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# Homo Economicus:

## Reality or myth?

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*Abstract*— The paper investigates into the assumptions of model homo economicus and changes in developing the theory over the decades. The aim of the paper is to introduce and discuss the assumptions and further offer an overview of different approaches. During past years the theory switched from homo economicus to real description of current people handling at financial markets. At the end we introduce a basic model that could be the background for further investigation of models replacing homo economicus.

***Keywords— homo economicus, rationality, financial market***

## I. Introduction

Homo economicus is the well know, general recognized model of "median"human. According to the model even if some people are not rational their irrationality is compensated by opposite irrationally of others. However as the reality on financial markets shows not always there exist opposite irrationality; in times when the market is biased, the median human seem to have different characteristic and thus the behavior differs.

Today´s economics is very concentrated on mathematics and forecast, it forgets about connections, explanations and so on. From this point of view also such big economist as Adam Smith, Keynes or Schumper wouldn´t be considered economists. [1] The assumptions of Homo economicus cannot help prevent or warn us from the crises because they don ´t admit them. And as we can see crises occur on the markets more often than whenever before. We use to many analyses, to many models and prognoses and don´t use our brain. We also omit considering or feelings and social environment. The causes of crises can be rational behavior and perfect market as during the house crises in US.[2]

The article will discuss the homo economicus model and its assumptions to show the possible week points. There will be also offered alternative conceptions to show the direction of current research and at the end we will offer an alternative model.

## II. Concept Homo Economicus

### A. *History*

The economical concept homo economicus appeared about 200 years ago. Although the term homo ecnomicus is broadly known its origin is not that famous. The roots of the concept can be found in the nineteenth century, in the work of economists like Adam Smith and David Ricardo. However, as creator of the model is generally identified John Stuart Mill, even if the actually never used the term homo economicus. Mill described the features of human interest as: accumulation, leisure, luxury and procreation. [3] The term first appeared in History of Political Economy written by John Kells Agram in 1888. Although this work was published in the late nineteenth century the term started to be used some decades later.

In the 20$^{th}$ century there were built mathematical models on the assumptions of homo economicus (for example Walras, Pareto). Since the first introduction of the model the model started to be one of the most used models. Nearly all currently used economical and financial models focus on the concept homo economicus or use some of its assumptions.

### B. *Model specification*

The main characteristic of economic human, or homo economicus, is the infinite ability to make rational decisions. Rationality in this context is defined as the well-being of an individual. According to the theory the well-being can be measured by utility function. Homo economicus has stable preferences defining his goals which should be reached with the less possible cost to the greatest satisfaction. What has to be high lined by this definition of rational behavior that there is no need of rational goals.

Homo economicus is an ideal picture of rational handling and thinking individual and is believed to be the median human. In economical point of view there is the rationality understood as utility maximum and homo economicus is absolutely rational. To be absolutely rational the individual needs to have all and balanced information, his decisions cannot be influenced by emotions and has to have stable utility function. Such a model is also called "cold heart" because emotions, psychological influence or social environment are excluded.

TABLE I. ASSUMPTIONS OF MODEL HOMMO ECONOMICS VS. REALITY

| **Homo economicus** | **Real behavior on financial markets** |
|---|---|
| Rational behavior | - Not always rational |
| No emotion | - Emotions count |
| Preferences known, stable in time, transitive… | - preferences changes |
| all information | - restricted cognition |
| The goal is maximum utility | - different goals |

The table shows that the assumptions of the model don ´t always appear in the reality. Participants of financial markets are influenced by emotion and thus not always rational. Moreover the model assumes that investors have all information, the reality shows that even facing all information

[1] Richard H. Thaler – From Homo Economicus to Homo Sapiens – page 151
[2] Richard H. Thaler – From Homo Economicus to Homo Sapiens – page 152
[3] Mill describe the features in his article On the Definition of Political Ecnomy and on the Method of Investigation Proper to It Publisher in 1836.

doesn´t help us to do a better decision. (One of the biggest bubbles was growing with the use of internet and spread of access to the information). The reason is that people cannot handle complex information and do difficult decisions; the human brain is not a computer.

