

## The field of evolutionary and neoclassical economics as a consequence of the changes in concepts of human nature

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**Abstract.** The economics depends on the concept of human nature very strongly. The concepts of human nature can be understood as a set of assumptions made about the individual (on different levels: behaviour, motives, meaning) and his interactions with other people, with groups and diverse institutions. It corresponds with the image of world people have. The models of human nature build foundations of economics and impact on the field of the economics. Therefore if those images of men change, the way of thinking about economics and their elements adjust to those changes as well. The goal of the paper is to present the impact of these alterations of image of man on the economics. This impact will be illustrated on the example of the evolutionary economics, which is contrasted with the orthodox concept of human nature persisting in the neoclassical economics – homo economicus. The method applied to this research is, among others, a content analysis of the most important texts developed within neoclassical and evolutionary economics. To reach this goal the definition of the concept of human nature will be introduced, accompanied by the main dimensions and levels of this concept. Then the variations of the concept of human nature at those levels and dimension will be compared between neoclassical and evolutionary economics. Differences in understanding of the field between those two schools will be explained as resulting from the diverse concepts of human nature. The analysis proved that the main differences in those economic schools might be explained by the changed assumptions about the human nature and the image of the world.

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### INTRODUCTION

The economics is meanwhile in the stage of development<sup>1</sup>, characterised by the emergency of many different economic schools and the vivid interest between economists in the future of economics. Researchers

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<sup>1</sup> In the sense of stages of development, described by Kuhn, 2007.

are especially concerned with the question, whether the mainstream economics has to change, and which paradigm is going to be dominant. Moreover they are concerned about the reasons of those changes and their consequences for economics. However there are only few researches about the relevance of the concept of human nature<sup>2</sup> and rarely economists deal with the question of levels in the concept of human nature<sup>3</sup>, and even less with their impact on the foundation of economics.

The alterations in the concept of human nature<sup>4</sup> affect primarily the changes in understanding of the economics within particular economic schools, which influence as well the orthodox economics. Therefore in order to anticipate the changes in the core of economics, it is necessary to estimate the possible impact of the concept of human nature within diverse economic schools. Although the paper doesn't answer the question, whether evolutionary economics will replace homo economicus or not, it's worth saying that some authors (Reinert, 2003: 161, Glapiński, 2012: 278) see the future of economics in its evolutionary stream. Accepting evolutionary economics as a mainstream economics would necessarily mean the destruction of the already existing fundamentals of economics. The most important part of those fundamentals is constituted by the assumptions about the human nature (homo economicus). They should then eventually be replaced by another concept of human nature. Such a change would cause alterations as well in understanding of the field of economics. In this paper, economics doesn't refer only to the mainstream economics, but include as well heterodox economics.

The history of economic thought proved that the heterodox economics has had an impact on the mainstream economy as well, usually by slipping in to the mainstream building of economics by leaving there some elements, which mainstream economics adopted<sup>5</sup>.

There are some good reasons for choosing here the evolutionary economics as example. For instance: its growing popularity among economists in last decades, it's wide developed research program including micro- and macroeconomics and its very interdisciplinary character, which allows for more profoundly understanding of economic phenomena<sup>6</sup>.

The main purpose of the paper is to present how and why changes in the concept of human being have an impact on our understanding of the field of economics. This will be illustrated on the example of neo-classic and evolutionary economics. The central thesis of the paper is that the understanding of economics depends on the main assumptions about human being.

The method adapted to reconsider this thesis – is a content analysis of the most important texts emerged within those schools, and interpretations delivered by particular economic associations which contribute or even build up a specific school of economics. Whereas the model of man in mainstream economics is formulated in a very explicative way (Horodecka, 2014a) and takes form of very clear assumptions, in other schools the concept of human nature is rarely formulated in form of such formal assumptions, is less explicative and often implicit. Therefore it's necessary to conduct a content analysis of some crucial works in evolutionary economics<sup>7</sup>.

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<sup>2</sup> See a discussion and overview by: Horodecka, 2015; Horodecka, 2012a; Horodecka, 2014a.

<sup>3</sup> They are more present in the heterodox economics, for instance Becker, 2006.

<sup>4</sup> For reasons of the changes see: Horodecka, 2014f.

