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Competitiveness of companies in the light of Richard H. Thaler's theory of behavioural economics

Summary: The article contains a review of R. Thaler's scientific output with respect to its possible use for the analysis of competitiveness of companies. The attention is focused particularly on the smallest businesses, including the self-employed. An attempt is made to answer the question of how the introduction of behavioural elements into the competitiveness analysis of enterprises of this type can foster the development of science and how it can be used in the economic practice. Inspired by Thaler's scientific output, the author decided to identify the main tools developed by Thaler, including the various types of cognitive biases, systematic errors, or supposedly irrelevant factors that are overlooked in the mainstream economic theories which, in fact, are essential for the decision-making process. An additional aim of the analysis is to identify the research areas which, if enriched with elements of behavioural economics, could be most beneficial. Two such areas are identified: in the microeconomic theory – the area of "manufacturer's decisions", and in the macroeconomic theory – the area of state intervention and public policies.

Keywords: enterprise, Thaler, behavioural economics, company competitiveness, self-employment

Konkurencyjność firm w świetle teorii ekonomii behawioralnej Richarda H. Thalera

Streszczenie: Artykuł jest przeglądem dorobku R. Thalera pod kątem możliwości jego wykorzystania do analizy konkurencyjności firm. Uwaga została skupiona szczególnie na firmach najmniejszych, w tym samozatrudnionych. Podjęto próbę odpowiedzi na pytanie, w jaki sposób wprowadzenie elementów behawioralnych do analizy konkurencyjności przedsiębiorstw tego typu, może pomóc w rozwoju nauki oraz jak może być wykorzystane w praktyce gospodarczej. Traktując dorobek naukowy Thalera jako inspirację, postanowiono zidentyfikować główne narzędzia przez niego wypracowane, w tym różne typy błędów poznawczych, systematycznych błędów czy rzekomo nieistotne czynniki, które są pomijane w głównych nurtach teorii ekonomii, a w rzeczywistości mają istotne znaczenie dla procesu podejmowania decyzji. Dodatkowym celem analizy było zidenty-

fikowanie obszarów badawczych, których wzbogacenie o elementy ekonomii behawioralnej mogłoby przynieść najwięcej korzyści. Wyodrębniono dwa takie obszary: w teorii mikroekonomii – obszar „decyzje producenta" oraz w teorii makroekonomii – obszar dotyczący interwencji państwa i prowadzenia polityk publicznych.

Słowa kluczowe: przedsiębiorstwo, Thaler, ekonomia behawioralna, konkurencyjność firm, samozatrudnienie

JEL: D9, D21, D22, M21

The 2017 Nobel Prize in Economics was awarded to Richard Thaler, considered the creator of a field of economics called behavioural economics. The official announcement after the Nobel Prize was awarded reasoned that Thaler had introduced more realistic assumptions related to decision-making into economic analyses. He showed scepticism towards the theory of rational choice and demonstrated that individual decision-makers are guided by limited rationality and that systematic rather than random errors, related to phenomena described by Thaler such as cognitive biases, internal (mental) accounting or a lack of self-control, play a major role while making decisions.

Thaler is not the first researcher dealing with this subject. Previously, the Nobel Prize was awarded to Simon (1978), Akerlof (2001), Kahneman (2002), and Shiller (2013). They also dealt with similar issues – analysed the behaviour of people when making decisions, largely using the achievements of psychology – but only Thaler built a bridge between economic and psychological analyses of an individual decision-making process. His findings, related to empirical research and theoretical insights, were fundamental in creating a new and rapidly developing behavioural economics, which had a profound impact on many areas of research and economic policy. He is also, among others, the creator and researcher of behavioural finance.

The objective of this work is the review of R. Thaler's scientific output with respect to its possible use for the analysis of the competitiveness of companies. The attention is focused particularly on the smallest businesses, including the self-employed. Given such significant Thaler's achievements, it is hard to ignore the theory of behavioural economics in the analysis of economic decision-making by the smallest, one-person businesses, in which the owner is of particular importance for the survival and success of the company. The adopted strategy for the operation and development of the company depends on the owner's decisions more than it is the case in larger companies. Additionally, the owner is the main asset of the company. Economic decisions depend on the owner's capital, both financial and material, but even more so – human (individual knowledge and skills), as well as social and family (network of contacts, trust), and even individual – meaning: health, individual values, and preferences. Therefore, it seems that using behavioural economics to analyse the competitiveness of the smallest businesses is particularly relevant. It may explain the behaviour of micro-entrepreneurs in a manner that is closer to empiricism than the classical economic theories.

