

MECHANISM OF BEHAVIOURAL ECONOMICS

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Abstract. *The purpose of the article.* The article covers the mechanisms of behavioural economics introducing into the state policy of the country. This problem becomes especially relevant in modern conditions as people tend to make unreasonable economic decisions. The purpose of this paper is to research the irrational motives of individuals' behaviour in making economic decisions and to determine the measures for introducing the mechanisms of behavioural economics in the state policy of Ukraine. *Methodology.* The survey is based on the analysis of the scientific papers of the following scientists in economics: A. Smith, K. Marks, J. Bentham, M. Weber, J. Schumpeter, A. Marshall, J. Keynes, H. Simon, H. Becker, V. Smith, D. Kahneman, A. Tversky, Richard H. Thaler, G. Akerlof, R. Shiller; on the empirical analysis and on the analysis of the behavioural economic instruments. The objective of the article is the survey of irrational motives of human behaviour during the decision-making process in economic conditions, to determine the influence of the irrational motives on social and economic development and to develop measures and activities for implementation of behavioural economics mechanisms in the state policy. *The subject of the article* is theoretical and methodological aspects of the behavioural economics mechanisms in the state policy. *The results.* The research in the article shows and explains the main trends of the behavioural studies in the modern condition, in particular: behavioural finance, behavioural game theory, the problem of making a choice in time, prospect theory. One of the examples of Herding behaviour shown in the article is the peculiarities of behavioural aspects of financial markets. Special attention is given to the "nudge theory" used by the leading countries. Behavioural economics possess the instruments, which maintain the decent living of the population and sustainable social and economic situation in the society. The results of research represent that the behavioural peculiarities of the society together with the interaction with the state policy result in the distrust of the society to the authority's representatives. Besides, the low-income level of the population leads to the predominance of survival values in the society, while in the highly developed countries, the values of self-expression dominate. It is proposed to implement behavioural economics mechanisms in state policy of Ukraine while making economic decisions. *Conclusions.* Due to the new trends in economic development such as informatization, and digitalization, new ways of the economic behaviour of the population take place. One of the key aspects is the psychological approach to the decision-making process in the economic environment. Thus, behavioural economics becomes of great importance in modern society.

Key words: behavioural economics, mechanisms, state policy, society, government effectiveness.

JEL Classification: E71, H12, H30

1. Introduction

Social and economic transformation and global challenges require appropriate changes in the system of interaction among economic relations, State and society. The study of behavioural characteristics of people is of particular relevance, and irrational motives for making economic decisions in conditions of uncertainty are in the centre of attention.

The key thesis (concept) of behavioural theory is that the quality of economic theory increases as a whole on the bases of realism of the psychological components of economic analysis. It doesn't mean that one should

abandon the main principles of the neoclassical theory, in particular, the concepts of optimization of utility, general economic equilibrium, etc. On the contrary, it is generally accepted that economic science is a combination of various scientific fields that solve the same problem.

Theoretical and methodological aspects of behavioural economics are taught at universities of leading countries while training of highly trained professionals. Departments of behavioural economics were organized and opened in most Universities of the USA. In this context, the main trend in the system of future professionals in finance and economics training in

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Ukraine is the necessity to introduce an interdisciplinary approach to strengthening the interaction of economics and psychology. Besides, according to the Decree of the Cabinet of Ministers of Ukraine "On Approval on the Subject Areas Under Which Students of Higher Education are Trained" economics is referred to the subject area of "behavioural and social sciences".

In the conditions of macroeconomic reality, it is very important for Ukrainian society to implement basic methods, instruments, consecutive stages of behavioural economics in the process of Ukrainian state policy realization and to increase the trust of the population in socially providing institutions (non-state pension funds, medical insurance), as well as the formation of an ideology of rational use of limited natural and economic resources. The mentioned above facts are of particular importance in the context of insufficient financing of the Ukrainian economy.

2. Assessment of behavioural research

Research of irrational motives of human behaviour while making economic decisions were first observed in the scientific papers of the classic representatives of economic thought – A. Smith, K. Marks, J. Bentham, M. Weber, J. Schumpeter and were developed in the research of A. Marshall, J. Keynes, H. Simon, H. Becker, V. Smith, D. Kahneman, A. Tversky, Richard H. Thaler, G. Akerlof, R. Shiller.

In the XVIII century, A. Smith formed a concept of an "economic human" and "natural order" and studied human behaviour with its motives and desire for personal benefit. According to A. Smith (1776), "natural order" – is market relations where a person uses behaviour in his/her personal and selfish interest, the sum of which forms interests of society.

