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Attempts at developing behavioural macroeconomics vs. modification of the homo oeconomicus model[1]

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Abstract: Among the foundations of the currently prevailing economic model is the assumption of rationality of decisions taken by a far-sighted and calculating human being - homo oeconomicus. However, the theory built on the basis of this assumption cannot embrace such phenomena as the economic crisis after 2007. Thus, new concepts are emerging such as behavioural macroeconomics that extend the current paradigm to include also irrational behaviours. The above issues are discussed most comprehensively by George Akerlof and Robert Shiller in their Animal Spirits that analyses such factors as confidence, sense of fairness, antisocial behaviour, the money illusion and stories dominating the public discourse. The above analysis paves the way for a new school of macroeconomics. This paper presents the above underlying assumptions against the background of an economic crisis.

Keywords: macroeconomics, economic theory, economic crisis

1. Introduction

Since Adam Smith, attempts at explaining economic events have assumed rational behaviour of an individual focused on maximizing his economic benefits. Many theories were describing reality, more and more effectively employing mathematical concepts, also to make economics more measurable and closer to the hard sciences. Since 1940s, in the US and in Western Europe, the theory of economics has been formalised and until the end of 1970s, the main economics handbook was the work by Paul Samuelson who

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used mathematics to discuss many areas of the theory of economics (Landreth and Colander, 2005: 447-454).

However, the above method has not prevented a failure on a macroeconomic scale. Only a few people were able to foresee the financial meltdown of 2008 and its aftermath in the form of recession of many national economies. Its consequences can currently be observed especially in the area of sovereign debt of eurozone countries, as economic slowdown and even as a threat of a new recession. This paper describes the attempts at developing a new economic theory that is partially in opposition to the classical approach deriving from Adam Smith.

2. The invisible hand of the market

In his magnum opus titled An Inquiry into the Nature and Causes of the Wealth of Nations, Adam Smith laid the foundations for economy by analysing *the mechanisms that govern* human behaviour. The main theme of Smith's work is the view that egoism is the main driving force of society and economy. However, it is not an egoism of individuals but one including knowledge about the benefits derived from mutual exchange with other market participants. This exchange is not possible without the maintenance of confidence, fairness and good will (Blaug, 2000: 78). In a civilised society, man "almost constantly needs the help of his fellow men, and it is in vain that he would expect for him from their only benevolence. He is much more likely to obtain their help if he were to appeal to their egoism and is able to show them that it would be of use to them if they were to do that for him which he wants of them [...]. It is not the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest," says Smith (2007: 20). Thus, he moves individual motivations to the level of social mechanisms.

Egoism is a natural force that motivates individuals to action. On the other hand, in the scale of society or a country, various interests, some of them conflicting, may lead to a stable and self-regulating economic system. Order emerges as a result of countless individual choices. The above is described in the famous metaphor of the invisible hand of the market. "By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it [...]. What is prudence in the conduct of every private family, can scarce be folly in that of a great kingdom (Smith, 2007: 40-41)." Smith has laid the foundations for a rational analysis of such concepts as demand, supply, prices and wages. Later, they became an inspiration for his successors. He also sees man as *homo oeconomicus,* a creature that is rational in its choices.

Smith's views turned out to have had a great influence on contemporary economic thinking. However, in the history of economics there were attempts at departing from the above classical paradigm. Paradoxically, the first one to do it was Adam Smith himself. In The *Wealth of Nations,* he did not mention his earlier work titled *The Theory of Moral Sentiments* even once, although during his lifetime it was reprinted several times. It is all the more important that the work includes many views that are in line with contemporary opinions of behavioural economists. In Smith's view, apart from natural egoism, human nature also includes altruism, and mutual trust is critical for the operation of society. Human actions are also motivated by the desire to stand out from others and to reciprocate both the good and the bad, which results from the sense of fairness (Polowczyk, 2010). Jan Polowczyk (2010: 508) writes that as early as 210 years before Daniel Kahneman and Amos Tversky (1979), Smith had foreseen the law that is one of the foundations of behavioural economics by saying that the fear of loss is greater than the desire for gain.

