

# “NUDGE” IN BEHAVIORAL ECONOMICS– A POSSIBLE RESPONSE TO THE CHALLENGES OF HIGH INFLATION FOR 'BETTER' ECONOMIC DECISIONS OF THE INDIVIDUALS

*Aygun, Erturk-Mincheva, Plovdiv University "Paisii Hilendarski"<sup>1</sup>*

*Plamen D., Tchipev, Economic Research Institute at BAS, Plovdiv University "Paisii Hilendarski"<sup>2</sup>*

**Abstract:** *The behavioral economics upgrades the psychological characteristics of the economic agent, homo economicus, when analyzing an individual's decisions, emphasizing their biases. The nudge approach developed by Richard Thaler is a good tool for improving economic decisions made by the individual. The nudging policies, with their flexibility to different conditions, low financial burden, and low instrumental complexity, are widely applicable. The current high levels of inflation amplify the potential for nudges to improve the quality of people's economic decisions. This paper focuses on the possibilities of behavioral economics in the inequalities and promoting savings behavior provoked by current reality using smart disclosure and choice drivers, pre-commitment with setting consumption limits, and promoting the setting of aims.*

**Keywords:** *nudge, behavioral economics, Richard Thaler, inflation*

**JEL:** *D91, E71, G41*

## 1. Introduction

High inflation levels have a negative impact on individual economies as well as companies and individuals. The paper aims to show the potential for improving the quality of people's economic decisions through the so-called *nudges* – the popular tool of behavioral economics. The paper includes the following sections: next section analyzes the concept of *homo economicus (HE)* in economic theory to arrive at the main changed characteristics of the economic individual in behavioral economics. Furthermore it has been explored the decision-making process and psychological factors in behavioral economics and nudge technique in part three. The fourth section is devoted to the nudge approach and specific problems and the tools of their solution by behavioral economics. Lastly, the paper leads to its conclusions of the research.

---

<sup>1</sup> *Aygun Erturk-Mincheva, PhD, Plovdiv University "Paisii Hilendarski", Bulgaria, 0887411483, aygun.erturk@uni-plovdiv.bg*

<sup>2</sup> *Plamen D. Tchipev, Professor, Economic Research Institute at BAS, Plovdiv University "Paisii Hilendarski", Bulgaria, 0887 871 269, tchipev@uni-plovdiv.bg*

## 2. Homo economicus before behavioral economics

The place of the concept of *homo economicus* is central to traditional economic models. These studies begin with certain traits of behavior and contain the main postulates of economists about human psychology.

Just as *zoon politicon* (*homo politicus*) is considered a symbol of man in Aristotle's description of a social figure of his time, so *homo economicus* represents the view of man of the thinkers who introduced him from their time. Roots of the term *economic man* could be found in John Kells Ingram's *The History of Political Economy, 1888*. Criticizing J. S. Mill's definition of political economy, he states that it is committed not with real, but with imaginary people – 'economic people' conceived simply as 'animals that make money' (Persky, 1995). That understanding of economic man serving to define political economy by Mill and his followers, gives direction in the comprehend of the usefulness of J. Bentham. On its basis, the basic concepts of supply and demand, market and pricing are developed by the neoclassical school, where the nested characteristics of the concept of *an economic person are clarified*.

Neoclassical development clearly imposes the concept of *HE* in science as a representative image of the individual in economic research. It can be said to idealize classical traits and, with the trend of "pure economics", somewhat applies the idea of "clean" analysis to the consideration of the individual as well. Moral with psychological premises and analyses are set aside for a clearer distinction and imposition of mathematical understanding. The mechanics of utility and *self-interest* also require more specific characteristics.

With the development of science, from marginalism to rational expectations and game theory, the framework of rationality clearly becomes a set. This leads an individual to act all the time with ideal rationality and a clearly set preferences, pursuing maximum benefit, perfectly informed, completely selfish, with unlimited cognitive capacity. That description clearly outlines the unnatural, far-fetched, exaggerated features of the concept. The transformation of *homo economicus* from the initial meaning of the term goes through adaptation to the new reality, which allows new knowledge of man to be embedded in the concept in order to achieve a complete and real concept.