J. Schumpeter (1911) was the first one to introduce the term "irrational behaviour of the entrepreneur." J. Keynes (1936) thought that economic processes were influenced by optimistic and pessimistic actions of economic subjects. He was the first one to introduce the term, which described irrational human behaviour – animal spirits.

Nowadays, irrational behaviour exists in four areas: 1) personal financial security, 2) macroeconomic stability, 3) personal health, 4) quality of governance. In the context of quality of governance, Shiller & Akerlof (2015) reported "The winning electoral strategy with phishable voters is threefold: 1. Publicly, proclaim policies that will appeal to the typical voter on issues that are salient to her, and where she will be well informed. 2. But on other issues, where the typical voter is ill informed, but where potential campaign donors are well informed, take the stance that appeals to donors. Publicize this stance to would-be contributors, without broadcasting it widely to the general public. 3. Use the contributions from these 'special-interest groups' for campaigning that increases popularity among the

regular run of voters, who are more likely to vote for someone who 'mows their lawn on TV.'"

The founders of economic psychology as a scientific trend could be considered scientists A. Tversky, D. Kahneman (2001), who studied individual characteristics of human behaviour in the decision-making process. It's a very interesting fact that D. Kahneman, a Nobel Prize winner in economics, is not an economist at all, but a specialist in psychology, his concept denies fundamental economic postulates, such as: the model of an economic person and the rationality of the subject of economic activity. The main idea, presented in the early studies of D. Kahneman and A. Tversky, is that human behaviour in a market economy is irrational and is determined by such basic directions as: frames (mental image, anchoring effect); heuristics (prospect theory, start-loss, selfish prejudice, monetary illusion, disappointment); anomalies (effect of benefits, ownership effect, mutual benefit, intermediate consumption, advantage of current consumption, impulsive investment, dividend trap, stock return mystery, etc.).

The newest wave of economic research is based on a combination of psychology and economics and proves the inability of classic economic laws to explain human behaviour in crisis and stressful situations and in the conditions of uncertainty. For example, the 2013 Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, awarded for empirical analysis of asset prices, was unforgettably exciting for financial economists. The 2013 laureates, Eugene Fama, Lars Peter Hansen, and Robert Shiller, are giants of finance and architects of the intellectual structure, within which all contemporary research in asset pricing is conducted. The results of their research were critically analysed by Campbell, John (2014). In 2017, the award was given to American economist R. Thaler, a well-known theoretician of behavioural economics.

The aim of this article is to analyse irrational motives of human behaviour while making economic decisions, determine their influence on social and economic development, and to develop activities for implementation of mechanisms of behavioural economics in the state policy in Ukraine.

Our research is based on an empirical analysis of the behaviour of economic actors in the context of adopting macroeconomic decisions.

The methodological basis of the research serves the views of the scientists-economists and their studies of the individuals' behaviour. The article shows that J. Schumpeter was the first to introduce the concept of "irrational behaviour of an entrepreneur." A. Tversky and D. Kahneman, the founders of economic psychology, studied individual peculiarities of people during the decision-making process.

In the article, we have conducted a comparative analysis of the main trends of the behavioural studies in the modern condition, in particular: behavioural finance, behavioural game theory, the problem of making a choice in time, prospect theory, and phishing.

3. Implementation of behaviour economic instruments

The phenomenon of Herding behaviour is observed while making decisions on investing, forecasting profits, operations with securities in stock markets, operations with crypto-currency (digital currency), etc.

Behavioural phenomenon, presented in the Prospect theory, are common and present in other spheres of economic activity, but mostly in financial markets: 1) extremely high rate on return on equity comparing to return on investments in government bonds and assets that are less risky; 2) effect of placement (of shares); 3) asymmetrical price elasticity; 4) bad news unacceptance; 5) re-evaluation of possible losses and benefits.

The Herding behaviour is mostly widespread in financial markets functioning, especially during the peak and crisis phases. Behavioural aspects of financial markets identified in R. Shiller's theory of "financial bubbles" (Shiller, 2008). In the present conditions, this is confirmed by the behaviour of actors in cryptocurrency exchange (Oleshko, Tymoshenko, Trokhymets, 2018). Bitcoin quote at cryptocurrency exchange are volatile, and transactions with cryptocurrency are of high risk. When speculative transactions reach their peak, all entities in the financial market receive the same information and formulate the same expectations. Such behaviour creates panic, which results in a smaller number of subjects bear the market during peak increase of listing quotes (financial assets). Thus, during the period of the greatest growth of the bitcoin rate (2017), the number of cryptocurrency transactions in its purchase increased significantly, which caused a shortage of cryptocurrency (due to the limited possibilities of rapid mining) and its further growth to 20 thousand dollars per bitcoin. After the bitcoin rate crash at the end of 2017, panic in the stock markets gave rise to a wave of transactions for their sale, resulting in a much lower Bitcoin rate crash. According to the fact that in 2009 the maximum price was 1309 Bitcoin per one dollar, and the maximum rate of one Bitcoin in 2017 reached 20 thousand USD.