<sup>5</sup> For instance: institutional economics.

<sup>6</sup> Although this same can be said about some other schools of economics either, there is one very interesting issue about evolutionary economics – namely the fact, that it is basing on the evolutionary theory, which is on its way to be adopted not only by natural but by social sciences in general as well. According to Reinert, 2003: 161: 'Today evolutionary economics - based on a tradition founded by the Austrian Joseph Alois Schumpeter - represents the most important challenge to the mainstream'.

<sup>7</sup> Evolutionary thought bases and comprises following schools: Neo-schumpeterian thought, Neo-Austrian economic thought, Post-Veblen Institutional School; Dopfer, Potts, 2009, Nelson, Winter, 2004, Ramstad, 1994, Cordes, 2007, Hamilton, 1991, Veblen, 1898, Boulding, 1969, Boulding, 1978, Boulding, 1981, Boulding, 1991; Schumpeter, Röpke, 2006.

The paper is eventually constructed in a following way – firstly concept of human nature is defined and basic dimensions and levels of it are distinguished. Secondly the image of man in neoclassical and evolutionary economic thought is compared at levels and dimensions distinguished in the first step. In the third step the changes of understanding of economics resulting from those alterations are analysed. In last section – a conclusion, the differences between those two schools in regards of their field are explained by differences in their concept of human nature.

## 1. CONCEPT OF HUMAN NATURE – DEFINITION, LEVELS AND DIMENSION

The concept of human nature is a very complex term and its meaning depends often on the discipline in which it is defined. However the following general definition reveals essence of this concept. Concept of human nature encompasses assumption which people make about individuals and groups, in order to reduce the complexity of the world (see for instance Oerter, 1999; Fahrenberg, 2007; Haller, 2012)<sup>8</sup>.

Generally we can differentiate in the concept of human nature three levels: the upper level is the worldview (see: Horodecka, 2014d), then it comes the social world and finally the individual world. The upper level gives us an impression about the nature of the world and basic connections between the humanity – nature and eventually supra-nature (believes in God, or other beings, or transcendent values). The second – social world – tell us about the basic character of the relation within the humanity, within social groups and between them. Do they base on altruism or egoism, on hierarchy or equality, traditions or openness to new? What are the basic social values? These are questions, which the concept of human nature provides on this level. The third level is the individual level, which gives us an insight into three different dimensions of human being as individual, which can be metaphorically described as body, soul and mind (basing on anthropological discourse: see for instance: Pleger, 2013; Fahrenberg, 2012; Fahrenberg, Cheetham, 2007; Schilling, 2000, Thies, 2004). The body-level gives insight into the most objective level of human being – his/her behaviour. At this level we can objectively describe and characterize human behaviour. However in order to understand why human being is behaving in a particular way, we have to approach the higher level – the soul, which tells us about various human motives and values. For accessing this level we have to use inter-subjective methods. Doing so, we can get knowledge about motives responsible for the actual behaviour. However we still don't know about the hierarchy of the motives and values. In order to learn about this hierarchy, we need to access the higher level – that of the mind. At this level, we reason about the meaning of life, and therefore we build a hierarchy of values and norms, which helps to resolve potential conflicts of values and norms from the level below.

## 2. NEOCLASSICAL AND EVOLUTIONARY CONCEPT OF HUMAN NATURE

In the following paragraph the concepts of human nature of neoclassical and evolutionary economics will be compared regarding levels and dimensions discussed above.

### a) Worldview

The concepts of human nature compared at the most general level (i.e. the worldview) are diverse in neoclassical and in evolutionary economics. Those differences result from the different view on the nature

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<sup>8</sup> For broader discussion about CHN, see: Horodecka, 2014d; Horodecka, 2012b; Horodecka, 2014a; Horodecka, 2014f.

