EURASIAN JOURNAL OF SOCIAL SCIENCES

www.eurasianpublications.com

FROM HOMO OECONOMICUS TO HOMO ALTIORE (HOLISTIC). IN THE SEARCH OF A NEW PARADIGM

Magdalena Mikołajek-Gocejna

Warsaw School of Economic, Poland Email: mmikol1@sgh.waw.pl

Abstract

The economic slowdown has brought about dramatic consequences in many countries: nonrepayable debts, extreme difficulties for individuals and businesses in obtaining credit, bankruptcies, investor distrust and falls in global stock markets, government bailouts against banks and other financial institutions at risk of failure. In fact, the crisis would probably not have taken place without some political decisions, related to monetary and economic policy, as well as insufficient regulation and monitoring. It can be said that during the crisis, the "invisible hand" of free market turned to "stealing hand" through market games driven by the irrational and irresponsible behaviors of politicians, creditors, and consumers. Current economic theory has been constructed on a foundation laid more than 200 years ago. The traditional economic and finance models are based on the premises of perfect competition, efficient markets, rational behaviors, and market equilibrium. This paradigm suggests that the "invisible hand" will work its magic to resolve all imbalances and bring the economy back to the steady-state equilibrium because market participants behave rationally. This article was inspired by Leibstein's hypothesis that homo oeconomicus is not a model case but extreme form of behavior that surfaces under extraordinary circumstances. The aim of this paper is an attempt to shift from the concept of homo economicus to the concept of homo altiore (holistic), trying to capture the whole complex nature of human beings.

Keywords: Homo Oeconomicus, Bounded Rationality, Behavioral Economics, Heuristics, Homo Sociologicus, Paradigm

1. Introduction - The Need of New Economic Paradigm

The global economy has become the economy of instability. Syndrome of instability in the economy makes theories become unstable. This raises many questions and doubts and the need of important redefinition of the theory of economics, which are reflected in the deep differences of views between the representatives of the main business schools (Mączyńska, 2011). As a result of deeply disturbed balance in the different areas of life and threats to sustainable and harmonious development, above all under the influence of the global economic crisis, criticism of economics was intensified, and its reputation suffered serious damage. But the crisis in economics discipline should not be associated exclusively with the 2008 financial and economic crisis, because it manifests itself on a much broader field with reduced economics' ability to a deeper theoretical reflection on fundamental business processes and civilizational trends that change the nature of the economy and the world economic system.

Too little openness of main stream economics on the position of heterodox and other scientific disciplines has been for years clearly perceived by some economists, who pointed out its limitations stemming from its unhumanization and focus on the goods and services market.

They emphasize the need to revise the dominant paradigm, taking into account to a greater extent than before the social nature of management, its historical and cultural context, especially the norms, values and attitudes contributing to the success or failure of business ventures. The global crisis, which is largely the result of failure to comply with the elementary rules of ethics and under the responsibility of the financial sector to the public, has exposed serious weaknesses in the mainstream, since its assumption of rationality, the shortcomings and deficiencies analysis of coordination and interaction of operators and the interdependence of markets.

"Economy based on excessive reductionism, individualism and moral relativism may indicate adequate solutions for development" econs "seeking only their own benefit, quantifiable in terms of the market, but it is certainly not able to deliver decisions favoring holistic human development" (Woźniak, 2013).

Future economy should be honest, progressive, more social than mathematical, descriptive and normative, pragmatic, heterodox and dynamic, able to provide the societies of which they will be required of it. Moreover, discipline of economics has to be interdisciplinary, because most happening on the contacts:

- economy and society, studied by sociology, history, social psychology, anthropology,
- · politics and society, studied by political science and sociology,
- culture and economy,
- · economy and the environment,
- · economy and technology,

Kołodko (2016) proposes a new economy of moderation and pragmatism coming from the value system conducive to multiculturalism, participatory of globalization, the inclusive institutions, social cohesion and sustainable development. He proposes, without sacrificing pragmatism as a fundamental, inalienable feature of the rational management, brings new values to the processes of reproduction

More and more researchers claim that the economy in a wider than ever range must be transferred to the idea of sustainable development, we are even dealing with a new paradigm, described as an unconventional or alternative development which is carried out under the names of balanced, sustainable, self-sustaining growth, in which the goal of human activity is not only economic growth, but rather development with maintaining the conditions and intergenerational equity in access to different environments: the natural, cultural, economic. Sachs (2006) proposes the concept of clinical economics, which is holistic approach modeled on a holistic medicine.

The need to change the dominant paradigm in economics is particularly stressed by Stiglitz (2002), Akerlof (1970) and Spence (1973) (the winners of the Nobel Prize in 2001) who believe that their stream called the economics of information will be a turnaround in the economy. Transition from the paradigm of competitiveness to the paradigm of information is caused both the divergence between the models used by economists and the observed reality and logic and structure of the model itself (Stiglitz, 2002).

Diversification of the economy has been initiated by the "opening up" of economics for the trends of researches previously belonging to the economic heterodoxy, i.e. participatory economics, economics of complexity, imperfect knowledge economy based on the behavioral school, or psychoeconomics, which makes far-reaching reconstruction of the existing paradigm. More attention is paid to the ideas of homo cooperativus (Czaja, 2011), homo sapiens wikinomicus (Tapscott and Williams, 2011) and homo sustinens (Kiełczewski, 2011) concepts based on the community and altruistic values, for which most are in favor of representatives of the mainstream economics of sustainable development.

The primary forces of development must be searched in the entirety of human being and its dual, in many ways, limited psyche. An exploration of the synergy, of these areas requires an integrated approach, interdisciplinary, respecting the complexity of the human being and the natural desire of man to the valuable life, the fullness of his existence, materializing by harmonizing development goals specific to individual spheres.

2. Homo Oeconomicus

It seems that the attempt to develop a new paradigm of development should use of axiology and a broader and more interdisciplinary approach than just economic. It needs to return to the essence of economics as a science, and exactly what examines the economics? (Ontology), how? (epistemology), and for what purpose? (paradigm, applied economics).