Conceptual principles of behavioural economics such as "nudge theory" are actively used by the leading countries of the world when developing strategic directions of socio-economic development. For example, the government of Singapore organized information companies and acquired special significance for social projects that were designed to create a sense of national identity in a multicultural nation. The main initiatives of the Government of Singapore were also: the development of measures to take care of the environment; family planning to increase fertility; the formation of culture on timely payment of taxes as an integral part of the formation of state resources.

Tools of behavioural economics are important in the formation of stabilization imperatives of the state tax policy (Oleshko, 2016). An interesting example was the experiment, which was precisely described in the work of

R. Thaler and C. Sunstein (2008) in identifying the factors that influence the change in the behaviour of taxpayers the most. Thus, the first group of taxpayers was informed that due to tax revenues the state provided national defence capability, environmental protection, health care financing, etc.; another group of taxpayers – threatened with serious penal sanctions; the third group was offered assistance in completing the tax declarations and the last group was reported that 90% of tax agents had already fulfilled their obligations to the state. Just the last "nudge" influenced the change in behaviour the most and lead to tax revenues. This method was used by the British Tax Service, which sent out a paper using its data base of addresses with information that most taxpayers were performing their duties on time; the initiative worked instantly and brought positive results. And in the letters to the richest people who still had tax liabilities, the information was about how their money could help improve utilities. On the whole, the experience of Great Britain in introducing behavioural interventions was the most effective.

The main instruments of behavioural economics, which contribute to the decent level of savings of the population, formation of savings in pension funds, are the following: organization of training of financial education literacy programs at the enterprise level (free educational programs without tuition fee); automatically joining employees to retirement plans with a simultaneous increase in both the level of their payments and the level of savings. The role of the Government in this situation – "stay aside and reduce barriers for confirming these programs" (Thaler, 2015). Symbolic instruments provide that a person is endogenously motivated and with the help of the aforementioned directions one can stimulate the desired behaviour by manipulating the symbols and influencing the values (Schneider & Ingram, 1990).

In the direction of stabilization and improvement of the environment, those who support the "behavioural economics" propose to strengthen the role of ecological tax and apply penalties for those who pollute the environment. The second approach, proposed by those who support the "behavioural economics," is called "the system of limit and emission credits trade" (the cap-and-trade system). The outlined directions based on the reinforcement (provision of incentives) system will suppress the operational regulation with rigid state interference and in general, will positively influence the formation of an environmentally balanced system of nature use. This direction will be appropriate for the effective development of the Ukrainian economy, considering the tendency of Ukrainian society to unjustified exhaustion and irrational use of natural resources (energy, forest, water).

The experts of the World Bank (2015) published innovative studies on behaviour management, which provides three principles of thinking on the base of which people make decisions:

1) automation of thinking – is antagonistic to conscious thinking, gives an incomplete idea of political processes

and false assumptions and associations, which distort the general vision of the processes that take place;

2) social thinking – the population is influenced by social preferences, social networks, social self-determination, and social norms. For the majority of people, it's important what other people are doing and whether they fit into certain social groups;

3) thinking based on mental models – people use concepts, categories, identification characteristics, prototypes, stereotypes, causal relationships, and views on the world formed in the community where they live.

4. Behavioural features of Ukrainian society

Behavioural peculiarities of the Ukrainian society in its interaction with the State (governmental) policy are defined by the lack of trust to the authority's representatives, the prevalence and dominance of the "kleptocratic economy" and the high level of corruption in society.

Comparison of the level of indicators "Government Effectiveness" and "Corruption in Society" in Ukraine with the leading countries of the world show that today Ukraine remains one of the most corrupt countries in the world, and corruption is perceived as a part of life and commonplace of the Ukrainian people. The Government Effectiveness in Ukraine (max = 100%) over the past 16 years did not exceed 40%, while the control of corruption was 20% (Table 1).

In highly developed countries, control over corruption is a prevailing factor in ensuring government effectiveness. For example, in Germany, the efficiency of the government is 94.2% and control over the level of corruption in society is 93.8% (Table 2).