Inspired by Thaler's research, the author decided to identify the main tools developed by Thaler, including the various types of cognitive biases, types of systematic errors (often referred to by Thaler as effects), or supposedly irrelevant factors that are overlooked in the main economic theories which, in fact, are essential for the decision-

making process. In his famous book "Misbehaving", apart from the theory and results of his own research, Thaler (2015) also revealed the foundations of his work and how he came to the results of his research. One of the tools he used was a so-called list, that is writing down any identified behaviours of friends that contradicted with the prevailing theory of rational choice, preferences, and utility optimisation.

This article presents a preliminary list of such irrational behaviours of the self-employed, observed in relation to their business activities, and identified during qualitative research. This list will not be exhaustive and will only constitute a basis for further empirical, including experimental research. As a result, a critical reflection on the possibility of researching the competitiveness of the smallest companies will be presented. A catalogue of research topics will be developed that can set the basis for a scientific reflection and analysis in the future.

Decision making in micro-businesses

Running a business involves continuous economic decision-making. In classical economic theory, these decisions are made rationally and depend on the assessment of the market situation. The purpose of a business is to maximise profit, so the decisions made are to choose such an available option which, given the conditions, will produce the maximum profit or possibly minimise the loss. Decision-making conditions are not relevant to this theory. Such irrelevant factor is, among others, the size of the company.

Empirical studies indicate, however, that in reality, the decision-making in large organizations and micro-enterprises is fundamentally different. Many aspects of the decision-making in large organisations were analysed by economists as part of their research on institutional economics. For example, Galbraith (1973) argued that the company is created to minimise the risk and market uncertainty related to the lack of stable prices and costs, customer preferences, and activities of institutions, including the government. The condition for increasing efficiency is the growth of the company because then it is possible to marginalise the market and shape the environment. Coase (1937, 2013) investigated the limits of the company: according to him, the size of the company grows as long as the internal transaction costs (of maintaining a large organisation) do not exceed the marginal revenue created by the increase in operating efficiency resulting from the increase in the size of the company.

It follows from these considerations that, given the same environmental conditions, the decisions made by companies should be similar – because in practice it is the market that determines decisions. And these decisions, according to Galbraith's (1973) or Coase's reasoning, should lead to the growth of the company.

Other theories, which emerged in the wake of behavioural sciences, present the decision-making process as being a result of the influence of various stakeholders associated with the company, who usually have totally different, sometimes even conflicting goals. Thus, according to Cyert and March (1963), an enterprise cannot be considered from the point of view of the entrepreneur-owner, as it is a coalition of different people: both those working directly with the company, such as shareholders, managers, employees, but also the entire environment of the company that affects its operation – such as customers, suppliers, lenders, and others. Individuals, not the enterprise, identified in the neoclassical economic theory with the "black box", pursue their own objectives. Therefore, all decisions of enterprises are the resultant of individual stakeholder motivations. These motivations may be of various kinds, not necessarily economic, that are aimed at profit maximisation.

Similarly, another theory – the principal-agent theory (Jensen, Meckling, 1976), which also applies to decision-making in large organisations, distinguishes between managerial and ownership functions. It indicates that managers (agents) employed to fulfil the objectives of the company may pursue their own objectives and maximise profits, all in contradiction to the interests and objectives of the company.

Already the above examples show that the decision-making process in larger companies, with an organisational structure, and in small and micro-businesses can vary significantly. To analyse this problem a whole group of behavioural theories can be used stating that a company and an entrepreneur-owner cannot be separated because the company's activities, its success or failure, strictly depend on the entrepreneur's decisions.

Such approach is based on Knight's (1921) theory of the firm. He assumed that firms operate continuously under conditions of uncertainty. Thus, they have to rely on intuition, judgements, and ideas of an entrepreneur regarding the allocation of resources to minimise the costs resulting from uncertainty. It is the idea, resulting from the knowledge and experience or even the instinct of the owner, that is the basis of the company's competitive advantage and the determinant of either the success or failure of the company.

Specificity of the decision-making process in micro-businesses

First of all, as pointed out by many researchers (e.g. Shepherd, Douglas, Shanley, 2000; Ptak-Chmielewska, 2016; Jenkins, McKelvie, 2016), micro-businesses are less effective by nature, as they cannot fully benefit from all resources of the environment. This feature is called the liability of smallness (Aldrich, Auster, 1986). The smallest companies cannot benefit from the economies of scale, have less access to material and human resources, their uncertainty of operation is significantly higher than that of larger companies. Their main competitive advantage may be precisely the flexibility of operation and the idea – the knowledge of the entrepreneur. Ptak-Chmielewska (2016) notes that the competitiveness of a micro-enterprise is highly dependent on the person of the entrepreneur/owner. In a one-man business, this dependence is almost decisive. Therefore, when considering the decision-making process, studies examine the internal features of the owner-entrepreneur, such as:

- socio-demographic features (age, gender, formal education, nationality, place of business, etc.),
- family and cultural capital,
- intellectual capital: knowledge, skills, experience,
- motivations of the entrepreneur,
- personal qualities such as creativity, willingness to take risks, perseverance, sense of agency, and others.