A characteristic feature of modern economies is shaken balance between economic development and social, moral and spiritual progress. Traditionally ethical values are perceived as irrational, e.g. the irrational can be seen altruistic behavior, which is contrary to the phenomena observed today.

It seems, therefore, that in the context of the new development paradigm, change or clarification requires the concept of rationality, allowing the "apparent irrationality" of entities that choose to maintain adverse economic or altruistic behavior, but desirable from an ethical point of view.

The foundations of modern business practices were shaped by 18th and 19th century views of human nature (Morris et al. 2010; Persky, 1995). Enlightenment thinkers such as Smith (1759, 1776) analyzed the ways that pure self-interest can motivate cooperation and activity that benefits society more broadly. The term 'Homo oeconomicus' was created as a pejorative in reference to Mill's (1962) notion of humans as self-interested utilitarian maximizes of their individual preferences. It is the foundation for the neoclassical school of economics and the neoclassical the0ory of the firm, which assumes that individual agents act rationally within a pool of other rational individual agents, each seeking to maximize his or her own utility, and each choosing actions independently based on the available information (Arrow, 1994; Udehn, 2002). Mill (2000) first described the basic characteristics of a psychological model of economic man. He also stated that the political economy takes an arbitrary definition of man as a being who invariably acts to receive the highest number of things necessarily needed, amenities and luxuries, with the smallest possible amount of work and self-denial, with which these goods can be obtained in the light of the existing level of knowledge. Outstanding representative of neoclassicism. Marshall (1925) also referred to the model of homo oeconomicus, but making a substantial modification. mainly by giving it the nature of subjective, that is mean, further assuming that individuals are rational, but their goal is not to maximize wealth, but the utility maximization understood as contentment or satisfaction.

According to Marshall (1925), entity analyzes the situation in which it is located, before he will take an action. Utility function he uses presents a way of describing his preferences in relation to a variety of real and hypothetical alternatives. He accepted that all entities have full knowledge, which is essential for the proper selection and implementation decisions. An important moment in the development of the model of homo oeconomicus was the formulation of rational expectations hypothesis (Muth, 1961). The author assumed that the information is a rare commodity, and therefore are not "wasted" (all the information is sought, collected and immediately used) and that expectations are formulated by the current economic model. Based on these assumptions. the possible deviations formulated expectations from "rational expectations" must be stochastic errors, so in the aggregate scale, their expected value is zero (Muth, 1961). Thanks to his work, model of homo oeconomicus "received" excellent ability to predict the future based on full knowledge, both theory and all available information. In this way, economic considerations began to widely accept the assumptions about the lack of, among others, uncertainty, ignorance and irrational behavior, or anything that might be called "human factor". This axiom of optimization of economic decisions is a common assumption not only for classical economic theory, but also those derived from neoclassical mainstream.

Since the 1950s and 1960s, expectations have become an important issue in almost all areas of macroeconomic interests. They were the basis of theories of consumerism, investment, money demand and inflation. First, expectations were modeled by assuming that people are using past data in predicting future outcomes – theory of adaptive expectations. Decision makers react to economic changes post factum and they cannot anticipate future economy's movement. Friedman claimed that for an economic theory much important is the accuracy of a model's predictions, not the realism of its assumptions (Friedman, 1966).

3. Beyond Homo Oeconomicus

Mill (1962) argued that homo oeconomicus is a hypothetical simplification in the form of isolated and selected collection of motifs, which actually direct economic action. Keynes (1891) demonstrated that the concept of homo oeconomicus in the classical and neoclassical economics as an abstraction of the real man, not fictitious man.

Homo economicus influenced the way of interference for the entire economy. Economic theory coming out of this model involves looking at the economy as science, atomistic understanding of economy, uses the method of idealization and thesis of methodological idealism (Balzer and Hamminga, 1989; Stepien and Szarzec, 2007), and the idea of self-regulating economic system and the temporariness of all imbalances.

We must remember, that the assumption of rational, based on full information optimization behavior is not only the starting point in the economic analysis, but the dogma. In real economic life we have to deal with bounded rationality and psychological factors that affect the performance of the entity. The entities are not homogeneity in terms of the objective pursued and the hierarchy of preferences or knowledge. Gubitzer (2007) indicates that there are different rationality in different segment of the economy and accepting assumption of homo oeconomicus is an unscientific, because it is not based on observation and it is deterministic. It causes also poor quality of forecasting economic models.

We must remember that the standard terms of the concept of "homo oeconomicus" does not accept the consequences of long-term choices for themselves or others. Hazlitt (2008) claimed that one of the most common mistakes in the popular understanding of economics is short-sightedness, the so-called broken window fallacy shows that short-sightedness in economics ultimately leads to negative consequences. Moreover, homo oeconomicus is very simplified concept of human being.

Despite some "differentiation in theory", it seems that the economy still stuck in the theoretical monism of rationality, and it limits the possibility of a paradigm shift, and does not allow to solve the major controversies in economics, as e.g. the dispute between monetarists and Kevnesians.

The 50's of the twentieth century is a massive critique of the assumptions of rationality behavior decision entity, an integral part of the concept of homo oeconomicus. New institutional economics is trying to keep as much as possible the precision of neoclassical models while reducing their level of abstraction. It introduces to the model of homo oeconomicus modifications approximating this concept to reality. New institutional economists retain the assumption of rational action of individuals, but they create models that place the human in the psychological, social and historical context of the complex reality. New Institutional Economics include in their analysis the fact that people differ greatly from each other in terms of preferences, goals, ideas and aspirations. Homo oeconomicus in the version applicable in the new institutional economics differs significantly: he does not have excellent skills of calculation and logic - its ability to think, process information and make decisions are the subject to numerous psychological limitations. Moreover, people do not have complete and reliable information, and gaining information is costly and time consuming. Simon (1991) developed the concept of bounded rationality. According to him, rationality is limited in two ways - internally (mentally) and external (environmental). He discovered that people often use i.e. a "rule of thumb" (subjective method, which is not based on information, but on their emotional attitude towards the subject of the decision).