The critique of that "full" rationality starts with the institutionalism of Veblen and continues with Wesley Mitchell. However, finds its clarification from Herbert Simon. Another feature, related to rationality imposed on *homo economicus* concerns its computational abilities – the reason why people in economic analysis are called "calculators" by Veblen (1993). Simon takes the first step in better studying the economic agent as the author of the concept of bounded rationality. At its core is the thesis that even if it is willing to maximize, due to limited cognitive capacity, time and information, an economic agent makes a series of "simplifications" in order to arrive at "satisfactory" solutions (Simon, 1955). Even if humans intend to be so, they are incapable of being rational. Bounded rationality is consistent with our knowledge of the actual behavior of human choice. Furthermore, the decision maker must seek alternatives, at the same time has extremely incomplete and inaccurate knowledge of the consequences of actions and is able to select actions that are expected to be satisfactory. Simon uses the term *satisficing* as a mixture of *satisfy* and *suffice*. This decision strategy involves searching among available alternatives up to an acceptability threshold, i.e. a decision strategy involving searching among the available alternatives up to an acceptability threshold.

The indisputable bridge between these theories and behavioral economic theory are the ideas of institutionalism and, to an even greater extent, Simon's concept of bounded rationality. His

great step is also the basis for a change of *HE* in behavioral economic theory. The new view was adopted and further developed by O. Williamson and E. Ostrom, as well as evolutionary economists. Herbert Simon's work provides a basis for the development of both neoinstitutionalism and the overall idea of Behavioral Economics (BE) at a later stage, though he does not belong to the school. Based on his approach, the most important foundational findings for duality of thinking process and the heuristics and bias approach are built. The theory gaps, that have not been addressed to date were found. In general, the "choice architecture" and Richard Thaler's best-known methods and models, such as *nudges* and *mental accounting*, are built on the basis of Simon's "bounded rationality."

### 3. Decision making and psychological factors according to behavioral economics

Daniel Kahneman and Amos Tversky developed Simon's principles further in the study of the decision-making process. They examined the human mind and also established the two systems of thought in the decision-making process, editing and evaluation phases. Furthermore, they identified the influence of feelings and judgments differing in risk assessment, profit, and loss assessment. The most important conclusion of the research on cognitive relationships of individuals is that the rational agent has "a single cognitive system that has the logical ability of a flawless System 2 and the low computing costs of System 1" (Kahneman, 2003). Theories in behavioral economics on the basis of the rational model add hypotheses about cognitive limitations to register specific anomalies.

Understanding and developing the heuristics and bias approach plays an important role in behavioral economics. Primarily, the behavior economists use the mistakes in people's thinking. The automatic side of thought uses heuristics that are capable of leading to systemic errors. The first statement part of the heuristics and bias approach points out that people use shortcuts, simplifications, and problem reorganization to facilitate the decision-making process in uncertain situations, rather than logic and probability calculations.

Kahneman and Tversky initially pointed out the three main systematic heuristics: *anchoring and adjustment*, *availability and representativeness*.

- ***anchoring and adjustment***: Heuristics, in which people evaluate numerical results based on an easily accessible value – the "anchor" and adjusting to it to arrive at a sufficiently plausible answer. The fit is strongly influenced by the initial anchor.

- ***representativeness***: It represents the short scoring path for uncertain events based on similarity to a prototype.

- ***availability***: ease of recall; it is a process of evaluating frequency through "the ease with which instances or occurrences can be brought to mind" (Tversky, Kahneman, 1974).

The Prospect Theory (PT) is the third most important point of building the foundations of BE. It is also a framework for heuristics and is the alternative descriptive theory to the theory of expected utility. In summary, the contributions of PT are the indication of a reference point as a basis for comparison, *status quo* or goal, through it a subjective point is determined. Thus, the judgments about gains and losses are separated. The pain of losing outweighs the joy of winning. People use heuristics to manage complex decisions related to estimating probabilities and predicting values. Probabilities are assessed subjectively through heuristics, which implies the possibility of errors. One of the most important conclusions of Prospect Theory is that the choice of individuals is influenced by the way choices are formulated. The choice is influenced

by the situation, the wording, the settings, often by the understanding of gain or loss. Therefore, the choice can be formulated by highlighting the positive or negative side. People do not make the same choice by obtaining the same result, which are evaluated differently when the indication of the loss or profit in the formulation is different.

In general, the heuristics and bias approach and PT itself has become the technique by which behavioral economists developed their ideas of finding distinguishable traits from the Standard Model individuals and finding ways of applying to economics. Based on PT and dual-thinking, systematic constraints on individual decision-making are recognized and applied. In this sense, humans are *predictably irrational* (Ariely, 2012). The irrationality of individuals is repeatedly identical in kind.