So, since the economic decisions of micro-businesses depend on the owner, it may be assumed that they are subject to all the dependencies that have been discussed in the framework of behavioural economics, and which were supposed to apply mainly to consumer decisions: the quality of decisions about economic activity largely depends on the conditions under which the decision is made and on any cognitive biases that may distort it. Therefore, it seems reasonable to discuss the main concepts of behavioural economics and to indicate the areas where they can be used to study the quality of

decisions concerning business models, and thus to study the competitiveness of these enterprises.

Thaler's theoretical concepts

Dealing with classical economics, Thaler noted that the assumptions of this theory concerning the ways of making decisions are often inconsistent with reality. He began to investigate the cases of human behaviour that differed from those adopted in economics. After years of his own experiments and analyses of research conducted by other academics, he identified three areas that can influence decisions that are not addressed in classical economics:

- supposedly irrelevant factors that should not affect the decision made, as reality shows, definitely affect it,
- cognitive biases that decision-makers make systematically,
- a self-control problem.
- Supposedly irrelevant factors

According to the rational choice theory, people make choices in such a way as to maximise their utility. When choosing, they are guided by the availability and select such a set of goods and services, which is available and will ensure maximum usability (although understood variously). The assumption is that when making choices, people have full information about the transactions – choices they are making; they can perfectly estimate both the costs of the transaction and the benefits arising from it, and they have rational expectations about the transaction. Based on that they make an optimal choice.

Economic theory finds other factors irrelevant. Meanwhile, Thaler (2018, p. 20-24) indicates that the factors hitherto considered irrelevant in fact significantly affect both economic decisions and the level of satisfaction with those decisions. If these factors are not taken into account in the developed economic theories and models, they generate numerous incorrect forecasts and are the basis for wrong decisions, both by individuals and by public institutions (also during the formulation of public policies). Thaler claims that it is far more significant in economic theory than in the theories of other social sciences, as only economics seeks unification and is the basis for deriving many other theorems. In other sciences, the level of generalisation is much lower, and the claims apply to specific conditions/circumstances.

Thaler argues that the assumptions of economic theory about rational choices deviate from reality. He draws attention to several problems.

- In the current conditions, the multitude of commodities does not allow making decisions in a manner consistent with economic theory. The costs and the time of analysing the information as to the selection of the most favourable option would exceed the marginal profits arising from making a choice in such a way.
- People do not make choices based on objective factors. There are many reasons causing cognitive biases that significantly affect the choices made.
- Reality is too complicated. A person often does not have enough knowledge to make a rational choice. Moreover, there is often a problem of information asymmetry between the parties to a transaction on the market, which also affects the irrational choice.

- People are often driven by emotions, which Smith (1989) called human passions, and Akerlof and Shiller (2010) – animal instinct, thus they are not rational.

All the above problems, according to Thaler, cause that factors that have hitherto been considered irrelevant should be taken into account in economic theory.

Heuristics and cognitive biases

Even if the participants in the market have sufficient information to make a rational decision, and when the conditions for making decisions are constant, many repeated individual behaviours can be observed, which are definitely inconsistent with the prevailing economic theory. According to Thaler (as in Tversky and Kahneman, 1974), it is caused by numerous heuristics (understood as acting in accordance with "common sense" or "general knowledge") and cognitive biases. In economic theory, cognitive biases are also allowed, but the theory assumes that they are made randomly and that larger-than-actual and smaller-than-actual results are obtained with equal frequency – so that such biases "cancel each other out" and can be ignored. Meanwhile, Thaler showed that there are many situations, where the biases are not random at all, but are systematic. Thaler presented many examples of such systematic biases, based on own research, but also the research of other scientists, including Kahneman, Tversky, Akerlof, Becker, Benartzi, Camerer, Fama, Fehr, Shiller, and many others. A selection of situations or effects that lead to systematic cognitive biases will be presented below[1].

Endowment effect

People are generally loss averse. Therefore, goods and services they own are valued higher by them than the property of similar value that does not belong to them. Similarly, the current ownership is more valued than the potential ownership.