of the world. Whereas in neoclassical economics the world is perceived as stable<sup>9</sup>, in evolutionary economics it is characterised by the principle of the change. This has an impact on looking on a human nature – as stable part of this fixed world or as a changing, adjusting human being<sup>10</sup>. The basic metaphors used for the world reveal as well a further difference in understanding of human being. Whereas neoclassic economics uses mechanistic one delivered from the Newtonian/Cartesian image of world, the evolutionary bases on the biological metaphor having its sources in the Darwinist/ neo-darwinist image of world, which is adapted to social processes. According to the first view there are no intersections between material and non-material world, whereas in the second the connections can be well seen especially in the role of non-material information and knowledge, which is carried by material objects. The further difference lies in the assumption about independent objects prevailing in the neoclassical economics, which can be contrasted with the assumed holon-nature of the world consisting of interdependent net of objects in the evolutionary economics. Last but not least in neoclassical economics the relation between the humanity and nature is denied or not considered, which has a consequence in the assumption of unlimited possibilities of the economic growth. In the evolutionary economics the nature puts constraints on the humanity, so that there is no place for an unlimited growth. Economic growth has to be always considered within the ecological system (similar assumption we have in the ecological economics).

## **b) Social world**

There are many vivid differences in the view of social world as well. Many of these are the logical consequence of the worldview and paradigmatic differences. In the neoclassical economics the social world consists of self-interested and self-sufficient independent competitive beings, which form their preferences independently (Kliemt, 2004, Schramm, 1996, Kapeller, 2008, Manstetten, 2000). Therefore the relations base on egoism and competition about limited resources.

In the evolutionary economics the society is forming the individual by influencing his/her preferences. It is moreover assumed that the individuals act in social relations both altruistically and egoistically. The interest of the group is relevant for the survival of the society and of the individual. The arguments for reasons of such behaviour are provided by the evolutionary psychology (Buss, 2009, Wright, 2010) – a group whose members helped each/other, had far more chances of surviving Dawkins (Dawkins, Skoneczny, 1996) provides another argument: the individual help people, who share their genes, because the real motive is not to survive as an individual but to make the gene survive. Therefore social relations base both on the cooperation and competition.

## **c) Individual world**

The neoclassical and evolutionary economics differ extremely in their general assumptions about the human being. Neoclassical economics bases its analyses on the standardised homogeneous, representative being (Aruka, Mimkes, 2006: 146)<sup>11</sup>, which is called homo oeconomicus or an economic man: the rational, self-sufficient and egoistic optimizer – calculating the best result for him/herself, pre-formed by the nature in that way. The nature-nurture problem is here solved in the credit for the nature. Furthermore it's assumed

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<sup>9</sup> Stable in the long time, in short time it may be out of balance.

<sup>10</sup> Whereas in the neoclassical worldview, the equilibrium in a thermodynamic sense, an optimal state is assumed, together with the entropy of 0, in the evolutionary economics there is assumed no equilibrium and no optimal state.

<sup>11</sup> This view on man however is not congruent with the reality, so we speak here with Georgescu-Roegen, 1971 about fiction of homo oeconomicus.

that human being is stable, context free and doesn't change in time and space. The dualistic vision of human being makes economics dealing only with one part of individuals – the materialistic part, which resembles an atom<sup>12</sup>.

Just the opposite is assumed in **evolutionary economics**, where at the very beginning we deal with a complex, reality-close man, satisfier, who doesn't look for optimizing his/her needs, but to be in balance with the environment, sub-rational, not-self sufficient, both egoistic and altruistic, adapting to the environment, through learning and thus changing. Moreover it can be treated as a 'holon' having many different dimensions. The nature-nurture problem is solved in evolutionary economics by respecting both genetic influence (nature), and adapting through learning (nurture). There is no place for individualism, because the individual is always perceived in a context, embedded in culture, time, society, world. Besides: the focus is here not put on the individual but on the 'gen' – information in it, which takes form of knowledge and is passed to other organisms. In this sense human being is less fixed object but more a process, which changes with time/place and depend on the environment. It means that the human being is very heterogeneous (Aruka, Mimkes, 2006).

### 3. THE IMPACT OF CONCEPT OF HUMAN NATURE ON THE FIELD OF ECONOMICS

The understanding of economics depends on the concept of human nature, what can be seen in the classical definition of economics (Robbins, 1932), which reveals the basic assumptions about human nature discussed before. This definition is still used in most of contemporary textbooks about the economics. The evolutionary economics may be defined and understood in threefold sense: 1) explaining economy as evolving system (what means that evolutionary economics is evolving itself), 2) as economics of evolving economy and 3) as the theory of evolving economics (Nishibe, 2006)<sup>13</sup>. Glapiński, 2012: 284 defines the evolutionary economics as a set of economic concepts, which look for ways of the theoretical and empirical interpretation of all economic processes (above all of development and crisis) using the analogy of the process of the biological evolution.