#### **4. The "nudge" technique of behavioral economics**

At the heart of the construction of behavioral economics is the idea of a changed economic agent with its applied characteristics. Richard Thaler himself sees as the main reason for the insufficient predictive power of economic models this very idealized and irrelevant understanding of the economic agent. He pleaded to include real people with their actual traits in order to build an objective view of the world. The aim is to achieve the enrichment of economic research with the concept of *homo sapiens* for a more accurate view of the real world. Behavioral economics adds experimentally proven human traits beyond those of *economically sophisticated people* and bases its analyses on people's real responses and reactions. Moreover, behavioral economics believes that economics does not break away from its predecessors. However, it returns to its basics (Thaler, 2015).

R. Thaler's theories describe the true behavior of individuals. His most important conclusion from consumer choice theory research is that the orthodox economic model of consumer behavior is a model of "robot-like experts" (Thaler, 1980). Whereas real consumers follow reasonable practical rules in decision-making process, which leads to deviations from this expert model. Such deviations are the endowment effect and sunk cost fallacy.

The development of ideas related to the theory of consumer choice led to the construction of the concept of the so-called *mental accounting*. Thaler presents a new model of consumer behavior "a hybrid of cognitive psychology and microeconomics" (Thaler, 1985). Mental accounting in general describes the way resources and consumption are labeled and how they are grouped as regular income versus unexpected profits, consumption of basic necessities versus hedonistic consumption. Furthermore, this results how the revenues are directed among the accounts, with the decisions as to not spend savings on vacations. For instance, bracketing the choice has further impacts. For a too much narrow choice, bracketing leads investor to desire a quick compensation for previous losses without waiting the shares to become more profitable. Thaler's subsequent concepts are on the importance of self-control problems, social impacts, the role of hedonistic adaptation, and overreaction and the role of fairness.

The findings of behavioral economics make it possible to understand people's wrong decisions. The idea of applications is that people would change decisions if they had complete information, unlimited cognitive abilities, and no problem with self-control. Violations of rationality imply helping people when there is the slightest chance that they will not make the right choice. At the same time, it is important, considering all the effects in human behavior, to find a way to preserve the freedom of choice of the individual. The way of giving information must also be designed; the information is not effective, if the way of thinking and its impact are

not respected. Informing itself, without considering psychological factors, can give rise to fear and other emotions with consequences for the behavior of the individual. The content of this process of supporting an individual's decisions is generally called *nudge*. In general, the main features of the approach are lack of coercion, delicacy in application, low cost and focus on aspects that would be neglected by the *homo economicus*.

Choice architecture is the technology of nudge application to record the impact of small changes in context so that the design correctly responds to the stimulus-response relationship; the stimulus signal is consistent with the desired action. It requires the application of design questions that economists do not pay attention to, because they proceed from the premise that human behavior is behavior of HE with a flawless response system. In reality, we're dealing with *homo sapiens*, which have "system crashes," so objects and environments must be designed for humans.

*The nudge* embodies the architecture of choice to the greatest extent, as it relates to every aspect of the construction of choice. The choice architects are the people responsible for the organization of the context of decision-making. Analogous to architecture, design decisions are applied to the decision-making process.

The basic principles of the choice architecture are to provide for a default option, to comply with making mistakes, to provide feedback and a warning signal. In addition, it strives for people to improve their skills to build the right map between preferences, choices, and welfare. Nudges are based on the *heuristics and bias approach*. In some cases, heuristics themselves can serve as nudges, while other nudges target heuristics and biases.

The main and initial ways of nudging are giving a default option, using formulation and social influences. BE holds particularly much for the influence of the default option, which is mainly used because of the tendency to inert behavior and the use of the automatic system of thinking. Going beyond the *default option* generates an expense for the individual. Therefore, people are prone to inertia, and inertia is also an indicator of limited rationality.

Framing is used as a nudge through *formulation*, the choice depends in part on the way the problems and situation are presented. In haste, the formulation has a strong influence on the decision because the verification of a formulation requires effort and time.

On one hand, *social influences* are significant due to people learning from each other, whereas on the other hand, the misconceptions spread in this way. The effects generated indicate the significant influence of other people's opinions on individual decisions. In addition, the influence of society is considered inevitable since it acts on an instinctive level.