Table 1
Dynamics of indicators "Government Effectiveness" and "Control over the Level of Corruption in Society" for 2002–2016 in Ukraine

Year	Government Effectiveness, %	Control over the Level of Corruption in Society, %
2002	30.1	11.6
2003	32.1	16.2
2004	32.5	16.6
2005	32.4	25.9
2006	36.6	24.9
2007	29.1	21.4
2008	27.2	19.9
2009	21.5	15.8
2010	24.4	16.2
2011	21.3	15.6
2012	32.3	12.8
2013	31.3	11.4
2014	39.9	14.9
2015	34.6	14.9
2016	31.7	19.7

Source: generalized for the data of Transparency International Ukraine

Table 2
"Government Effectiveness" and "Control over the Level of Corruption in Society" in highly developed countries

Countries	Government Effectiveness, %	Control over the Level of Corruption in Society, %
Belgium	86.5	92.3
Germany	94.2	93.8
Italy	71.6	59.6
Sweden	94.7	98.6
Great Britain	92.8	94.2
Poland	73.6	91.3
USA	76.4	89.9

Source: generalized for the data of Transparency International

Reduction of the level of control over the level of corruption invalidates the role of the State in the implementation of regulatory functions, promotes the consolidation of the clan-hereditary form of government, and transforms the system of power into the system of servicing power personalities.

Ukrainian society possesses the following characteristic features: stereotype thinking, attitude with prejudice towards representatives of other cultures, lack of experience in building an effective cross-cultural communication system, and lack of incentives for the development and self-realization of Ukrainian youth. Besides, the low-income level of the population leads to the predominance of survival values in Ukrainian society, while in highly developed countries, the values of self-expression dominate. Then phishing transactions and manipulative technology influence financial decisions of the low-income population (Shiller, Akerlof, 2015). Levelling of irrational behavioural mechanisms and actions against manipulative phishing transactions are achieved through the state policy of popularizing financial literacy and teaching elements of rational consumer behaviour.

In general, the mechanisms of behavioural economics are of the first priority for the Ukrainian society and are implemented in the following way:

- formation of a civic position and national-patriotic consciousness of Ukrainian youth, formation of mutual respect in society, pride for their own state through the introduction of social advertising, informational and educational activity among youth;
 - the gradual transformation of the mental peculiarities of corruption, distrust of power and low tax consciousness of the population and business;
 - introduction of financial incentives and motivational mechanisms for the planning of the Ukrainian family;
 - the popularization of ecological and energy culture.
- The low level of resource efficiency generates high energy consumption of the Ukrainian economy (Ukraine's GDP energy consumption is the highest in Europe, in 2015 it was 0.310 kg of fuel/USD, which is almost three times the same indicator for EU member-countries) and inappropriate use of natural resources;

- organization of activities on the dissemination of financial literacy in the direction of information work on the savings, lending, rational consumption of the population, its participation in pension programs, etc.

Consideration of the basic behavioural (mental) peculiarities of Ukrainian society in the implementation of state policy in Ukraine can have a positive effect.

The major findings resulted from an analysis of the above show the necessity of using the theoretical and empirical results of behavioural science in making government decisions.

We guess that the selective tools of the behavioural economics are an organization of the educational process with the free of the tuition fee academic programs on financial literacy on the enterprise level; automatic introduction to the employees to the retirement plans with the high level of payment and savings. The role of the Government, in this case, is "stay aside and minimize the barriers for accepting and confirming these programs."

The behavioural peculiarities of the Ukrainian society together with the interaction with the state policy result in the distrust of the society to the authority's representatives. Ukrainian society possesses stereotype thinking, prejudices towards representatives of other cultures, lack of experience in building an effective cross-cultural communication system, and lack of incentives for the development and self-realization of Ukrainian youth. Besides, the low-income level of the population leads to the predominance of survival values in Ukrainian society, while in the highly developed countries the values of self-expression dominate. Thus, psychological aspects while making economic decisions are some of the most influential and have a number of factors.

The question of introducing the mechanisms of behavioural economics into the state policy of Ukraine becomes especially relevant in modern conditions as people tend to make unreasonable economic decisions. It is worth noting that the behavioural economy considers the role of psychological analysis, which, in turn, increases the role and significance of economic theory in general. Within the conditions of a new and modern macroeconomic situation in the society, it is important to introduce mechanisms of behavioural economics for making the most economically-rational decisions by the majority of the population.

5. Conclusion

In the conditions of informatization and digitalization of society, the economy is becoming more and more guided by new methods of influencing human consciousness, which requires a fundamentally new philosophy, financial and economic relations between the population, the state, and business. Psychological aspects while making economic decisions are considered as the most important components of the modern economy.

The mechanisms of behavioural economy and finance explain the gaps in the struggle against corruption, the insufficient level of pensions, the lack of an effective system of health insurance, the lack of self-control in the implementation of unreasonable expenses of the Ukrainian citizens, and the low level of financial literacy of the poor population.

For the scientific explanation of the implementation of the main tools of behavioural economics and finance, it is necessary to take into account the behavioural and mental characteristics of the Ukrainian society, the specifics of its social thinking in the process of developing a state policy of Ukraine.

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