Concepts of human nature affect moreover other parts of economics most of all its goal, field, methodology, methods and basic theories. However the aim of the paper is to focus on its impact on the field of the economics.

The table below (Table 1) provides an overview of the different fields of neoclassical and evolutionary economics, which are then discussed as a result of different assumptions about the human nature.

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<sup>12</sup> In consequence the vision of man is said to be reduced to the basement Klimczak, 2000: 11-29.

<sup>13</sup> Economics according to evolutionary economics can't be constrained only to the observation of socioeconomy from outside it and explaining its structure and mechanism from an evolutionary perspective but also has to become more self-aware of itself as social practice within socioeconomy.

Table 1

Field of economics in neoclassical and evolutionary economics

	Neoclassic economics	Evolutionary economics
General characteristics & Collaboration with other disciplines	<ul style="list-style-type: none"> <li>- Narrow</li> <li>- there is no necessity of collaboration with other disciplines</li> </ul>	<ul style="list-style-type: none"> <li>- Wide</li> <li>- Collaboration with other disciplines is crucial in order to explain the field thoroughly especially with such boarder disciplines as: evolutionary science, social psychology, sociology, psychology</li> </ul>
Micro-processes	<ul style="list-style-type: none"> <li>- Micro-processes are crucial but they are very strong reduced</li> </ul>	<ul style="list-style-type: none"> <li>- The micro-processes are in the focus of the analysis (especially in the firms) in their heterogeneity are central 21</li> </ul>
Behaviour	<ul style="list-style-type: none"> <li>- The standardized behaviour of the individual or form (considered always as an abstract unit) bases on pre-defined assumptions is basis for economic thinking, but is limited very strongly by the assumptions of homogeneity</li> <li>- Only material objects are considered</li> </ul>	<ul style="list-style-type: none"> <li>- The behaviour of the individual and the firm are in the focus of the analysis and analysed in all their heterogeneity</li> <li>- Not only material objects</li> </ul>
knowledge	<ul style="list-style-type: none"> <li>- Knowledge as information, a freely accessible good</li> <li>- Knowledge is a very random field, introduced to the economic theory firstly as the technological progress was edogenised – at the beginning it was exogenic (‘coming from sky’).</li> <li>- It’s treated as resource.</li> <li>- Education &amp; research are treated as investment buying and selling are only methods of acquiring goods and resources (knowledge as well)</li> </ul>	<ul style="list-style-type: none"> <li>- Knowledge is more than information and is not free, and is much more a process than a good</li> <li>- Knowledge and the ways of acquiring it are in focus (Education and learning are crucial way of acquiring it)</li> <li>- It’s treated as a process</li> <li>- Education &amp; research are very important not only in the sense of public policy but for entrepreneurship, institutions, notations, entrepreneurship</li> </ul>
Exchange processes	<ul style="list-style-type: none"> <li>- Are oriented on utility/profit considerations on the market (considerations taken on the market) understood in a very universally and abstract way</li> </ul>	<ul style="list-style-type: none"> <li>- Are taken on the market (understood in a much broader way) and beyond it (public procedures and other adaptations using knowledge) (Eparvier, 2005: 222)</li> </ul>
The sort of processes analysed	<ul style="list-style-type: none"> <li>- Balance processes on the market</li> </ul>	<ul style="list-style-type: none"> <li>- Imbalance processes, which transform the economics from inside with consequences for outside</li> </ul>
Basic concepts	<ul style="list-style-type: none"> <li>- Stable -states</li> </ul>	<ul style="list-style-type: none"> <li>- Institutional and economic change, transition processes, in economics systems</li> <li>- Self induced change in the economic system by occurring of something new and its endogenization = distribution and consequences</li> </ul>
Economic system	<ul style="list-style-type: none"> <li>- A closed system</li> </ul>	<ul style="list-style-type: none"> <li>- An open and autopoietic system</li> </ul>
Time and space	<ul style="list-style-type: none"> <li>- A historical and acultural a crucial approach to economics</li> </ul>	<ul style="list-style-type: none"> <li>- Integration of the historical perspective</li> </ul>
Macroeconomic phenomena	<ul style="list-style-type: none"> <li>- Economic growth</li> </ul>	<ul style="list-style-type: none"> <li>- Economic development</li> </ul>
Market	<ul style="list-style-type: none"> <li>- Economics is dealing only with human behaviour on the market</li> </ul>	<ul style="list-style-type: none"> <li>- Economics is dealing with human behaviour beyond the market</li> </ul>