As the table shows the **appearance** in reality seems to be not possible. Many researchers were testing these assumptions and realized that real human, even the median of them, don ´t behave as the model predicts. First of all people change their preferences during their life time, they are not able to exclude emotions from their decisions and usually have not all or even balanced information.

Even if all the assumptions used are best approximation of the reality, they still have many weak points and differ from reality a lot. There seems to be a need for more exact description of the reality. The theory started to move from **normative theory to descriptive** one. It is clear that we don´t need to know how the world should be but how it really is. Only in this way we can start to understand the market and form good expectation and thus also good decisions.

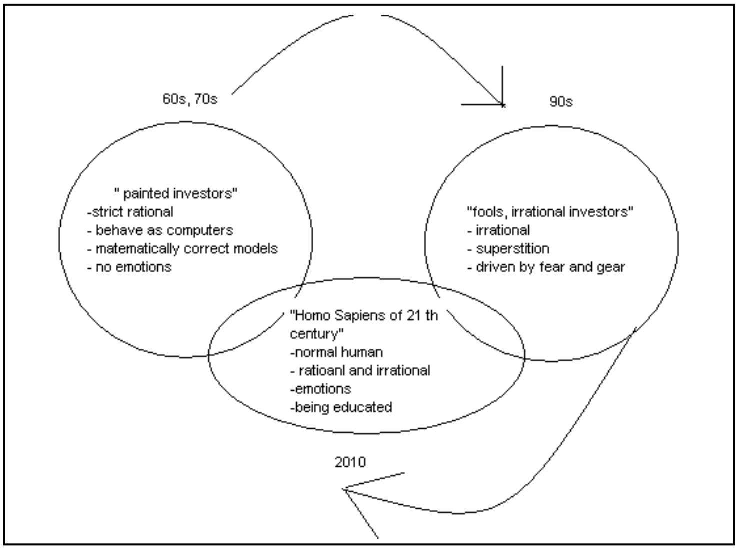
There were done many researches which showed that human´s brain doesn ´t wok as a computer and doesn´t make better decisions with more information, actually the opposite was showed. And from our history we see that there was one of the biggest bubbles caused by information technology spread. One of the reasons is that people cannot handle complex information and difficult decisions are usually simplified (oversimplified).

## III. Theory development

Homo economicus never changes, effectively it would mean that all the changes of past two centuries had no influence on economic man, thus on economic itself. The development of radio, television, telephone, self phone, and internet and Email didn´t changed homo economicus however changed homo sapiens a lot. It is the time to show the position of the model in reality and find renewal. All science as development, marketing or customer relationship management consider customer behavior and its changed, why do financial models omit them?

The effort to replace homo economicus is nearly as old as the term itself and the number of alternative models is huge; e.g. homo sapiens, homo mistakus, homo sovieticus and many others. Tens of terms try to describe the influence of psychology, social environment or emotion on human economic mind. The core of all these models, except from the politically influenced models, as homo socioeconomicus, is clearly concentrated on psychology.

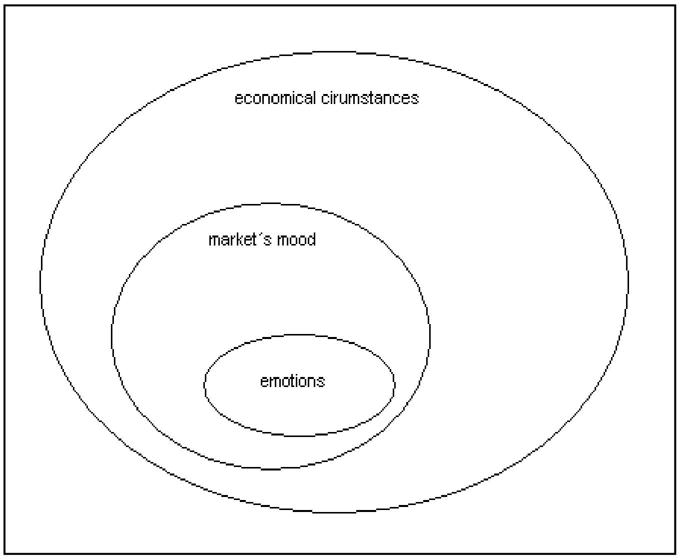
Figure 1. Development of perception of human being in economics




The model shows the changes in perception of humans within economics. The theory moved from theoretical concept of homo economicus, trough irrational beings, to description of current, real individuals.