Examples:

- A wine collector drinks wine, which he bought years ago for $10, the present value of which is $100, but at the same time, he considers buying a wine for $100 too extravagant.
- Owners of $5 worth of mugs estimate their value higher, while potential buyers – below their actual value.

According to Thaler, the endowment effect is due to two reasons:

- inability to correctly estimate an opportunity cost,
- loss aversion, where the loss is the disposal of property or the spending of money held.

Therefore, giving up the opportunity to sell something does not hurt as much as taking the money out of your wallet to pay for it (Thaler, 2018, p. 36). This is explained by the prospect theory (Tversky, Kahneman, 1979), according to which the loss is more important than the profit that compensates for it. In other words, the aversion to losing $100 is stronger than the utility of $100 profit. Still, another observed regularity follows from the above (Thaler, 2018, p. 55) – the risk aversion in the case of gains is greater than the risk aversion in the case of losses. People are not willing to take risks when

[1] Due to the fact that behavioural economics is not rooted in the Polish literature, the translations of particular effects or theories may differ in various publications. Therefore, there is always an English term used by Thaler (2015) given.

it comes to potential gains, but if they suffer a loss, they are willing to take risks just to make up for these losses. Thaler (2018, p. 55) claims that losses hurt about twice as much as gains make you feel good.

Framing effect

The prospect theory is associated with the framing effect. In economic theory, the method of presentation should be a negligible factor, and the choice should be made only based on a potential gain. Meanwhile, the method of presentation itself significantly affects the choices made. People with loss aversion are more likely to choose an offer with a high price and a granted discount than an offer with a low price and a small surcharge – even though the two prices are actually identical (Tversky, Kahneman, 1981).

Similarly, individuals make different decisions depending on the context. And so, the willingness to save a specified amount when buying goods, in exchange for having to go to another shop depends on the price of the goods. For example: with an item priced at $25, buyers will be willing to go to another shop to buy the product at $10, but they will not take this step when they decide to buy an item priced at $125 in the first shop and $110 in the second – even though the saving is identical, and equals $15 in both cases.

Hindsight bias

When a decision is made under conditions of uncertainty, after an event has occurred, when its actual course is known, the probability of that scenario occurring is estimated higher than the competitive scenario (even though both probabilities were originally estimated to be equal).

This effect has very practical applications in economics and management. Afterwards, it is considered that all unexpected obstacles that appear during the implementation of the project should be foreseen. This effect makes decision-makers avoid risky decisions because if they fail, they will be held accountable, even when the unexpected barrier to the project implementation was random and difficult to predict.

Status quo effect

Individuals make decisions taking into account a certain level considered the status quo. They assign value to goods and services taking into account not the level (of prices, values, satisfaction), but the changes in the levels. To make a decision, the evaluated offer must be placed in a certain context and compared to the status quo. It means, among others, that the level of satisfaction (with life, work, decision) does not depend on the profit or the level of wealth, but on the change of this profit or wealth.

Moreover, this theory pointed to the fact that finding some level as status quo makes one stop paying attention to it and this level is taken for granted. So, it no longer provides either satisfaction or frustration. Only a change in the level is associated with a change in attitude, where, according to Weber-Fechner's law (Thaler, 2018, p. 53), a diminishing sensitivity to changes in relation to the status quo can be observed.

Mental accounting

According to Thaler, his concept of mental accounting applies mainly to the theory of consumer choice. It complements this theory and examines the ways consumers think about money and whether such thinking affects the choices made by consumers.

Acquisition utility and transaction utility

Classical economic theory considers only one type of utility, resulting from the concept of consumer surplus. If a consumer values something higher than the market – a consumer surplus is created in the consumer's opinion and the transaction takes place. This is possible only if the opportunity cost of acquiring the good (i.e. the cost of what the buyer has to give up to buy the good) is subtracted from the utility of the given good. Thaler calls such a classical utility an acquisition utility (Thaler 2018, p. 85-86). He claims, however, that in the decision-making process about the acquisition of the good, also another utility, which he calls transaction utility, is taken into consideration. It is the value (positive or negative) of the transaction itself. No matter what the transaction is about or how useful the good we are buying is, the transaction itself can be seen as a bargain or, on the contrary, as exploitation or even a fraud attempt – or a rip-off. In the decision-making process, both utilities are considered separately. This can lead to a situation, where the consumer buys a good, the acquisition usability of which he values very low, only because the transaction utility is evaluated high. In other words, the consumer acquires the good that is completely unnecessary only because he finds the transaction itself as an incredible opportunity (e.g. because of an attractive price offer).

Although Thaler connects mental accounting mainly with the theory of consumer choice, one may wonder about its use also in other decision-making processes, e.g. concerning running a business activity or introducing public policies.