Concept of bounded rationality was an important step in developing the psychological economics, but more important work was gained Kahneman and Tversky (1979). Thaler's (1980) research initiated the rapid development of a new trend, called behavioral economics, consisting of a set of different theories. The aim of these authors was to extend the explanatory power of economic theory by providing it with psychological foundations of human behavior. Representatives of behavioral economics argue that the increase in psychological realism assumptions of economic theory can help in the creation by better prediction. They say that people are not rational in the economic sense, but not because they sometimes behave in accordance with the criteria of rationality, but because they make mistakes, which are predictable and systematic. Bounded rationality is derived from:

- cognitive limitation of people's mind and limited ability to acquire and analyze information which lead to make satisfying decision rather than optimal decision according to the maximal utility criterion (Mikołajek-Gocejna, 2014),
- the occurrence of mental shortcuts (heuristics) This is a simplified rule of thought that allows to make decision without analyzing all available information (Colman, 2001) Heuristics are informal and intuitive cognitive strategies which help in solving problems in decision making process (Zdrahal-Urbanek, 2004). Heuristics work mainly in repetitive situations, but they can also reduce the difficulty of a task and cognitive effort in new circumstances (Maruszewski, 2002) which can demonstrate their role in solving complex and creative problems (Kozielecki, 1997, Lindsay and Norman 1984).
- Other perception of theoretical probability system If decision makers are not able to accurately estimate probability, they will not be able to maximize usability.

Model of homo oeconomicus ignores the social roots image of human (social embeddedness). It ignores the two basic dimensions of constructing economic institutions - the cognitive and cultural. Cognitive dimension of rooting refers to the way in which the structure created by the mental processes limit economic reasoning. While the cultural dimension concerns the role of roots forming a joint economic goals. Skipping these factors is contrary to the findings of other schools of economic e. g. Granovetter (1985) emphasizes the role of networks and social interaction in influencing the mechanism of economic life. The new institutionalism - the importance of institutions and social environment (Williamson, 1998). Weber (1978) explained the pursuit of profit by cultural and religious variables and discovered the relationship between ethics and the economy. Durkheim (1984) discovered the regulatory importance of the social world for economic processes and the impact of solidarity factors on the structuring of economic phenomena, i.e. the division of labor and assumptions of contractual exchange.

Moreover model "homo oeconomicus" recognized only technical motivations or used by the government, ignoring the importance of feelings. Akerlof and Kranton (2010) stated that man is motivated by non-economic motivations but by feeling. According to Loewenstein *et al.* (2001), economists were mostly interested in emotions, such as regrets and disappointments, which are expected emotions; psychologists, however, were focusing more on the immediate emotions, experienced at the time of the decision. The emotions experienced during the decision making process should be involved in the decision making theory, next to the expected emotions (Loewenstein *et al.*, 2001).

The so-called second revolution of knowledge about cognition contributed directly to the creation of cognitive psychology and the development of neurobiology, neuroscience and caused development of techniques and methods for neuroimaging of the brain, which allowed to deepen the knowledge from other scientific fields (Hohol, 2013). In the second half of the 90's "Cognitive revolution" became interested economists. New disciplines, such as neuroeconomics, neuro management or neuromarketing has appeared. Bagozzi (2010) said in interview that: "I see neuroscience as a complement to the social sciences and management. (...) Neuroscience have to verify the classical theory in the social sciences, can disprove false theories and generally help us more clearly understand how the brain works in order to better explain, predict and control the actions of the people". Neuroscientists pointed out that the deliberative and cognitive system related processes are located in the brain's frontal areas, while the automatic and affective behavior related processes unravel in the limbic reward areas (Frank *et al.* 2009).

Therefore, in the brain during decision making, dual systems are working: the emotional system and the cognitive system. These two systems are complementing each other and not necessary overtake actions from one another. Neuropsychological evidence shows that emotions have a strong effect on cognition, because the connections of the wiring in the brain are stronger from the emotional system to the cognitive system, than from the cognitive system to the emotional system (Loewenstein *et al.* 2001). According to Rustichini *et al.* (2005), neuroeconomics can help understanding peoples' estimations of probabilities of different events. Brain imaging studies in decision making experiments produced evidences, which show that the decision making process is driven by emotions (Rustichini *et al.*, 2005). The decision maker, when he has to decide in a risky or ambiguous situation, is using several areas of his brain. The focus is to look at the emotional side of the decision making (Rustichini, 2005). Here are a large number

of researches which studies economic behavior and decision making using neuroscience (Miu and Crisan, 2011; Grecucci et al. 2013).

The above reasons resulted in the development of homo neuroeconomicus, a man of quick decision-makers, relying less on logic and more on the affective reactions, resulting from the operation of neural circuits. Action is determined mainly by emotions and emotional experience. Daily utility maximization is based more on feelings than the objective results of decisions. Usability is considered in terms of rational and emotional costs (Hardy-Vallee, 2007; Kacprzyk, 2008). The Homo heuristicus view is a great improvement upon the homo oeconomicus view because it is more psychologically realistic. Some scholars who adopt this view read and cite the literature in evolutionary psychology (Bergstrom, 2002; Gintis *et al.* 2005; Henrich *et al.* 2001; Morris *et al.* 2010; Sober and Wilson, 1998). They note that natural selection did not (and could not) create a brain capable of weighing all available options fully and calmly. Instead, natural selection created brains (in humans and other animals) that did a rapid and good enough job of solving fundamental problems related to survival such as acquiring resources, obtaining social status, and maintaining relationships (Kluver *et al.* 2014).