Polowczyk (2010: 514) writes that according to Smith most people overvalue the chance of gain while undervaluing the chance of loss. Also the attachment to things goes against rational thinking because the loss of a thing causes frustration disproportionate to the thing's real value (which may be regarded as a sentimental attachment). Smith also observed a phenomenon referred to as the "framing effect" by which losses or gains of a person seem disproportionately greater from the ones relating to other people, which means that our actions depend on the decision-making context but we are focused mainly on ourselves. Additionally, we tend to be short-sighted in our decision-making because we prefer immediate rewards to delayed gratification. Another example of irrational behaviour is the following of changing trends and customs, which are different in different nations (as an example Smith cites the approach to hospitality of the spendthrift Poles and the frugal Dutch).

In The Theory of *Moral Sentiments* Smith touched upon many issues which today are the subject of interest of contemporary psychology and behavioural economics. However, in the 20th century, Smith's work became forgotten, mainly because of the then-prevailing concepts by Leon Wahas and Vilfred Pareto who tried to rid economics from the influences of moral philosophy and psychology (Polowczyk, 2010: 494). Economics turned to the heritage of The Wealth of Nations especially when neoclassical economics became the dominant paradigm. Criticism of the main tenets of contemporary economics became stronger during the financial crisis, but attempts were made already in the preceding years to go beyond the boundaries of the mainstream subject and method. The above attempts were described by Andrzej Wojtyna

(2009: 35) in a paper written before the onset of the 2007 crisis. He formulated numerous objections to the prevailing paradigm and to the research methods used. Among them is that mainstream economics becomes a slave to the theory of rational choice and it does not admit any alternative theories proposed by other social sciences.

Among the examples cited by many authors of concepts that prevented their promoters from foreseeing the last financial crisis is the *Efficient-Market Hypothesis (*EMH) formalised by Eugene Fama, a representative of the neoclassical Chicago School. Its main assumption is that the price of any asset at any time is always perfectly right. Any information appearing on the market has an immediate impact on the price. The above theory describes the capital market by three sub-hypotheses (Reilly and Brown, 2001):

- weak-form EMH implies that current stock prices reflect all information from the securities market such as previous prices, rates of return or volumes;
- semi-strong EMH claims that the price of a financial instrument reflects all generally available information;
- strong EMH implies that the price of a financial instrument reflects all information, both public and private, such as e.g. insider knowledge. Multiple empirical research studies conducted in 1980s and 1990s have proven that the above theory is generally correct, although there are many exceptions.

Among its critics was Robert Shiller who already in 1980s claimed that markets are rarely in a state of equilibrium and most often they are subject to wide fluctuations. One day investors react over-optimistically hiking stock prices to exorbitant levels, while on the next day they panic and sell their assets for nothing. The above decisions do not seem rational; rather, they are driven by impulses caused by herding behaviour. Nouriel Roubini and Stephen Mihm (2010: 53) write: "While markets are not totally crazy, they contain quite substantial noise, so substantial that it dominates the movements in the aggregate market."

Since 1970, the Efficient-Market Hypothesis (EMH) has become conventional knowledge taught in all business schools. Although some scholars noticed its deficiencies, it was generally regarded as right (Roubini and Mihm, 2010: 51-52).

According to Joseph Stiglitz (2010:114), if EMH was true, speculative bubbles on various asset markets would not be possible. However, the belief in the effectiveness of EMH was partially to blame for the underestimation by the US central bank of the property bubble which led to the financial meltdown of 2008. Nevertheless, EMH has remained one of the main theories used in asset management.

3. In search of new economic models

The economic crisis that has surprised both investors and managers has revealed the deficiencies of the existing mainstream economic theories. They lack the tools that would be adequate for a rational description of the events that took place in 2007 and 2008 whose consequences could be observed in the following years. The dynamism of changes calls for a search for a new economic paradigm. Suitable solutions are looked for across various disciplines, also among other social sciences. The main areas where the new paradigm is searched are the complexity theory, theory of imperfect knowledge and behavioural economics.

Among the causes of the weakness of the existing neoliberal model are excessive dogmatism on the one hand and the dramatic changes taking place in the contemporary world on the other hand. Despite the above, the model deriving from the theory of rational expectations prevailed in economics for many years. Roman Frydman claims that his attempts made with Edmund Phelps as early as in the 1980s to revise the above views were ignored by mainstream economists. The concept of rationality is culture-bound. Westerners, including especially Americans, regard their identity as a universal model. Besides, reality changes too fast. Economic theory is good at describing reality when changes are relatively slow and recently they seem to be very dynamic. Frydman sees economics as split into rational and behavioural according to which all people are irrational. In his opinion, economics stressing irrationality is absurd and harmful (*Conversation between…*, 2008).