Sunk costs

Classical economic theory assumes that sunk costs (the ones that have already been incurred and cannot be retrieved) are not taken into account while making decisions as to the further activity. So, the initial investment costs should not be considered when the issue of whether to continue or cease production is being analysed. This decision should be affected only by the fixed and variable costs, and not the sunk costs.

Thaler (2018, p. 94-96) argues that in the real economy people do not follow such advice concerning sunk costs. Due to the escalation of commitment (Staw, 1976; Cialdini, 2000), the costs incurred are mentally categorised as a loss and are definitely not referred to as an irrelevant factor. This loss must be covered by the utility or gain resulting from the use of the good that has been recognised as a cost. Where the "cost" does not only mean financial resources spent for the good but also the time involved: the more work has been put into the project, the greater the expectation as to the "return" on this transaction.

Thaler noted, however, an interesting relation: decisions largely depend on whether the initial costs (sunk costs) have been mentally categorised as costs or as investments. If they have been categorised as costs, that is a loss – people will do anything to compensate for this loss. Thus, they will insist on making the best use of the good recognised as costs, even if the utility of this good is very low (e.g. they will wear shoes that are too small just for them to pay off). But if these costs are mentally categorised as investments – every usability arising from the use of the good will be considered an added value, so something additional, which is received "for free".

Mental accounts

Since financial resources are usually limited, and this principle applies both to organisations, enterprises, as well as households or individuals, very often budgets – expenditure plans – are prepared. Available resources are divided into categories. The

so-called mental budgeting takes place, according to which the resources for purpose A cannot be spent on purpose B. In classical economics money is neutral and the accounts or buckets, where it is stored, should not be an important factor in the decision-making process. Thaler (2018, p. 106) writes: Money should be spent in whatever way best serves the interests of the organization or household; if those interests change, we should ignore the labels that were once assigned to various pots of money. Many examples show, however, that mental accounting into individual categories affects decisions. For example: people run into debts on high-interest credit cards to pay current housing or utility bills, even though they have savings. According to their mental accounting, the current expenditure and savings buckets are separate and cannot be mixed. Thereby they incur higher costs, as interest on savings is usually much lower than that on a credit card debt.

Risk aversion, loss aversion

In general, people have various risk and loss propensities. This means that there are people with a high risk propensity, for which risk-taking is not a considerable inconvenience, and others with a high risk aversion. It is similar in the case of loss.

Regardless of these individual tendencies, Thaler described interesting relationships:

"going to zero" – people are more risk-seeking when it concerns losses (as in Kahneman, Tversky, 1979),

"house money" (the casino is referred to as "the house") – people are more risk-seeking when the risk is financed from the money obtained unexpectedly, e.g. from gambling. Such money is not treated as their own money but as "temporary". Thaler claims that the expression "easy come, easy go" applies to such actions.

Self-control

Economic theory does not account for the problems associated with self-control at all. The assumption is that people have sufficient knowledge to make a rational choice, they are able to specify their preferences and make their choices consistent with those preferences. Meanwhile, empirical research (Thaler 2018, p. 119-120) shows that in reality, despite their knowledge and specific preferences, people have great problems with making a rational choice. The experiment showed that there are situations when the choice made is inconsistent with preferences. There are several reasons for this phenomenon. Smith (1989) saw the conflict between passions and an impartial spectator that is in every human being. It is because of this duality, the pleasure which we are to enjoy many years hence is less appreciated than that which we may enjoy today. Therefore, we tend to consume immediately, often against real and rational preferences.

Thaler (2018, p. 138-140) presented the following tools to address the problem of the lack of self-control:

- removal of the cues that tempt to make a decision inconsistent with preferences,
- commitment strategy: limiting the possibilities to act to such an extent as to prevent self-destruction, e.g. by creating and sticking to an external set of rules and procedures,
- raising the cost of submitting to temptation (as in Ainslie, 1975).

According to Thaler, many people realise that they have self-control problems, but they underestimate the severity of this phenomenon. The reason can be a distinctive

feature of many people: overconfidence and excessive belief in their own abilities. These features are also the focus of behavioural economists.