We are witnessing the development of new paths in economics: economics of complexity (imperfect knowledge economy), behavioral economics (Camerer *et al.* 2004), experimental, caring economics (Eisler, 2007), feminist economics (Ferber and Nelson, 2003), ecological economics, neuroeconomics, solidarity economics - Gemeinwohl-Ökonomie (Felber, 2010), evolutionary economics (Boulding, 1981; Dopfer, 2001), binary economics, moderation economics (Kołodko, 2016). Others are the result of methodological changes (extension of the research methods, wider use of experimental methods, using knowledge of psychology and neuroscience to the study of economic behavior, the methods used by behavioral economics, more emphasis on qualitative analysis, the inclusion of the study of values and standards). Multilateral criticism of the concept of "homo economicus" and the changes taking place in our society and around the world having a global dimension result in the creation of alternative images of the man "homo reciprocans" - Falk and Fischbacher (2000) - point to an important feature of the man - his pursuit of "fairness", "cooperativus" (Schräder, 2007), "sociologicus" (Dahrendorf, 2006), "ecologicus / sustinens" (Goldin and Winters, 1995; Rao, 2000; Gilman, 1992; Daly, 1997), "animal spirits" (behavioral economics), homo duplex (Durkheim, 1984) or homo sapiens wikinomicus (Tapscott and Williams, 2011).

Despite the undeniable progress that has been made in the development of economic thought, still many painful contemporary problems cannot be effectively solved within the framework of functioning models of capitalism, the development policy of globalization, and paradigm of mainstream economics, marked by the logic of individualism, excessive reductionism, moral relativism, and depreciation of non-economic criteria selection.

4. Shift to Homo Altiore

Significant feature of modern economies is shaken balance between economic development and social, moral and spiritual progress. Therefore, the starting point is to develop a new concept of man, which will be based on a holistic approach to human nature, as in holistic medicine.

This is all the more important that the new model of man is useful in the context of putting yourself questions about the future shape of economic policies, whether the future political order.

Wozniak (2013) proposes an approach to the study of integrated development based on eight areas: economic, political, social, consumption, technology, human capital, and axiological nature and biology. This model helped him to identify the limitations of integration processes of development and major signs of the disintegration of socio-economic development and to identify institutional and systemic conditions that harmonize development processes.

Benedict XVI (2009) rightly notes that the truth about the development lies in its integrity, if not embraces the whole person and every aspect of human development we cannot talk about the real development. The economics needs to recover the important contribution - the "logic of gift" to the market, which cannot be guided only by the rule of profit. According to Benedict XVI, this requires the formation of consciences, which would strengthen the position of moral criteria when drafting political and economic project. "Deep heart desires cannot be satisfied only by

material goods. The horizon of human being is undoubtedly much higher and much wider, that is why every development program must consider, alongside the material, also the spiritual growth of the human being with his soul and body". This is the integral development, which is the driving force of "charity in truth". John Paul II (1987) also stressed that the authentic development of man and society cannot rely on the usual accumulation of wealth and in the greater availability of goods and services without consideration for the social, cultural and spiritual aspects of human being. "If the entire mass of resources and capabilities made available to man not guided by a moral and not focused on the true good of the human race, easily turns against man - as enslavement.

According to the theory of social economy, primacy of the moral principles of the efficiency lies in the fact that every action or institution are rational in socioeconomic aspect if free and mature citizens in the rational process to confer (deliberation), can reach a consensus on authorized way how to create an value (Ulrich, 2000). It seems that even moral and ethical values are a "superstructure" because they determine which situations are satisfactory. They build a world of human cultural values.

The experience of developed countries shows that solving problems of human existence is not automatic in terms of increased production, but it requires building a new state of awareness.

The here is a strong need to introduce to economic theory the new concept – Homo altiore (holistic) (Figure 1).

The concept provides for the two levels: individual and collective, which have own goals and emotions. The lower level is the level of the ordinary experience of the individual, pursuing his or her own goals. Durkheim called this the realm of the "profane," which simply means ordinary or commonplace. At this level, people are highly individualized but they are still quite social, and they have social emotions that bind them to other individuals: These include the sentiments of honor, respect, affection and fear which we may feel toward one another (Giddens, 1972).

On the higher level, called collective, man is a part of a whole society, whose actions he follows, and whose influence he is subject to.

The point of reference at the individual level is traditionally understood concept of homo economicus, guided be self-interest and maximizing its usefulness. About inadequacy such depleted human understanding has been mentioned earlier. That is why homo oeconomicus has been supplemented with emerging alternative concepts or achievements of other sciences in the field of people's behavior and motivation to take action or make decisions.

It seems that the central element of a complete picture of a man is his innate dignity. Man is a unity of spiritual and physical. Spiritually-somatic nature of man is the substrate of spiritual and material needs. Without this attribute, we cannot fully understand, among other things, business and human economic rights. That is why we must consider in a holistic model of man his spirit sphere (homo spirit).

In recent years, many economists turned to altruism (Becker, 1976), theory of warm glow giving (Andreoni, 1990), inequity aversion defined a fraction of people motivated by fairness considerations (Fehr and Schmidt, 1999). It is well known as altruistic behaviors—behaviors that benefit others at a cost to oneself. This insight was formally developed by Hamilton (1964a, 1964b); Grafen (1979, 2006), Hines and Smith (1979), Bergstrom (1995), Day and Taylor (1998). We all are motivated by our material selfishness ("maximization of own payoff") and by the need to take care of other people's well -being ("to do the right thing"). We call individuals with such preferences homo moralis