#### 4.1. Nudges to promote savings behavior

This type of nudge aims to encourage, facilitate, and assist savings behavior in the individual. The main problems with it are the effects of *loss aversion* and "*myopia*" due to hyperbolic discounting.

The principle of *loss aversion* states that people are more sensible about the losses than the gains. The effects of it are adherence to the *status quo* - against the desire to avoid the new in order not to lead to the abandonment of the old; the endowment effect - emotional attachment, which causes people to evaluate a possessed object often more than its real value; sunk cost effect - indicating the continuation of an undertaking after it has already been invested in it and others.

Hyperbolic discounting indicating the decreasing rate of discounting individuals and giving greater relative weight to consumption in the earlier period is the one creating "myopia" so that for the distant future people will make plans when it approaches their decisions will be shortsighted and inconsistent with previous plans. Hyperbolic discount functions induce dynamically inconsistent preferences, suggesting a motive for users to limit their own future choices (Laibson, 1997). These two behavioral problems lead to an individual's reluctance to make an initial larger investment that bears an opportunity for future saving.

What are the tools for *achieving the purposes*? Smart disclosure of information and engines of choice; categorization and anchoring of savings accounts; introduction of a liquid savings account for emergency financial cases with automatic replenishment; introduction of simplifying strategies for consumers, "smart" programs with default options, use of mental accounting to promote savings.

Smart information disclosure and drivers of choice facilitate account management with warnings, and reminders to avoid penalty charges. Improving financial services with credit card information or limiting accounts, as well as applications that guide savings habits are also to among the tools to help savings. In general, this approach introduces the so-called *nudge banking* by giving warnings and facilitating the tracking of information about banking services. To promote savings, anchoring and categorizing them plays a role.

Automatic setting of values is a method of controlling inert behavior. Still, on the planning and executing side of individuals, the preliminary commitment to setting consumption limits can have a strong impact. About encouraging household savings, advance payment of a certain value for utility bills with the possibility of tracking consumption can also be applied.

Nudges also include simplifying credit options to avoid taking advantage of individuals' confusion or unawareness. They include giving an overview simplified information to the individual and distinguishing interest, and fees in order to simplify the calculation. Similarly, credit cards include giving an annual report and facilitating comparison with other offers. Card limits play a significant role in anchoring, i.e. they can also encourage spending. Separate fees, deadlines, penalties, currency exchange make calculations complicated for individuals. Implementation of an automatic option for direct payment from the account is also helpful.

Similar to the program *Save More Tomorrow*, auto-subscription options are included with savings plans. In addition, by including channel factors, accession can be facilitated, and behavioral barriers removed, and it can also be recognized that indicating a higher threshold through a higher round number encourages savings.

To increase savings, a liquid savings account for emergency financial cases can also be applied - the so-called *sidecar* account. It allows automatically to distribute the funds for a pension and a liquid account.

#### 4.2. *Nudges against inequality*

The goals for this nudge are creating a social stability, social behavior and improving the social acceptability of policies and changing mental models and attitudes towards inequality. In this group of nudges, the following behavioral problems arise: the effects of mental accounting, inherited thought patterns generated by institutions of inequality and social norms.

In mental accounting, choice *bracketing* has an impact, too narrow grouping leads to a desire to compensate for previous losses as quickly as possible. Also, the anchor placed may give rise to a tendency to overestimate the probability of positive and underestimate the probability of

negative events, the effect of opportunity by giving greater weight to small probabilities, confirmation bias with an interpretation of the information in a way that confirms prior beliefs.

According to the environment, informal institutions and social norms are built, so that both the norms built by oneself, and the social norms already built by society have an impact on decision-making.

The tools to achieve the goals are: the use of simplifying strategies and framing, setting of aims with pre-commitment, improvement of assistance for financial capacity, use of social roles and comparisons, cultural context, increasing interconnections between groups, default options.

In this respect, behavioral economics tools emphasize simplifying procedures for access to services, forms for financial assistance programs, and personal development. Also, assistance is done according to the mental bandwidth. Reducing short-sightedness and improving the financial decisions related to low program enrollment or wrong investment strategies minimizing the consequences of loss aversion can be achieved by providing a framework in which the visibility of long-term benefits is increased. A pre-commitment plan with following a promise in a certain direction can be used. Ex-ante goal setting impacts long-term aims when obstacles or temptations occur.