Searching for new ways to analyse the competitiveness of enterprises

According to Kuhn (2009), discovery starts with anomalies. Thaler explains his interest in the new field of economics and the creation of behavioural economics similarly. This field was brought in by examples of individual consumer or other behaviours that concerned the decision-making process, which were in contradiction to classical economic theory and could not be ignored. Thaler (2018, p. 39-44) has recorded all such examples observed among family members, friends, or students for years. These examples were the basis for developing and conducting scientific experiments, the results of which then formed the basis for new economic concepts. Such assumptions were an inspiration to conduct this research. Between 2015 and 2017 the author carried out over 100 individual in-depth interviews (IDI) with the self-employed and micro-entrepreneurs[2]. Now, these interviews were once more analysed in search of anomalies. Any examples of behaviours of the self-employed and micro-entrepreneurs that were inconsistent with the assumptions of classical economy concerning rational expectations and choices, which could affect the competitive position of the company or the economy as a whole were searched for. As a result of this procedure, a list similar to Thaler's list was created.

List of anomalies

In Poland, a person running a business and not employing workers (self-employed) may choose one of two methods of taxation:

- CIT flat tax,
- PIT according to the scale for natural persons (18 and 32%).

The self-employed choose the method of taxation while registering their business, but they may submit an application to change their method of taxation at any time (except that this change will apply to the following tax year; one tax year cannot be taxed in two different ways). Many self-employed do not change the method of taxation that they chose at the beginning of their business activity, despite changing conditions, and even though this change (which does not generate costs and does not involve much time commitment) would generate an increase in the net profit of the economic activity.

In accordance with traditional economic theory, entrepreneurs make decisions that maximise profit.

These behaviours may be explained by self-control problems and inconsistency of undertaken (or not undertaken) actions with preferences.

A distinguishing feature of running a business on a micro-scale is a high risk of failure (Ptak-Chmielewska, 2016; Shepherd et al., 2000). According to Statistics Po-

[2] Research method:
IDIs with the self-employed and micro-entrepreneurs – running their businesses now, and those who have run their businesses in the past – carried out between 2015 and 2017. In total, the analysis covered 104 such interviews, conducted based on a study scenario. The scenario included questions about the history of a company (adopted development strategy, current activities of the company, barriers to operation) and the motives of its creation. The entrepreneurs that finished their business activity were also asked about the reasons for such a decision.
Efforts were made to diversify the sample as much as possible in terms of various criteria: place of business (8 provinces), gender, age (23-60) and education level of respondents, dominant company profile (within the meaning of the Polish Business Classification (PKD) – sections C, F, G, H, I, J, L, M, Q, S), but also attitudes of the company owner.

land data, only 60-70% of companies survive the first year, depending on the year of establishment of the business activity, the prevailing economic situation, and the sector. There is also a known principle that the smaller the company, the greater the risk of failure. In such competitive conditions, a high degree of flexibility is necessary to increase the probability of survival. The literature emphasises that small companies, including the self-employed, are more flexible (Audretsch, Keilbach, 2004), if only because of the shorter decision paths and the lack of formal procedures in this regard.

The example relates to owners of small businesses, including those working independently, who have been in business for at least several years and have been successful at the beginning of their business (by success in this case I mean staying in the market and generating revenues from their operations at a satisfactory level at least). After some time, when competition that is stronger than before appears on the market and the revenues start to fall, despite a correct diagnosis of the problem, a complete lack of any action undertaken by small business owners is observed, their total passivity and unwillingness to make any decisions. In extreme cases, the owners of shops, restaurants, or service establishments are ready to finance losses in their operations for months from their own funds, sometimes even from loans, but they do not take any corrective actions that could restore the profitability of the company, nor do they make the decision to close the business. According to traditional economic theory, entrepreneurs fairly quickly react to market changes and adapt their activities to new conditions. This anomaly may be explained by the status quo effect (perhaps when the reduction in profits is not sudden, but slow, the changes that happen are small enough not to motivate to make radical decisions). Additionally, the endowment effect can affect the decision to close the company and withdraw from the market.

The self-employed and small business owners spend many hours on tasks related to the bureaucratic handling of the business. For example, many self-employed people keep their own accounts or set up and operate their websites. They do this even if they are not appropriately qualified or skilled to perform such tasks. Since they do not have experience and expertise, these activities are much more time-consuming than they would be to specialised service providers. Yet, despite the market offer for such services, they choose not to use them. They believe that in this way they are reducing operating costs.

Example. The cost of purchasing an accounting service on the market and the number of hours spent by a self-employed person per month on accounting activities were considered. An hourly labour cost for accounting-related activities was calculated. Then a question was asked whether the self-employed would be ready to provide their own services for the rate calculated in this way. The answer was negative, and the comment provided proved that the suggested rate was very low and accepting such an offer would be "spoiling the market". Meanwhile, this is the exact rate at which the same self-employed person works by keeping the accounts by himself. According to traditional economic theory, entrepreneurs are able to correctly value the revenue per unit of labour and capital to optimally allocate their resources. This anomaly can be explained by the endowment and framing effect.