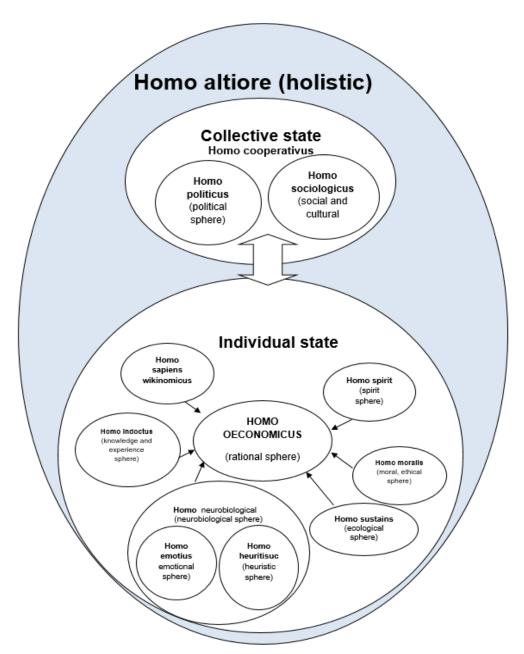


Figure 1. Homo Altiore Source: Author's own preparation

Our decisions are also determined by our neurobiological development. Structure of the brain preclude rational decision-making, through the existence of the limbic system. In making arbitrary decisions mediate sensory-motor mechanisms conditioned by contextual associations (Tosoni *et al.* 2008). People have always relied on heuristics to solve adaptive problems (homo heuristic). Heuristics are mental short cuts that reduce the cognitive burden associated with decision making. In the 1950s, Simon (1991) first proposed that people satisfice rather than maximize, relying on heuristics not simply because their cognitive limitations prevent them from optimizing but also because of the task environment. Behavior is rational when it is adequate to the realization of given ends, subject to given conditions and constraints. Tversky and Kahneman (1974) defined two element of decision-making situation conditioning the use of heuristics: time pressure and complexity and overload of information.

One of the most important element of human being are emotions. They affect our attitude and choices, influencing the decisions we make. From the psychological and neurobiological point of view, both integral and incidental emotions are driving the most meaningful decisions in our life. Loewenstein *et al.* (2001) proposed a model called risk-as-feelings hypothesis, describing key role of emotions in making risky decisions. Risk-as- feeling model illustrates the diverse impact of emotions on the decision-making process, starting from basic emotions such as mood (which determines risk assessment, and the tendency to make risky decisions) to experimental emotions (generated by the decision-making process itself), which modify cognitive assessment of the situation (Mikołajek-Gocejna, 2014). It is believed that emotions are key factors involved in human judgement and play dominant role in people's responses to social situations (homo emotius) (Zajonc, 2000). Of course, they are determined also by cognitive constrains on decision making process (knowledge, memories, accumulated experience, inferences and strategies -homo indoctus).

Man as a biological creature has a high sensitivity to issues of ecology, although not always accompanied by consistent behavior environmentally friendly. The growing problems have become a prerequisite to the search for new models of development ensuring environmental sustainability and equal opportunities for future generations. Such model is homo sustains - man living in a sustainable way, in social harmony and saving natural resources. The need to preserve the stability of the society with the awakening consciousness of social responsibility for the environment form the basis of the process of transition to sustainable development, and broader - integral development.

Nowadays everyone works in the digital space, we have entered the era of networking. Tapscott and Williams (2010) say about the wikinomics phenomenon. Defined as a global cooperation based on four pillars: openness, partnership, community resources and action on the global scale. Tapscott and Williams see in wikinomics future of economic development and create new and innovative products and services, and the twenty-first century is called the era of "homo sapiens wikinomicus" (Tapscott and Williams, 2010).

Man involved in economic activities is comprehended from the anthropological view as being willing to exchange, trade and replace one thing to another. He has his freedom, which is the undisputable method used to maximize the benefits of their own. At the same time, he needs a social reference, need other people to carry out their plans, which result in an act of mutual exchange and cooperation. Human being is deeply social creature who truly wants to adhere to the norms of the group, and who is motivated to identify with and become one with the group. We are homo sociologicus. The concept of homo sociologicus grown on the basis of institutional economics through the grasp of the role of psychology and sociology as a science to help explain economic problems. Homo sociologicus is not completely autonomous unit, in fact, it pursues "command" of society, because it is a carrier internalized, the basic rules the conduct of the society (Morawski, 2001). His behavior is limited structure with certain social values, norms and standards, as well as the exercise of their social roles.

Some of us are also deliberately entangled in political life and actively participating in it. Politics is a determinant of personal values, gives meaning to existence, and motivates to apply for functions related to the exercise of power (homo politicus).

5. Conclusion

Undoubtedly, the duration of the current paradigm and ignoring rising and accumulating problems and threats would not only be irresponsible, but in a sense infantile. Staying under the influence of a mental barrier to thinking, imagination and seek appropriate solutions

According to the above considerations it should be said that human nature is structure of the very complex and multidimensional, difficult to grasp and even unpredictable. However, there are certain objective regularities which suggests that humans as intelligent beings trying to make reasonable and most optimal decisions at any given time. Basing on the concept of homo oeconomicus is significantly impoverished view of human nature.

Moreover, rationality assumption completely does not reflect the actual behavior of people and markets. This result in fact that theories based on rationality and the concept of homo

oeconomicus present only extreme form of behavior under very specific circumstances. Holistic concept of man assumes a new understanding of rationality - bounded rationality - resulting from taking into account the different spheres of human being.

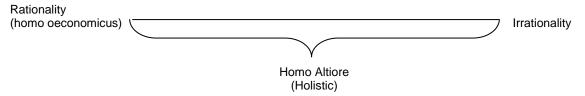


Figure 2. Rationality and irrationality Source: Author's own preparation.

We can assume that homo altiore can have different level of irrationality (I). When behavior is driven only by (subjective) utility maximization the level of irrationality equals 0 and we have homo oeconomicus. In the dynamic approach, we will probably get the space of potential behavior of different level of irrationality (Figure 2). Model of human altiore (holistic) can be a starting point for development new paradigm - an integral, holistic socio-economic development.