The importance of social influences is also used to change already established society norms. Regarding problems requiring change at the social level such as corruption, the propensity of people to care about their social role can be used. For the change of already established norms and thought models, the influence of mental models in information processing and cultural context must be considered. The norm of justice in society also has an impact.

For the social acceptability of policies and creating public engagement to accelerate their implementation, social influences and increasing interconnections between different social groups are also used, nudge policies play a significant role in building social stability. People behave as expected and reminder has an impact, as people find it difficult to assess their capabilities and easily enter into stereotypes by gender, race, ethnicity, and social groups. In this respect, mentoring or using a peer effect with the indication of a role model plays a positive role.

## **5. Conclusion**

Behavioral economics revolutionized the theory and brought economics back to its roots. As critics of behavioral economics point out, and behavioral economists confirm, their ideas are not original, but refreshed insights from the depths of theory, even before the modern development of psychology. The ideas are embedded in the depth of Adam Smith's *The Theory of Moral Sentiments*, which points to the "impartial spectator" as a corrector of our own behavior, the tendency of people to suffer more from loss than to rejoice at improving their situation, and a better understanding of Jeremy Bentham, who seeks the benefit in happiness but also in the prevention of pain. In this regard, the development of behavioral economics with the inclusion of psychology in economic analysis corresponds to the hope of Alfred Marshall regarding the development of economics in the direction of the study of human nature and its central location, even of Vilfredo Pareto, that in the future it will be possible to derive the laws of social science from psychology.

The practical application of behavioral economics highlights the nudge approach. It shows how heuristics and biases can be used to improve people's decisions, the influence they are subjected

to, the feelings that obscure thought, the speed that causes a move away from reporting statistics, unclear preferences, and how not to harm themselves and others as much as possible. The way is in the form of lack of coercion and considering neglected points of mainstream economics: setting solved tasks to individuals, translating into language that they understand, directing through formulation, and using the social essence of people in their interest.

Behavioral economics develops in unison with new trends, topicality is evidenced by the practical tools of nudge. The main stimulus for the popularity gained lies in the wide scope of the nudge policies. Placing in the center the true human traits with the intuitive impact and adaptability to the environment, focusing on the dynamics and complexity of modern daily routine and considering the reflection of technological development gives the necessary flexibility of implementing behavioral economics for instruments to change according to different circumstances and problems. The application possibilities indicate the effectiveness and wide applicability of nudge. The nudging policies proposed for the particular topics show the possibility of modification according to different circumstances and actuality.

## References:

- Ariely, D. (2012). *Predvidimo iracionalni: Koi sa silite, formirasti nashite reshenija*. Sofia, NRN Media, 304 pp. [Ариели, Д. (2012) *Предвидимо ирационални: Кои са силите, формиращи нашите решения*, София, НСМ Медиа, 304 стр.], (*Predictably Irrational: What Are the Forces Shaping Our Decisions*).
- Veblen, T. (1993). *Zashto ikonomikata ne e evolutsionna nauka*. Икономическа мисъл, p. 105-117 [Веблен, Т. (1993). *Защо икономиката не е еволюционна наука*. Икономическа мисъл, с. 105-117.] (Veblen, T. (1993). *Why economics is not an evolutionary science?* Economic Thought, p. 105-117.)
- Persky, J. (1995) *The ethology of homo economicus*. In: Journal of Economic Perspectives, 9(2), pp.221-231.
- Kahneman, D. (2003) *Maps of bounded rationality: Psychology for behavioral economics*. In: American economic review, 93(5), pp.1449-1475
- Laibson, D (1997). Golden eggs and hyperbolic discounting. *The Quarterly Journal of Economics*, 112(2), p.443-478.
- Simon, H.A. (1955) A Behavioral Model of Rational Choice. *The quarterly journal of economics*, 69(1), p.99-118.
- Thaler, R.H. (2015) *Misbehaving The Making of Behavioral Economics*, Great Britain, Penguin Books, pp. 415
- Thaler, R. H. (1980). *Toward a positive theory of consumer choice*. In: Journal of economic behavior & organization, 1(1), pp.39-60.
- Thaler, R. H. (1985) Mental accounting and consumer choice. *Marketing science*, 4(3), pp.199-214.
- Tversky, A., Kahneman, D. (1974) *Judgment under Uncertainty: Heuristics and Biases: Biases in judgments reveal some heuristics of thinking under uncertainty*. In: Science, 185(4157), pp.1124-1131.