he will fund that project with an interest rate reflecting the average between a good and a bad project. The result of an such approach is that those who borrow and have feasible projects pay a higher interest rate than they should, and those who have projects with high risk pay lower interest rates. Therefore, the best projects can run out of funding, if those who made it leave the market because of high interest rates (Akerlof, 1970).

Also, the information asymmetry between the agents of the financial markets may lead to moral hazard, which adversely affects their effectiveness. Thus, if the financial institutions do not identify rightly the quality of the projects which want finance it, there is an incentive for customers to prefer activities with higher profitability for them which, though risky, would bring greater benefits in case of success, but in the same time, if they will not succeed, will produce losses for financial institutions (Bernanke, Gertler, 1989).

The recent literature focuses more on the impact that financial structures have on economic activity with respect to asymmetric information between the parties in a financial contract. Thus, it is considered that those who borrow have an advantage of information over those who loan, because they know better the

projects that intend to finance them. Thus, the asymmetric information gives rise to two phenomena: “moral hazard” and “adverse selection” (Dehesa, 2007, p. 221).

“Moral hazard” is seen by the great prophet of the crisis, Nouriel Roubini, as one of the main causes of financial crisis. By “moral hazard”, Roubini understands the exuberance with which the customers gave rush to the bank to borrow to buy housing. In his opinion, the “moral hazard” is the action of the broker that brought to a bank a credit without a proper risk assessment and for this he was rewarded with a substantial commission, although he had no responsibility if the loan became nonperforming (Roubini, 2010).

In another definition less plastic than Roubini’s definition, the “moral hazard” refers to changes in the behavior of the economic agents, when there is an insurance against risk, the change producing in sense of decrease the aversion against risk. The “moral hazard” specific to the present crisis means that both banking and non-financial system expects the state to intervene to restore liquidity in the banking system, or to relax the credit conditions (Dinga, 2009, p. 487).

Thus, “adverse selection” and “moral hazard” increases the possibility of financial crisis, causing serious damage in the real economy, as happened in 2008. Another reason that caused the financial crisis was a lack of regulation of the financial institutions, role that belongs to the state.

Paul Krugman believes that the crisis was not caused by the deregulated institutions that have assumed new risks, but especially by the risks taken over by some institutions, unregulated from the beginning. For this reason, Krugman did not consider a high problem the repeal of the Glass-Seagall Law in 1999, a measure that allowed to commercial banks to engage in securities transactions, specific operations to the investment banks and to take more risks. The main problem was the shadows banking system that increasingly expanded, exceeding at some point the regulated system. Krugman accuses politicians and officials for not extending regulations and “financial safety net” to cover these new institutions, saying that “any institution that acts as a bank, and that have to be saved in crisis as the banks, should be regulated as a bank” (Krugman, 2008).

Stiglitz speaks about the existence of a “toxic combination” that led to the crisis, that consists among others of: the existence of a deregulated market with excess liquidity and low interest rates, a speculative bubble on the real estate market and the exponential rate of credit in substandard conditions. Stiglitz believes, however, that these three lethal combinations to unbalance a market are linked in the sense that the existence of a deregulated market with excess liquidity and low interest rates influenced the credit and the excessive and substandard loan, led to a speculative real estate bubble, that caused the economic crisis when it has broken (Stiglitz, 2010).

According to the two great economists assertions, we can conclude that insufficient regulation of financial markets was one of the main reasons that favored the financial crisis of 2008. The economic science, based on neoclassical doctrine, that supposed the rational behaviors on the market, promised us only balance and welfare, but instead we got the crisis and imbalances. For this reason, we conclude that the decision to leave deregulated the financial markets can be considered as a part of the irrational behavior.

Although there were warnings in this regard, the political decider makers had not taken it into consideration. Keynes talked about the role of the government in our economy to prevent the excesses consumption, due to the emotional states, respectively the animal spirits. Thus, left on their own to adjust alone, "led by that invisible hand", the capitalist economies will hunt the excess, will create anger, which will be followed by panic. People will consume too much and will save too least. And, in this case, the state must intervene (Keynes, 2010, p. 150).

At the limit between rational and irrational behaviour, we also could consider the "corruption", which are seen by Daniel Dăianu, near the immoral conduct, as "features of the institutional fragility and lack of democratic references that are specifically especially in developing countries. Most post-communist countries in transition were, by definition, included in this category" (Dăianu, 2009, p. 58).