Source: author’s compilation

Generally speaking a very reduced and stable view on human being results in a very narrow understanding of the field of economics and no or little cooperation with other disciplines (treated more as tools – like mathematics for instance). On the contrary a very complex idea of human nature in the evolutionary economics results in the wider field of economics and in more intensive dialog with other disciplines. Evolutionary economics by assuming changes of human being and its environment has to cooperate with disciplines analysing those changes, occurring in culture, habits and institutions. Those arguments will be now explained in detail in the following paragraph.

The reduced individualized, rational, and material concept of human nature in neoclassical economics thought, including only people's action on the market narrows the field of economics, encompassing only decisions, which are basing on the rationality principle. The neoclassical economics grounding on homogeny concept of human nature is analysing only common idealized features of human behaviour, not regarding impact of culture and time. The dualistic Newtonian and Cartesian view on world and human being results in narrowing the field of economics only to material objects. This causes for neoclassical economics difficulties in integrating knowledge, information and learning processes in the reality-close way. As a result neither the process, nor character of knowledge, nor the process of learning as a way of acquiring and building knowledge aren't considered as a field of economics. Problems in integrating are caused as well by the materialistic assumptions of the world and man leading to the fact that information is treated as free and available resource. The education is reduced to an investment for better income. The stability of world makes it almost unnecessary to learn – only the aspect of passing knowledge to children counts, but the economy needed a category of long time to deal with this aspect. The reason for so long disinterest in education is that economics was concentrated only on exchange on the market. As soon as the children can't act on market by themselves<sup>14</sup>, they have to be represented by their parents. However parents according to utilitarian way of thinking don't have a motivation to do so. It's as well an investment as soon as education and knowledge means more resources and higher income. Although the neoclassic economic school tries to explain the process of distributing knowledge using concepts of the spill-over effect or by buying technologies (catch-up effect in the growth theory) of development countries doesn't provide a satisfactory explanation. The materialistic and reduced image of man in the neoclassic lead to such an unrealistic assumption that info is free and access to information is unlimited, what made it unnecessary to deal with the knowledge. Even the endogenizing of the theory of technical progress and seeing in innovation, knowledge and important source of technical progress haven't changed the character of knowledge in the neoclassical thought. It is assumed that knowledge may be produced, sold and bought. This doesn't pay enough credit to the process of passing knowledge. This process involves not only buying a ready product but as well developing knowledge by investing not only in a 'productive science' (bringing prompt income or a chance for it), but as well in this part of knowledge, which seems not to pay-off at first sight. It is referred here for instance to the philosophical, humanistic, arts, cultural and religious studies and basic research. Moreover the processes of learning and passing knowledge base not on the relation selling-buying, but include trust. The 'buyer' of the knowledge is not only 'customer' who buys a product, he/she is somebody who has to learn which can't be replaced by 'buying' and 'having', but involves more complex processes of transformation of the 'buyer'.

On the contrary evolutionary economics assuming a priori the heterogeneity of human actors and their dependence on culture and history has a much wider field of economics. It encompasses not only what is happening/traded on the market, but all institutions (like institutional economics does), culture, and time. The close observation focuses on such objects like goods and services, technology, institutions, basing on knowledge and economic behaviour. Evolutionary economics is focussing here on the detailed analysis of

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<sup>14</sup> Although in recent times, the market is welcoming them as consumer spending money given to them by parents.

micro-processes in their social context providing much more insight in the economic process. Those micro-analyses especially those of firms (Eparvier, 2005: 228) are fundamental for macro-level (Nelson, Winter, 1982: 232). The fact that a human being is not reduced only to material basement and that the world encompasses both material and non-material objects widens the field to the analyses including especially social, cultural, institutional and knowledge-related aspects. The wider field of evolutionary economics means as well that it has an intensive interaction with other disciplines. Evolutionary economics perceives itself as open to other disciplines, not only for social areas but as well for economics, sociology, social psychology, linguistics and philosophy, and natural sciences as well: physics, biology, geo-sciences, cosmic science and engineering (Nishibe, 2006: 8), and of course evolutionary theories, which in meantime have its impact on various disciplines. Evolutionary economics thus seeks to form an association with a great diversity of disciplines beyond the borders inside and outside of the economics – new trans-disciplinary social science, which integrates humanities and science<sup>15</sup>.