References

- Akerlof, G. A. and Kranton, R. E., 2010. *Identity economics: How our identities shape our work, wages, and well-being.* Princeton, NY: Princeton University Press. https://doi.org/10.1515/9781400834181
- Akerlof, G.A., 1970. The market for "Lemons": Quality uncertainty and the market mechanism. *The Quarterly Journal of Economics*, 84(3), pp. 488-500. https://doi.org/10.2307/1879431
- Arrow, K., 1994. Methodological individualism and social knowledge. *The American Economic Review*, 84(2), pp. 1-9.
- Balzer, W. and Hamminga, B., 1989. *Philosophy of economics.* Dordrecht: Kluwer-Nijhoff Publishing. https://doi.org/10.1007/978-94-009-2319-5
- Becker, G. S., 1976. Altruism, egoism and genetic fitness: Economics and sociobiology. *Journal of Economic Literature*, 14(3), pp. 817-826.
- Benedict XVI, 2009. Encyklika Caritas in veritate o integralnym rozwoju ludzkim w miłości i prawdzie [Encyclical Caritas in veritate about integral human development in love and truth]. [online]. Available at: http://w2.vatican.va/content/benedict-xvi/pl/encyclicals.index.html [Accessed on 27 October 2016].
- Bergstorm, T., 1995. On the evolution of altruistic ethical rules for siblings. *American Economic Review,* 85, pp. 58-81.
- Bergstrom, T. C., 2002. Evolution of social behavior: Individual and group selection. *Journal of Economic Perspectives*, 16(2), pp. 57-88. https://doi.org/10.1257/0895330027265
- Boulding, E. K., 1981. Evolutionary economics. Beverly Hills, C. A.: Sage Publications.
- Camerer, C. F., Loewenstein, G., and Prelec, D., 2004. Neuroeconomics: Why economics needs brains. *The Scandinavian Journal of Economics*, 106(3), pp. 555-579. https://doi.org/10.1111/j.0347-0520.2004.00377.x
- Colman, A. E., 2001. The dictionary of psychology. *Applied Cognitive psychology*, 15(3), pp. 349-351. https://doi.org/10.1002/acp.737
- Czaja, S., 2011. Paradygmat ekonomii głównego nurtu i ekonomii zrównoważonego rozwoju [Paradigm of mainstream economics and sustainability economics]. In: B. Poskrobko, ed., 2011. Ekonomia zrównoważonego rozwoju w świetle kanonów nauki [Sustainable economy in the light of the canons of science]. Białystok: Wyd. WSE. pp. 28-50
- Dahrendorf, R., 2006. Homo Sociologicus: Ein Versuch zur Geschichte, Bedeutung und Kritik der Kategorie der Sozialen Rolle [Homo Sociologicus: An attempt at the history, meaning

- and criticism of the category of social role]. Wiesbaden: VS Verlag Für Sozialwissenschaften. https://doi.org/10.1007/978-3-531-90216-6
- Daly, H. E., 1997. Beyond growth: The economics of sustainable development. New York: Beacon Press.
- Day, T. and Taylor, P. D., 1998. Unifying genetic and game theoretic models of Kin selection for continuous types. *Journal of Theoretical Biology*, 194, pp. 391-407. https://doi.org/10.1006/jtbi.1998.0762
- Dopfer, K., 2001. *Evolutionary economics: Program and scope*. Boston–Dordrecht–London: Kluwer Academic Publishers. https://doi.org/10.1007/978-94-010-0648-4
- Durkheim, E., 1984. *The division of labor in society*. Translated by W.D. Halls. Basinstoke and London: The Macmillan Press. https://doi.org/10.1007/978-1-349-17729-5
- Eisler, R.T., 2007. *The real wealth of nations: Creating a caring economics*. San Francisco: Berrett-Koehler Publishers.
- Falk, A. and Fischbacher, U., 2000. *Detecting social interactions*. The presentation in the session on "Social Standards" of the 2001 meeting of the European Economic Association.
- Felber, C., 2010. Die Gemeinwohl-Ökonomie: Das Wirtschaftsmodell der Zukunft [The economy of the common good: the economic model of the future]. Wien: Deuticke.
- Ferber, M. A. and Nelson, J. A., 2003. *Feminist economics today: Beyond economic man.* Chicago, IL: University of Chicago Press.
- Frank, M. J., and Cohen, M. X., Sanfey, A. G., 2009. Multiple systems in decision making: A neurocomputational perspective. *Current Directions in Psychological Science*, 18(2), pp. 73-77. https://doi.org/10.1111/j.1467-8721.2009.01612.x
- Friedman, M., 1966. Methodology of positive economics. In: M. Friedman, ed., 1966. Essays in positive economics. Chicago, IL: University of Chicago Press.
- Giddens, A., 1972. *Emile Durkheim: Selected writings.* Cambridge: Cambridge University Press. Gilman, R., 1992. Design for a sustainable economics. *Context*, Vol.32.
- Gintis, H., Bowles, S., Boyd, R., and Fehr, E., 2005. *Moral sentiments and material interests: Origins, evidence, and consequences*. In: H. Gintis, S. Bowles, R. Boyd and E. Fehr, eds. 2005. Moral sentiments and material interests: The foundations of cooperation in economic life. Cambridge, MA: MIT Press. pp. 3-39.
- Goldin I. and Winters L.A., eds., 1995. *The economics of sustainable development*. Cambridge: Press Syndicate of the University of Cambridge. https://doi.org/10.1017/CBO9780511751905
- Grafen, A., 1979. The hawk-dove game played between relatives. *Animal Behavior*, 27(3), pp. 905-907. https://doi.org/10.1016/0003-3472(79)90028-9
- Grafen, A., 2006. Optimization of inclusive fitness. *Journal of Theoretical Biology*, 238, pp. 541-563. https://doi.org/10.1016/j.jtbi.2005.06.009
- Granovetter, M., 1985. Economic action and social structure: The problem of embeddedness. *American Journal of Sociology*, 91(3), pp. 481-510. https://doi.org/10.1086/228311
- Grecucci, A., Giorgetta, C., Van't Wout, M., Bonini, N., and Sanfey, A. G., 2013. Reappraising the ultimatum: an fMRI study of emotion regulation and decision making. *Cerebral Cortex*, 23(2), pp. 399-410. https://doi.org/10.1093/cercor/bhs028
- Gubitzer, L., 2007. Was hat Schumpeterische Unternehmer mit den Desparate Houseviwes zu tun? Eine Annäherung as das Thema Menschenbild in der Ökonomie [What does Schumpeter entrepreneurs have to do with the Desparate Houseviwes? An approach to the theme of the human image in economics] In: A. Grisold, L. Gubitzer, and R. Pirker, 2007. Das Menschenbild in Der Ökonomie. Eine Verschwiegene Voraussetzung [The human image in economics. A secret condition]. Wien: Löcker, pp. 33-74
- Hamilton, W. D., 1964a. The genetical evolution of social behaviour. I. *Journal of Theoretical Biology*, 7(1), pp. 1-16. https://doi.org/10.1016/0022-5193(64)90038-4
- Hamilton, W. D., 1964b. The genetical evolution of social behaviour. II. *Journal of Theoretical Biology*, 7(1), pp. 17-52. https://doi.org/10.1016/0022-5193(64)90039-6