Another aspect we want to approach here is the "informal sector" of the economy. As we know, most of the world economies, especially developing economies, are characterized by the dual character of the economy, which includes both formal and informal sector. To define the dual character of the economy we can mention the statement of the Hart, which considers that some economic activities and enterprises are formal in sense that they take place in the framework of the official legal structures and of the special regulations, whereas the other "take place beyond the effective state regulation" (Hart, 2001). In the literature, the formal sector is alternatively called modern, urban, good jobs, industrial, while the informal sector is alternatively called, agricultural, traditional, bad jobs, rural (Field, 2009).

We want to establish in this paper if the options for informal sector is a rational behavior or it can be considered a irrational decision.

In the informal economy may work the enterprises, employing informal labor or unfolding commercial activities "behind of the certain state regulations" as Hart noted, and also individuals who can enter on the informal labor market.

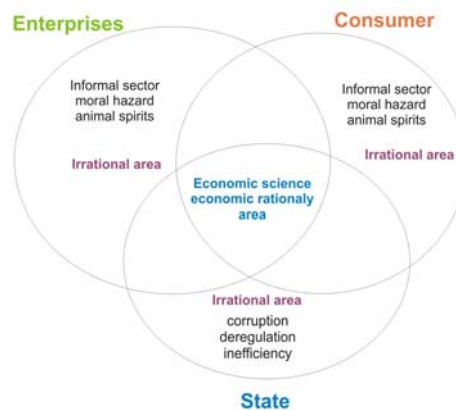
Fields says that the most common characterization of the informal sector is that it is an easy-entry sector where workers can enter to earn some cash preferring to earn nothing. The important features of the labor market dualism, described above, is that the formal sector offers attractive wages and work conditions, while the informal sector offers the unattractive ones. This leads to

the first characterization of the informal economy: “workers prefer the formal jobs and accept to work informally only as a last resort (Fields, 2008).

We see, thus, that the decision to choose the informal economy sector is based on an analysis of cost/risk opportunity and is just an alternative to the formal sector and for this reason it could be considered a rational decision.

The informal sector of the economy remains outside of economic science at this moment, there are no economic models and theories that take into consideration its size, although there are many studies that measured the size of the informal economy in different national economies. The role of the economic science must be not only the development of the measures to eradicate the informal sector, impossible to do, but also the design of economic models and theories that take into account an acceptable level of informal economy, which has the role to take the shocks from the formal economy.

#### Participants of economic life: enterprises, consumer, State



**Figure 2.** *The limit between rational and irrational in the economic science*

Figure 2 illustrates the inter-subjectivity between participants on the economic market, namely: company (enterprise), consumer and state, delimiting the rational of the irrational areas, revealing, thus, the operating area of the economic science at this time.

#### 4. Conclusions

As we can see from Figure 2 presented above, the operating area of the economic science at this moment is extremely small, and it is located at the intersection of the rational decisions (behaviours) of the participants at the economic life, respectively enterprise, consumer and state.

We have the following conclusions: the participants on the economic markets do not act always rational; their decisions were influenced by animal spirits, moral hazard or irrational exuberance; they can choose the informal sector of the economy; the state is characterized by corruption, inefficiency and can be accused of insufficient regulation of markets.

Taking into account all these aspects, I believe that the economic science should undergo a conceptual transformation at this moment of time and the factors listed above which are the attribute of irrational behavior should become assumptions for the future economic models and theories.

The current economic crisis has shown that the neoclassical theory applied till now could not find the viable solutions to get out of the crisis and the currently macroeconomic models have proved itself to be wrong, because they left from the wrong premises like “overall balance” theory. The experience shows that on any type of market the “overall balance” appear seldom, accidental, because the natural state of any market is imbalance, produced by the factors mentioned in this work.

In this regard it could be updated the heterodox economic approach, initiated by Joseph Schumpeter (who believes that the economy is in a constantly evolving due to technological progress and financial innovations that disturb the balance state), and the “Evolutionary Economic Theory”, developed by Nicholas Georgescu-Roegen, whose basic principles are: the normal state of markets and of the economy like a whole is imbalanced, that means the aggregate demand is not meet with the aggregate supply on the equilibrium level; the economic agents are not always rational, and the results of their actions are unpredictable. The economic decisions are not determined rational, it is influenced by the human psychology, which may be motivated by trust; the economic crises are inherent and endogenous, it comes from inside of the economic system, and are not determined by external factors such as neoclassical theory says.

We consider necessary that the future economic theories and models to take into account the principle that the natural state of any market is the imbalance. Also, to reduce the irrationality area we propose: a better regulation of the financial system, a low corruption in the public system and decreasing the share of informal sector, particularly in developing economies.

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