The specific image of man in an evolutionary economics perceived here as a carrier of ideas and human organization<sup>16</sup> made knowledge a central field of the economics. The procesual character of knowledge got crucial for understanding of all transformations happening not only on the market, but beyond the market as well. Because of all that the knowledge can only be acquired by learning, put the process of learning to the research field as well especially in terms of adaptation (Söllner, 2001). The good knowledge is something, which enables society, entrepreneurship/human being to survive through adaptation (Söllner, 2001). In the centre of analysis there are humans in all their diversity and institutions as carriers of knowledge.

Although the market belongs to the centre of the field of research, both schools, there are big differences in the way of understanding it. For mainstream economics the market is a very abstract place where monetary transactions are taking place. The market is here nothing more as a natural analogue computer (Nishibe, 2006), on which transactions take place at equilibrium prices. Market is moreover understood as a tool for calculation. Additionally it's assumed that buying/selling is the only way of acquiring objects (goods/services and resources) and in extended approaches – the knowledge of firms. For evolutionary economics market is treated as institution with its history, evolving rules, changing with the evolution process of adaptation. The market (ontological descriptor) is a complex and dynamic and social institution (Nishibe, 2006: 8). Individual transactions take place in a broad time perspective on non-equilibrium prices that satisfy both buyers and sellers, what is a consequence of the assumption that human nature are satisfiers not optimizers. Moreover markets exist here like loose networks. This is a consequence of assuming that human being is a social, heterogeneous person, looking for complex meaning. Market is as well treated as a socio-political field where the mutually colliding aims and interests of different individual's are reconciled peacefully in the form of economic transactions. The market is likewise an autopoietic system or a spontaneous order, self-generating and self-organizing. In difference to the neoclassical assumption there are different methods of acquiring important goods as knowledge for instance – through learning.

The difference lies as well in the approach to decisions. Whereas neoclassic economics takes under consideration only decisions motivated by utility/profit – maximization<sup>17</sup>, the evolutionary economics considers as well decisions took by means of public procedures (Eparvier, 2005: 222), by political instances. This is a consequence of the assumption that humans are shaped by other people, institutions, time and place. Whereas the neoclassic economic focuses primarily on balancing processes on the market<sup>18</sup>, evolutionary

<sup>15</sup> Hodgson's 'Economics and Evolution' (Hodgson, 1998) is here the best example. He integrates in the evolutionary view on economics the ideas of Smith, Malthus, Marx, Marshall, Menger, Walras, Schumpeter, Veblen, Hayek.

<sup>16</sup> Firms, with all their institutions are here very important sources and carriers of generic ideas.

<sup>17</sup> Due to its concept of human nature including only the homogenic and reduced motivational dimension.

<sup>18</sup> Due to the assumption that the world has a thermodynamical optimal steady-state point.



economics due to the assumed heterogeneity takes as well a closer look especially on imbalance processes which transform the economics from inside with consequences for outside.

On the macro-level both schools are dealing with changes occurring in time. Whereas neoclassic economics is focusing here on the economic growth – as a consequence of materialistic view of world, human being and assumptions of economic system, evolutionary economics is concerned more with development, focusing more on qualitative changes.

Both schools count to the field of economics the crises. However they have completely different approaches to them as result of different concepts of human nature. Whereas for **neoclassical economics** economic crises are something, which occurs due to the intervention in the perfect market and are treated as an negative exemption of the rule of balance, for **evolutionary economics** they are something natural and positive<sup>19</sup>. The positive character is that they similar to ideas are creating something new and give the opportunity to the further development. Without crises the development weren't possible (Glapiński, 2012: 297). The adaptation mechanisms due to crises have much deeper character in the evolutionary economics.