Freelancers value their own work higher than they value the work of freelancers of other professions. When estimating the number of hours needed to perform a given task, they indicate a higher number in the case of their own work than in the case of the work of another person (a competitor). This difference is not a result of the lack of

knowledge about the realities of the job. What is interesting, despite the overvaluation of their own work when compared, while preparing an offer for the customer, the time of their own work is often underestimated. Surprisingly many freelancers talk about assignments where the actual working time they had to spend on the assignment was much longer than they originally planned. According to traditional economic theory, entrepreneurs correctly estimate costs and thus they can determine an optimal allocation of their resources.

Thaler (2018, p. 240-241) explains the described behaviour by the so-called narrow framing and, at the same time, mental accounting while analysing and examining the problem separately depending on the point of view. Thaler, as in Kahneman (2012) speaks of two perspectives: inside and outside views. The first one does not allow for an objective overview of the situation and does not allow for precise economic forecasts.

Very many entrepreneurs who prepared their business plans confirmed a rule: business costs were underestimated and revenues overestimated. Quote: We need to be aware that we will not immediately earn the money we assumed at the beginning. Not a single case of the opposite situation was found. According to traditional economic theory, people make rational decisions and, based on full information, they can correctly estimate the costs and revenues. Possible errors are random, which means that some overestimate the costs, while others underestimate them. This anomaly may be explained by the problem of self-control and overconfidence.

Many budding entrepreneurs, despite unfavourable forecasts as to the success of their project as indicated by statistics, and despite the lack of knowledge about conducting a business, and sometimes even despite the lack of substantive/industry knowledge, still decide to start a business, often devoting all of their resources for this purpose, and opting for external financing (e.g. a bank loan). They are confident that their project will be a success and they are not prepared for another possibility. According to traditional economic theory, entrepreneurs enter the market when there is a prospect of such allocation of their resources that will generate profit. With full information as to the operating costs of business and their own resources, which determine the amount of future costs (fixed and variable), they are able to correctly estimate the probability of success. In reality, a large group of entrepreneurs does not make decisions based on the above rational premises. This anomaly may be explained by the problem of self-control and overconfidence.

Some self-employed, contrary to the facts, claimed that one of the benefits of full-time employment was the fact that taxes were paid by the employer, and not directly by the employee. Although in the case of a contract work taxes and social security contributions are higher than in the case of self-employment, the method of payment itself (not directly by the taxpayer, but by the third-party payer) is regarded more beneficial. Quote from the interview: Everyone prefers to have taxes paid for them. You then have the money earned for yourself. From an economic point of view, the method of paying taxes should be irrelevant, only the amount of taxes should be considered. This anomaly may be explained by loss aversion, where the loss is the amount of tax. The necessity to pay taxes limits current consumption. Additionally, at this point, we could analyse the effect of mental accounting and treating one's consumption in two ways: on the one hand, self-funded consumption, and on the other hand, consumption of public services financed from taxes.

- Self-employed people who faced the following problems were identified:
- those who made significant initial investments,

- those who did not make profits on their investments because they did not attract enough customers,
- those who had free financial resources.

Despite having appropriate resources and correct diagnosis of the problem (lack of customers), these entrepreneurs were not willing to incur additional costs for marketing, even though these costs were relatively low (compared to the initial investment) and did not exceed their financial capabilities. They justified their attitude claiming that the investments should "pay off", and subsequent costs should be incurred when the profits from the costs already incurred are obtained. According to traditional economic theory, when making decisions as to the scale of production and variable costs incurred, sunk costs should not be taken into account. Meanwhile, these costs are commonly analysed and taken into account, and it is done so in a manner that reduces the competitiveness of companies. Supposedly irrelevant factors, in this case, are of great importance in the current operation of the smallest enterprises.

The self-employed who conducted their businesses and had to close them for various reasons asses self-employment in various ways. Their attitudes as to the possibility of conducting business activities in the future vary as well. The persons who had closed their businesses with large losses, including unpaid loans, and who assessed the period of their previous activity as a success and did not exclude returning to self-employment in the future have been identified, as well as the persons, who, despite objectively large profits from their previous activity, assessed it as a failure and have a strong aversion to the possibility of returning to this form of professional activity. Recognising the former activity as a success or failure does not depend on the achieved economic results. It seems that future decisions about re-starting the business do not depend on the profits or losses incurred in the previous company. More detailed research is required to explain this behaviour. Perhaps the framing effect will provide an explanation.