A similar view on the rate of economic changes is presented by Elżbieta Mączyńska (2009: 137-156) in her review of ideas that are critical of classical economics represented by the neoclassical paradigm that prevailed for many years. The society underwent a very fast transition from agricultural, through industry- and service-based to Internet society, based among others on the financial sector in which the 2008 crisis started.

Joseph E. Stiglitz agrees that in the times of dynamic changes, the classical approach does not suffice. In his opinion, economics is a science that tries to predict the future. The neoclassical model has created five mistaken predictions which Stiglitz regards as illegitimate and contrary to reality. Taking them for granted was one of the reasons behind the recent crisis because it suggested that economy is a perfectly self-regulating mechanism. Among the above predictions are (Stiglitz, 2010: 108):
objectivity, there are many reasons why this is difficult to achieve:

- demand for labour exactly equals its supply, and deviations from this state are only temporary;

- no limitations in access to credit - everyone may borrow any amount of money if only the price reflects the risk;
- it does not matter whether a company finances its operations through debt or through equity (Miller-Modigliani model), no attention is paid to the risk of bankruptcy growing in line with a growing leverage or to signals sent to the market by an owner wanting to sell his business at a low price;
- wages earned by employees reflect the marginal utility they bring to the economy. However, is it right for top managers to earn, as it has been the case in recent years, hundreds or thousands times more than rank-and-file employees (in the US, managers used to be paid only 30-40 times more than blue collars) Using only the concept of scarce goods, neoclassical economics is unable to explain the above inequalities;
- the neoclassical theory does not take into account the discrimination factor (based on race, nationality, sex), which manifests itself in inequality of pay, which is contrary to the classical laws of demand and supply.

Stiglitz describes *homo oeconomicus* as an individual who is "calculated, rational, selfish and concerned only by their own interest, having an inner structure without empathy, civic sense and altruism." In economic sense, rationality represents consistency of action, which means that with constant preferences an individual always takes the same decision in a similar situation – which is not true. Besides, people's views are influenced by the views of their peers. For example, a majority of Americans were outraged at the value of bonuses paid, despite huge losses, to management board members of Wall Street banks that were bailed out with public money. The Wall Street behaved differently; there was a widespread outrage at President Obama whose criticism of the above practice was indicated as an example of populism (Stiglitz, 2010: 109).

Despite the widely analysed 2008 meltdown, market irrationality holds fast. Over the course of a dozen or so days (from 22 July to 10 August 2011), the American stock market index Standard & Poor's 500 dropped by 16.8% (Poland's WIG20 fell by 20%), first as a result of dragging disputes in the US parliament regarding increasing the permitted debt level and then of the lowering by Standard & Poor's of the rating and of rumour about further solvency problems of some eurozone countries. At that time, economic indicators were moderately positive and the problems with Greek debt have been temporarily defused. However, growing emotions and rumours caused sudden share price reductions on stock markets worldwide (own calculations based on www.stooq.com). Opinions about the insolvency of the United States were formulated by a rating agency which recently lost face by "failing to notice" the factors that have led to the collapse of

Lehman Brothers, and is now passing judgments.[2] The huge increase in public debt of many countries observed after 2008, the problems with the enforcement of budget deficit cuts in many countries and of entering the path of economic growth may lead to the escalation or to new stages of the crisis. Such new stages of the crisis would carry the risk of disintegration of the eurozone and of long-term economic slump, which is forecasted by Jacques Attali (2010) in his book titled Tous ruinés dans dix ans?

4. Behavioural economics

Behavioural economics is among the new economics branches that draws from the developments in other sciences and has joined the criticism of the neoclassical model. The first attempts at extending the field of interest of mainstream economics date back to 1940s and 1950s. That was the time when George Katona and Herbert Simon published their first works in which they analysed the decision-making process of consumers, employees and business people, taking into account their respective motivations, attitudes and expectations (Hosseini and Katona: 2011: 977-984). Behavioural economics relies on the assumption that the model of a fully rational individual does not reflect reality. Man has cognitive limitations. People have only fragmentary knowledge about economic phenomena. Cognitive limitations lead to the application of simplified rules of decision-making (heuristics) that govern their behaviour. Paul De Grauwe (2011) argues that in principle, the use of heuristics is not an irrational behaviour but a defence of the mind against the world that overwhelms us with data. Besides, a limited understanding of the world inevitably implies distortions. If one adds the mechanisms of herding behaviour, these behaviours will be moved to the macro scale. The above applies in particular to an external shock such as stock market crash or real property market crash that can affect large groups of people.