Real people can be described only with difficulties; it is not that easy as by homo economicus. Within some circumstances can people behave rational, however they apparently do not act rationally always, as we can see during the bubble times.

If we want to describe real people currently acting on financial market there is needed more than just one way description. The model has to display the alternatives people face and circumstances that influence the end choice.




The final investing decision is not influenced only by economical circumstances of given investment, but also by mood of the market, surroundings and current emotions.

Figure 2. Decision´s background

The model describes the fact that we, people, live not in Vacuum and are influenced by our social environment, emotions and currents status. It would possibly be different in the case of Robinson Crouse, but in our cases we need to consider all the surrounding conditions.

New model is expected to describe the reality more exactly and thus include different alternatives of behavior. New models should not promise but should show possible outcomes.

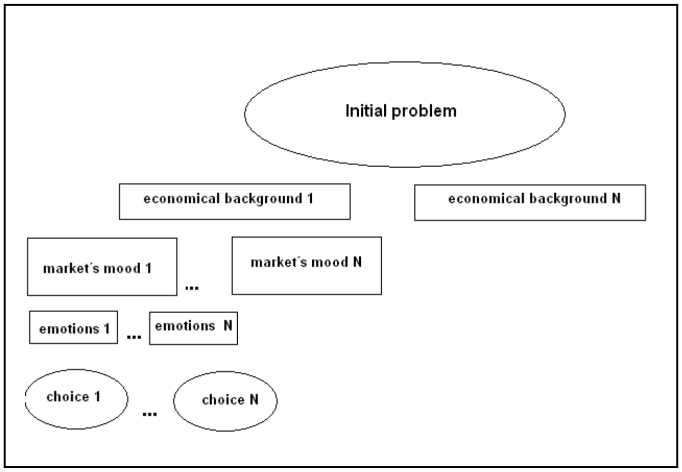



Figure 3. Decision Matrix

The model displays the reality of human decision, in some cases it can be ration and in different situations not, depending on current status of mind, environment and emotions. As the model shows different emotions and market´s mood are followed by different choices –decisions. Some of them can be fully rational and some completely irrational. The challenge for future research is to identify which chains of emotions, mood and background lead to inaccurate choices and how to prevent them on the markets.

# IV. Conclusion

Homo Economicus and models based on it seem to be very dangerous because it makes us feeling we understand what is going on, but how could we understand the reality if our assumptions are that irrational? How can we say that every one of us is rational if we know that we ourselves are not?
We have to admit that there is currently not a better model for economics and finance modeling than Homo Economicus but are a bad model really better than no model?

I strongly believe that the model has helped a lot by developing theoretical models and to understand the market. However from today´s point of view the model sets boundary to the theory and the theory cannot get closer to the reality. We need to leave the model and it´s assumptions and try to open our mind to the descriptive theory.

In my mind all the prognoses about the future of financial markets built on these assumptions should involve at least description of assumptions used for creating that prediction. Even if we know that animals or children are more successful by making an investing decision than our financial models we still believe them. We still learn us and teach our student about Homo Economicus even if we are not able to him alive.

The way how to start to use “a reality” for forming prognoses and making our decisions is to stop using models like Homo Economicus that are not working and start to work with description of real Homo Sapiens. One way how to do this is to use behavioral finance, teach them and try to find more about them. As we could see during the history there is no efficient market, the bubbles are coming more often than we want to admit. During the last 84 years, there was a bubble nearly every 3 years. Let´s say to many bubbles for an efficient market!

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