There is a fairly widespread distrust of the pension system in Poland. Pension scheme contributions are recognised as a tax which is a burden inadequate to revenues. The self-employed are aware that by paying the minimum contribution allowed by law, they will receive only a minimum pension in the future. Many of them, despite their good financial situation, do not choose to save for retirement themselves. But in most cases, they declare that they are willing to start such activities but in the indefinite future. According to traditional economic theory, future consumption is discounted by a specific rate resulting from specific preferences, depending on the market interest rate. Meanwhile, in the real world, despite specific preferences (having an income during retirement), most people voluntarily do not save enough money but spend their whole income on current consumption (regardless of the interest rate). This behaviour may be explained by self-control problems when the current decisions are inconsistent with the preferences.

The above list of misbehaviour among the people conducting business activities (mainly the self-employed), for obvious reasons, is not a closed list, nor does it intend to be called a representative list (indicating the main – most significant or most frequent – errors in the decisions made by the self-employed). It is more of a list of examples showing that people conducting business activities, similarly to natural persons or consumers, are more Humans than Econs, using Thaler's terms, and that their decisions are not always based on rational premises. Moreover, as Thaler argues, the errors listed above are not random and do not "cancel each other out" making it so that for

the whole economy the behaviour of people doing business can be considered rational, but are part of systematic biases that can be explained by the theory of behavioural economics.

The above examples show new possibilities for analysing the issue of micro-business competitiveness using the theory of behavioural economics, based on the various concepts presented by Thaler. The first possibility concerns the inclusion of elements of behavioural economics in the microeconomic analysis, based on which entrepreneurs will be able to make more accurate predictions about the effects of their economic decisions. The mere indication of the existence of cognitive biases and heuristics to entrepreneurs will draw their attention to this issue and will most likely result in taking these types of systematic biases into account while making their own decisions. In other words, when an entrepreneur is aware of the existence of the endowment effect while assessing a real transaction, he or she will take account of this effect, and the decision will be closer to a rational choice decision. (The author is aware that this statement itself is also a research hypothesis, which must be proven and can be the basis for further research.)

The second possibility concerns the inclusion of elements of behavioural economics in macroeconomic analysis, particularly when considering the effects of public policies on the growth of entrepreneurship.

Summary and conclusion

Summarising his achievements, Thaler (2018, p. 434) concluded that, much to the surprise of many scholars, behavioural economics has had the greatest impact in finance. It can be stated that in other fields of economics the use of behavioural aspects is much less advanced. And yet, wherever there is a decision-making problem, the introduction of behavioural elements to the analysis will certainly contribute to a better understanding of economic processes. The same also applies to the theory of entrepreneurship and studies on the competitiveness of enterprises. Thaler claims that this approach contributes to the development of economic theory, as it builds evidence-based economics (which is not based on unrealistic assumptions).

In the study presented above, an attempt was made to answer the question of how the introduction of behavioural elements into the analysis of the competitiveness of the smallest enterprises (including self-employment) can foster the development of economic theory and what will be the effect of using it in the economic practice. The analysis was designed to identify possible areas of research, where expanding the existing research using the elements of behavioural economics will most likely bring the most benefit.

Two such areas have been distinguished:

Microeconomic theory, especially the area of "manufacturer's decisions".

In microeconomic theory, it is assumed that the manufacturer's decisions concerning, among others, entering the market, areas of activity, size of production, or going out of business, are based on economic calculation, which is based on marginal analysis. The decisive criterion is the amount of profit. Other factors should not substantially affect these decisions. Meanwhile, the above-mentioned decisions are affected by a great many other stimuli or impulses that were previously considered irrelevant. Investigating the actual factors that affect economic decisions, thus adding behavioural elements to the existing economic theory, will be precisely the postulated building of evidence-based economics. In practice, it will also contribute to a better understanding

of economic processes. Micro-entrepreneurs, on the other hand, will be given a tool that can improve the quality of their economic decisions and make them more likely to succeed in business.

Macroeconomic theory, especially the area concerning state intervention and public policies.

In classical economic theory, the main state instruments affecting the real economy are fiscal policy and monetary policy. The assumptions to prepare directions of interventions within these policies are the assumptions of classical economics on rational expectations and choices cited above. The introduction of elements of behavioural economics to the analysis can cause that the effectiveness of the policies will significantly increase, and their costs will decrease. This applies, for example, to the problem of retirement schemes of micro-entrepreneurs.

Thaler himself found that behavioural macroeconomics is on the top of his wish list for further research, but virtually every field of economics could benefit greatly if the analysis of human behaviour under different conditions were introduced into their analysis. As shown, the study of competitiveness of micro businesses is also such an area. Without incorporating elements of behavioural economics, it will be difficult to correctly predict trends in the economy and responsibly propose instruments that could make a real contribution to improving economic conditions.

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