For many years now, there have been research studies in behavioural economics besides mainstream economics but they have regarded mostly the micro scale. Being suitable also for macroeconomics, the behavioural method was presented in 2002 by George Akerlof during his Nobel prize lecture. In the lecture he outlined the main research fields on which in his opinion neoclassical economics has failed:

- existence of unemployment, which is not a result of an employee's choice and is not natural

[2] P. Krugman (2011) writes that S&P, the rating agency, acts totally irresponsibly, but the true threat for the future of the U.S. is the extermist right which in the name of ideology of not making any reforms to rationalise spending and to increase revenues may lead the country to insolvency.

unemployment;

- uncertain influence of monetary policy on production and employment - sometimes it operates in accordance with theoretical assumptions and sometimes not;
- when unemployment grows, inflation does not always fall (although such is the assumption of the Phillips curve);
- people do not save enough for their retirement and there is a general opinion that they will not have sufficient funds to support themselves;
- volatility of stock prices is too high relative to their fundamental valuations;
- continued existence of the social underclass, where poverty is coupled with alcohol and drug abuse, crime or reliance on welfare.

Akerlof (2002) regarded the above issues, in combination with the problem of asymmetric access to information, as a prospective field of further macroeconomic research. After a couple years of research conducted with Robert Shiller, Akerlof (Akerlof and Shiller, 2010) proposed a synthesis of the views of behavioural macroeconomics. As a summary of numerous works (their own and by other scholars), they offered a coherent theory in their book titled *Animal Spirits. How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism,* published in the United States in 2009. The term "animal spirits" derives from the work by John M. Keynes titled The General Theory *of Employment, Interest and Money of* 1936. In it, Keynes writes that in their business endeavours and as consumers, people are driven not only by economic considerations. Also, they do not always behave rationally. Complementing the classical method with an approach taking into account animal spirits makes it possible to explain many phenomena which have hitherto largely defied economic analysis. What is more, it is not about minor deviations from Smith's theory but it is about "the deviations that can be observed in reality" (Akerlof and Shiller, 2010: 23).

The above animal spirits (or instincts deriving from the mind - *animus),* which may be described as elements of anxiety and incoherence that have an impact on economy and which have their source in the irrational character of many human behaviours, can be observed in several areas:

1. *Confidence and its multipliers.* The concept of confidence goes beyond the rational framework. A confident person often rejects or does not take into account certain information, and tends to accept false and even improbable information. Confidence plays a crucial role in economic cycles. During periods of growth people believe that *prosperity* will continue, they feel that the value of their investments will grow and they lose their ability to estimate risk. In the classical model, individuals consider in a formalised manner their

options associated with a decision, they estimate the probability of their occurrence as well as their possible outcomes. Meanwhile, in reality, even very serious business decisions are taken intuitively.[3] In the opinion of the authors, on a wider scale, there comes into play a multiplier analogous to the consumption multiplier proposed by Keynes. It may be illustrated as changes in income resulting from the change in the level of confidence by one unit. An increase in income causes further increase in confidence and a new round of income change. Economic mood is measured by various indexes, such as MCSI (*Michigan Consumer Sentiment Index)* or PMI *(Purchase Managers Index) which* are prepared for many countries. A worsening of economic moods translates into lower consumption and causes side-effects such as e.g. reduced lending by banks (Akerlof and Shiller, 2010: 32-37). However, like in the entire book, the authors avoid presenting any relationships in a mathematical form. The above claims are confirmed by other authors. Research shows a positive correlation between an increase in social confidence and an increase in a country's development level measured by the HDI index (*Human Development Index)* (Ôzcan and Bjstrnskov, 2011).

2. *Fairness.* Akerlof and Shiller (2010: 38-45) transfer the theory of equilibrium in psychology onto economic ground. Under the classical approach, for the exchange of the same goods we should pay the same price. In reality however, the parties to a transaction also exchange things that are hard to measure such as observation of their mutual social status, gratitude, or the feeling that the price of a good is fair. The sense of fairness in this case involves transferring onto economic transactions people's views on how others should or should not behave. References to the sense of fairness are frequent motivators in economic decision-making.