- Hardy-Vallee, B., 2007. Decision-making: A neuroeconomic perspective. *Philosophy Compass*, 2(6), pp. 939-953. https://doi.org/10.1111/j.1747-9991.2007.00099.x
- Hazlitt, H., 2008. Economics in one lesson. Auburn, AL: Ludwig von Mises Institute.
- Henrich, J., Boyd, R., Bowles, S., Camerer, C., Fehr, E., and Gintis, H., 2001. In search of homo economicus: Behavioral experiments in 15 small scale societies. *The American Economic Review*, 91(2), pp. 73-84. https://doi.org/10.1257/aer.91.2.73
- Hines, W. G. S. and Smith J. M., 1979. Games between relatives. *Journal of Theoretical Biology*, 79, pp. 19-30. https://doi.org/10.1016/0022-5193(79)90254-6
- Hohol, M., 2013. Wyjaśnić umysł. Struktura teorii neurokognitywnych [Explain the mind. The structure of neurocognitive theories]. Kraków: Copernicus Center Press.
- John Paul II, 1987. Encyklika Sollicitudo rei socialis [Encyklika The social concern] [online].

 Available at:
 http://www.nonpossumus.pl/encykliki/Jan_Pawel_II/sollicitudo_rei_socialis/>
 -
 [Accessed on 22 September 2016].
- Kacprzyk, J., 2008. *Neuroeconomics: from Homo Economicus to Homo Neuroeconomicus.* Barcelona: Real Academia de Ciencias Económicas y Financieras,
- Kahneman, D. and Tversky, A., 1979. Prospect theory: An analysis of decision under risk. Econometrica, 47(2), pp. 263-292.
- Keynes, J. M., 1891. The scope and method of political economy. London: Macmillan & Co.
- Kiełczewski, D., 2011. Homo oeconomicus versus homo sustinens. Uwagi o metodologicznych odmiennościach między ekonomią zrównoważonego rozwoju a ekonomią głównego nurtu [Notes on the methodological differences between sustainability and mainstream economics]. In: B., Poskrobko ed., 2011. *Ekonomia zrównoważonego rozwoju w świetle kanonów nauki [Economics of sustainable development in the light of the canons of science]*. Białystok: Wyd. WSE. pp. 69-81
- Kluver, J., Frazier, R., and Haidt J., 2014. Behavioral ethics for Homo economicus, Homo heuristicus, and Homo duplex. *Organizational Behavior and Human Decision Processes*, 123(2), pp. 150-158. https://doi.org/10.1016/j.obhdp.2013.12.004
- Kołodko, G. W., 2016. Ekonomia umiaru realna perspektywa? Nowy paradygmat Grzegorza W. Kołodko [Economics of moderation a real perspective? The new paradigm of Grzegorz W. Kolodko]. Warszawa: PWN.
- Kozielecki, J., 1997. Psychologiczna teoria decyzji [Psychological decision theory]. Warszawa: PWN.
- Lindsay, P. and Norman, D., 1984. *Procesy przetwarzania informacji u człowieka [Human processing information process].* Warszawa: PWN.
- Loewenstein, G. F., Weber, E. U., Hsee, C. K., and Welch, E., 2001. Risk as feelings. *Psychological Bulletin*, 127(2), pp. 267-286. https://doi.org/10.1037/0033-2909.127.2.267
- Marshall, A., 1925. Zasady ekonomiki. T. 1 [Principles of economics]. Warszawa: Wydawnictwo M. Arcta.
- Maruszewski, T., 2002. Psychologia poznania [Psychology of cognition]. Gdańsk: GWP.
- Mączyńska E., 2011. Ekonomia w warunkach gospodarki nietrwałości [Economy in conditions of impermanence]. In: Polska Myśl Strategiczna. Na spotkanie z enigmą XXI wieku [Poland strategic thought. to meet the enigma of the 21st century]. Warszawa: *Biuletyn PTE*, nr 2 (52), PTE.
- Mikołajek-Gocejna, M., 2014. *Investor expectations in value based management.* New York: Springer International Publishing. https://doi.org/10.1007/978-3-319-06847-3
- Mill, J. S., 1962. System logiki dedukcyjnej i indukcyjnej. T. 2. [Deductive and inductive logic system]. Warszawa: PWN..
- Mill, J. S., 2000. Essays on some unsettled questions of political economy. Kitchener: Batoche Books.
- Miu, A. C. and Crisan, L. G., 2011. Cognitive reappraisal reduces the susceptibility to the framing effect in economic decision making. *Personality and Individual Differences*, 51, pp. 478-482. https://doi.org/10.1016/j.paid.2011.04.020