Both economic schools count to their field of research the economic system but take different assumption about them. For the neoclassic the economics system is synonymous to the market and independent from other systems, whereas for evolutionary economics it is only a part of other systems (social and ecological system). Moreover evolutionary economics assumes that the economic system is similar to the market an autopoietic one, which generates its own way of answers to the impulses from outside by generating some rules and institutions. This system creates itself every time in a new way by the permanent exchanges with outside. The characteristic autopoietic systems were characterized thorough fully by Luhman who perceived social system as communicative autopoietic systems (Luhmann, 1990).

Although both economic schools are considering as a field of its research many common processes and phenomena, they differ in the approach to those. Whereas the neoclassic economics due to the assumption about the homogeneity, ahistorical and acultural character of human being focuses on repeatable, abstract essence of those<sup>20</sup>, evolutionary economics looks always on them considering them in their specificity. This affects as well the way of collaboration with other disciplines in order to explore the field. Whereas the neoclassical economics perceives itself as the best approach to explain economic phenomena and therefore sees no need to deal and learn from other approaches, the evolutionary economics, which integrates the historical and biological perspective for analysing real economic processes looks for exchange with other disciplines.

## CONCLUSION

The various assumptions about human nature, which are characteristic for neoclassical and evolutionary economics result in different perception of such foundations of economics as its goal and field.

The table below (Table 2) presents the most important differences of the concept of human nature among those both schools and their impact on understanding of the field of those schools.

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<sup>19</sup> The word crisis has its roots in the Greek, and here means something positive.

<sup>20</sup> Neither the changing historical context of economic process is considered nor the historical character of economics itself.

Table 2

The influence of concepts of human nature in neoclassic and evolutionary economics on the field of economics

Concept of human nature	Impact →	Field
<b>neoclassical economics</b> atom, homogenous, independent, stable, reduced needs=preferences, egoistic, competitive, rationality oriented on goals		Optimizing behaviour (=rational) between limited resources and unlimited needs Behaviour (only rational, egoistic) Market (abstract) Economic system – closed system Equilibrium prices Material phenomena (problems with information, knowledge, education) On <b>macro level</b> : economic growth, crises are caused by intervention, negative
↓		
<b>Evolutionary economics</b> Holon, heterogeneous interdependent, embedded in social an natural world, Changing, with various needs, altruistic and egoistic, cooperative and competitive, bounded rationality		<b>Macro level</b> : development processes, Crises – positive, natural <b>Micro</b> : knowledge, ways of acquiring and transferring it and multiplying by actors and institutions Market as institution, autopoietic system Economic system – embedded, open system

Source: author's compilation.

The neoclassical economics assumes the individual as a homogenous, independent, and stable being (like an atom) with needs reduced to preferences, and egoistic, competitive motives using reason only as an calculating instrument for realizing those motives (maximalization of utility). Such a concept of human nature influences the field of economics. The field in consequence is limited and reduced to optimizing behaviour (=rational) between limited resources and unlimited needs taking place on a market understood in an abstract way. Moreover only the rational and egoistic behaviour is taken into account. The analysis is reduced to the market, which is perceived in a very abstract way, which is brought into balance by the equilibrium price. The economic system is taken as a closed system, as a synonym to the market and consists only of material phenomena. This results in problems with including of information, knowledge, and education to the economic analysis. On the macro level the field of neoclassical economics is reduced to the analysis of the economic growth. Although crises belong to the field of economics, it is assumed that they are caused by intervention and they are treated as something negative.

Completely differently is in the case of the evolutionary economics, which assumes that a human is more like a holon, heterogeneous, changing in time and place, interdependent, and embedded in the social an natural world. Moreover he/she has various needs (both altruistic and egoistic, cooperative and competitive) and his rationality is bounded. Such an assumption about the human nature has an impact on understanding of the field of economics especially translates in the wider field of research. This field encompasses on the macro level: development processes, crises, which are taken as natural and positive phenomena. The economic system is understood as an embedded and open system. On the micro-level the field of economics encompasses the knowledge, and ways of its acquiring, transferring and multiplying by actors and institutions. Last but not least the market is taken as a social institution and an autopoietic system.

The general conclusion coming from the paper is that the economics should take a closer look on the concepts of human nature, as soon as they have an impact on the foundations of the economics as for instance the field.

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