3. *Corruption and bad faith.* Scandals and large-scale neglect for or by-passing of the law are often the spark of a crisis or rather of a reversal of positive social moods and of a sudden drop in confidence. Among well-known examples are general violations of prohibition preceding the Great Depression in the 1920s and 1930s in the Unites States and the scandal and collapse of savings and loans banks followed by the American recession of 1991. The Enron scandal and the collapse of the prestigious audit firm Arthur Andersen were among the main reasons behind the retreat from stocks after the bursting of the Internet Bubble in 2001. The credit crunch of 2007-2009 was also an effect of the bursting of the market of CMO (Collateralized Mortgage Obligations) securities. The growth of the bubble was possible owing to the unusual development of CMO instruments by banks operating at the fringes of the law, which would often offer mortgage loans to credit unworthy people and then, after securitization of the debt, would sell the

[3] The authors give the example of the long-time president of General Electric, Jack Welch, who in his autobiography on many occasions mentions cases of rejection of formal analyses, relying on intuition (Akerlof and Shiller, 2010: 190).

securities to partners unaware of the level of risk they carried. The lack of suitable sanctions and of reaction of the state causes mass violations of the law and considerably affects economic fluctuations (Akerlof and Shiller, 2010: 52-62).[4]

4. *Money illusion.* The phenomenon consists in taking economic decisions with disregard for inflation. History includes many thinkers convinced that people tend to succumb to the money illusion. The Phillips curve, a concept dating back to the beginnings of the 1960s, assumes that employees demand pay rises exclusively in connection with a rise in unemployment (thus, regardless of inflation). Milton Friedman called such thinking irrational and tried to prove that employees are interested in a real, and not nominal, pay increases. From the above he derived the theory of natural rate of unemployment towards which, by controlling monetary and fiscal policy, governments should aim. With unemployment at its "natural" rate, inflation should be stable. Although it is accepted relatively widely, the above theory does not admit the existence of the money illusion and therefore speaking about it is regarded as a sign of naiveté. Akerlof and Shiller claim however that the money illusion works in many cases such as cash settlements between contracting parties, interest on bank deposits, computation of taxes, unindexed loans or values in accounting records expressed in money terms. People calculate interest rates not taking inflation into account because they treat it as a marginal factor, although for example it is a key factor in the case of low-interest bank deposits or zero-interest current accounts. Thus, one of the main assumptions of contemporary macroeconomics is the fact that "people can look through the veil of inflation. In our opinion, the above assumption is very radical" (Akerlof and Shiller, 2010).

5. *Stories.* The human mind tends to perceive and understand the world in a narrative manner, by combining events and facts in logical strings. Stories and narratives have always been the basis of starting and maintaining human relationships, marriages, as well as religions and some political doctrines. It turns out that there are a few universal master plots that can be adjusted to the messages to be communicated.[5] Stories are very effective tools for explaining reality used by economists, politicians, managers, teachers or priests.

Some stories have huge significance for the economy because if they are generally shared they may cause irrational optimism or pessimism and may distort risk assessment mechanisms. The gold rush of the 19th century was caused by a story about the possibility of making easy money and made thousands of people

[4] CMO (Collateralized Mortgage Obligations) are asset-backed securities. The issuer divides pools of securities into tranches which are repaid in accordance with their terms. The first tranches received very high ratings from reputed rating agencies, which might have created an impression that all CMO instruments are safe. This misled less informed purchasers of these instruments. More in: Nawrot, 2009: 187-188.

[5] The authors claim that as few as thirty-something master plots have been identified. The master plots are always repeated and are only adjusted to the context at hand, e.g. Quest, Adventure, Pursuit, Rescue, Escape, Revenge. The examples are quoted after Roland Tobias (1993: 79).

leave their homes and take a dangerous trip to California or to Alaska. Contemporary stories about young people who made quick fortunes on internet companies have contributed to the creation and development of the Internet Bubble of the turn of the 21st century. The mechanism of spreading stories among the public reminds a viral epidemic. Therefore, using an analogy, mathematical models can be developed describing the spreading of stories.

The authors also try to use their theory to describe the causes of the 2008 crisis. "This time it started from the residential property market and from a message transmitted from mouth to mouth that prices in this market are constantly going up and therefore they will not drop in the future." (Tobias, 1993)[6]. Excessive optimism (confidence) and the operating of financial institutions not subject to sufficient supervision on the fringes of the law have led to an irrational boom in the real property market and consequently in the area of complex financial instruments.