- Morawski, S. W., 2001. Socjologia ekonomiczna. Problemy. Teoria. Empiria [Economic sociology. problems. theory. empiricism]. Warszawa: PWN.
- Morris, J. A., Urbanski, J., and Hunt, J., 2010. Unto others: Illustrating the human capacity for cooperation. *Journal of Management Education*, 35(2), pp 260-281. https://doi.org/10.1177/1052562909358557
- Muth, F. J., 1961. Rational expectations and the theory of price movements. *Econometrica*, 29(3), pp. 315-335. https://doi.org/10.2307/1909635
- Persky, J., 1995. Retrospectives: The ethology of homo economicus. *The Journal of Economic Perspectives*, 9(2), pp. 221-231. https://doi.org/10.1257/jep.9.2.221
- Rao, P. K., 2000. Sustainable development: Economics and policy. New York: Willey Blackwell Rustichini, A., 2005. Emotion and reason in making decisions. Science, 310, pp. 1624-1625. https://doi.org/10.1126/science.1122179
- Rustichini, A., Dickhaut, J., Ghirardato, P., Smith, K., and Pard, J. V., 2005. A brain imaging study of the choice procedure. *Games and Economic Behavior*, 52, pp. 257-282. https://doi.org/10.1016/j.geb.2004.08.005
- Sachs, D. J., 2006. The end of poverty: Economic possibilities for our time. New York: The Penguin Press.
- Schräder, O., 2007. Wohin Wollen Wir Gehen?: Homo Oeconomicus und Homo Cooperativus-Tragfähige Konzepte Für Die Zukunft? [Where We Want to Go: Homo Oeconomicus and Homo Cooperativus-Carrying concepts for the future], *Science*, Vol. 185(4157). Neu-Ulm: AG-SPAK-Bücher. http://dx.doi.org/10.1126/science.185.4157.1124.
- Simon, H. A., 1991. Bounded rationality and organizational learning. *Organization Science*, 2(1), pp. 125-134. https://doi.org/10.1287/orsc.2.1.125
- Smith, A., 1759. *The theory of the moral sentiments*. Amherst, NY: Prometheus Books, Adam Smith Institute. https://doi.org/10.1093/oseo/instance.00042831
- Smith, A., 1776. An Inquiry into the Nature and Causes of the Wealth of Nations. London: W. Strahan. https://doi.org/10.1093/oseo/instance.00043218
- Sober, E. and Wilson, D. S., 1998. *The evolution and psychology of unselfish behavior.* Cambridge, MA: Harvard University Press.
- Spence, M., 1973. Job market signaling. *Quarterly Journal of Economics*, 87(3), pp. 355-374. https://doi.org/10.2307/1882010
- Stępien, B., Szarzec, K., 2007. Ewolucja poglądów teorii ekonomii na temat koncepcji człowieka gospodarującego [The evolution of the views of economic theory on the concept of Homo oeconomicus]. *Ekonomista*, 1, pp. 13-35.
- Stiglitz, J. E., 2002. Information and the change in the paradigm in economics. *American Economic Review*, 92(3), pp. 460-501. https://doi.org/10.1257/00028280260136363
- Tapscott, D., and Williams, A. D., 2010. *Wikinomics: How mass collaboration changes everything.*New York: Portfolio.
- Tapscott, D., and Williams, A. D., 2011. *Makrowikinomia. reset świata i biznesu [Macrowikinomics. Rebooting business and the world]*. Warszawa: Studio Emka.
- Thaler, R. H., 1980. Toward a positive theory of consumer choice. *Journal of Economic Behavior and Organization*, 1, pp. 39-60. https://doi.org/10.1016/0167-2681(80)90051-7
- Bagozzi, R., 2010. *Neuronauki i zarządzanie* [Neuroscience and management], Interviewed by Tkaczyk, B. J., Manager, 30 May 2010. http://manager.inwestycje.pl/nauka_manager/Richard-Bagozzi-neuronauki-i-zarzadzanie; 110949;0.html> [Accessed on 30 May 2010].
- Tosoni A., Galati G., Romani G. L., and Corbett M., 2008. Sensory-motor mechanisms in human parietal cortex underlie arbitrary visual decisions. *Nature Neuroscience*, 12, pp. 1446-1453. https://doi.org/10.1038/nn.2221
- Tversky, A. and Kahneman, D., 1974. Judgment under uncertainty: Heuristics and biases. *Science, New Series,* 185(4157), pp. 1124-1131. https://doi.org/10.1126/science.185.4157.1124
- Udehn, L., 2002. The changing face of methodological individualism. *Annual Review of Sociology*, 28, pp. 479-507. https://doi.org/10.1146/annurev.soc.28.110601.140938

- Ulrich, P., 2000. Integrative economic ethics towards a conception of socio-economic rationality. In: P., Koslowski, ed., 2000. *Contemporary economic ethics and business ethics*. Berlin: Springer Verlag. pp. 37-54.
- Weber, M., 1978. *Economy and society: An outline of interpretive sociology.* G. Roth, and C. Wittich, eds. Berkeley: University of California Press.
- Williamson, O. E., 1998. Ekonomiczne instytucje kapitalizmu: firmy, rynki, relacje kontraktowe [Economic institutions of capitalism: companies, markets, contractual relationships]. Warszawa: PWN.
- Woźniak, M. G., 2013. Od gospodarki "ekonów" do zintegrowanego rozwoju poprzez nową edukację ekonomiczną [From the economy of the "econos" to integrated development through new economic education]. In: IX Kongres PTE, "Ekonomia dla przyszłości. Odkrywać naturę i przyczyny zjawisk gospodarczych" [IX Congress of PTE, "Economics for the future. Discover the nature and causes of economic phenomena].
- Zajonc, R. B., 2000. Feeling and thinking: closing the debate over the independence of affect. In: J. P., Forgas, ed., 2000. *Feeling and thinking: the role of affect in social cognition. Studies in emotion and social interaction.* Cambridge: Cambridge University Press. pp. 31-59.
- Zdrahal-Urbanek, J., 2004. The recognition heuristic: the role of cues, contradiction and reliability, and its applicability in non-size non-dominance settings. Vienna: Unpublished Doctoral Thesis.