Akerlof and Shiller expect their analysis to lead to practical proposals. In a world governed by animal spirits, only a state regulator may set the rules of the game and monitor compliance with them. In an attempt to locate their field of study within the discipline of economics as a whole, they have made the following breakdown:

Table 1. Breakdown of fields of study of economics by type of behaviour and motivations

Rational behaviour and economic motives	Irrational behaviour and economic motives
Rational behaviour and non-economic motives	Irrational behaviour and non-economic motives

Source: prepared on the basis of: Akerlof and Shiller, 2010: 218.

Looking at the four-field table including rational and irrational behaviour and economic and non-economic motives one may conclude that contemporary economics deals mainly with rational behaviours driven by economic motivations. In their work, Akerlof and Shiller also study the remaining three fields. However, they express a majority of their opinions in conditional terms. They do not issue final judgements but try to prepare ground for further research incorporating the methodology of psychological and sociological sciences. They admit however that behavioural macroeconomics gives only partial answers and is at an early stage of development.

In their work, Akerlof and Shiller also try to extend the research field of economics to include psychological and sociological perspectives. In their book titled Identity Economics, Akerlof and Rachel

[6] The quote is a translation from the Polish edition of the book.

Kranton (2010: 20) try to propose another explanation of economically irrational behaviour of individuals. In their opinion, the book "incorporates social identity and norms into economic theory."

"Identity Economics" is a novel approach with a sociological perspective to explaining human behaviour. Identity is understood as belonging to a certain social category which has its norms and ideals and also a certain utility resulting from the implementation of the norms and ideals, which the individual wants to maximise (Akerlof and Kranton, 2010: 25).

The tastes behind certain behaviours *are defined* by social norms. They are not only individual properties but they relate to entire social groups, e.g. a uniformly different treatment of whole groups such as human races, Indian castes, different tribes or even gender-related differences between people performing the same social roles (Akerlof and Kranton, 2010: 17). A typical economic analysis regarding the problem of smoking would include an analysis of losses for the economy resulting from the prevalence of the addiction and would study the demand for cigarettes. Identity economics would add the element of change in the social behaviour model resulting from women equality: in the 1920s there were more male than female smokers while today the proportion has become 50:50 – and this phenomenon may be explained only by an analysis of a change in social norms (Akerlof and Kranton, 2010: 17).

Shiller on the other hand uses the behavioural method in his journalistic publications to comment on the current economical and political situation. His voice is better heard owing to the renown he gained after the publication of his best-selling *Animal Spirits*. He describes a single metaphor as a condensed form of a story which operates as an icon on a computer's screen behind which there is a whole big software. The need for austerity measures described by the American administration as a "national belt-tightening" is a metaphorical way of reaching wide groups of society which are to create a new story (Shiller, 2012).

5. Summary

Many will agree with John F. Tomer (2007) who thinks that several behavioural economists are motivated to develop their disciplines further. Thus, the behavioural approach may soon end the domination of mainstream economics in its current form. At the moment, behavioural economics is not yet a uniform school of thought. For nearly three years from the publication of their book, also Akerlof and Shiller did not publish any works being a direct continuation of the claims it made. However, fragmentary commentaries and papers applying the new methodology have appeared. Time will show whether the approach of many strands of behavioural economics will merge into a separate school or whether some of them will start to dominate or will merge into mainstream economics.

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Próby tworzenia makroekonomii behawioralnej
a modyfikacja modelu homo oeconomicus
Streszczenie:

Jedną z podstaw panującego obecnie modelu ekonomicznego jest założenie o racjonalności podejmowania działań przez przewidującego i kalkulującego człowieka – homo oeconomicus. Teoria stworzona na bazie takiego założenia nie może sobie jednak poradzić z takimi zjawiskami, jak kryzys ekonomiczny po 2007 r. Do głosu dochodzą więc nowe koncepcje, np. ekonomia behawioralna, rozszerzająca obecny paradygmat o zachowania nieracjonalne. W najbardziej kompleksowy sposób kwestie te ujmuje praca George'a Akerlofa i Roberta Shillera *Zwierzęce instynkty*, analizująca takie czynniki, jak zaufanie, uczciwość, działania antyspołeczne, iluzja pieniądza i dominujące w narracji publicznej opowieści. Analiza ta daje podstawy do stworzenia nowej szkoły w makroekonomii. Artykuł prezentuje podstawowe założenia w kontekście wydarzeń związanych z kryzysem ekonomicznym.

Słowa kluczowe: makroekonomia, teoria ekonomii, kryzys gospodarczy