



SUBJECTIVITY AND OBJECTIVITY IN ECONOMIC RISK BEHAVIOUR

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ABSTRACT

The purpose of this paper is to discuss the relations of distinction and mutual dependence of objective and subjective aspects of economic risk actions. In the risk sciences the term "objective risk" is most often associated with the frequency interpretation of objective probabilities. Conventional theories are trying to find some measure or model of rationality in risk calculations (eg its magnitude) in decision making, so that comparison with that measure or model to be sufficiently reliable guide to assess the behavior as right or wrong. Economic models of risk report mainly objective quantifiable parameters of the business environment and actors, in the dynamics of which future economic behavior can be prognosticated. On the other hand the risk is a subjective reality as it is associated: with an uncertainty in success or occurrence of desired events; with subjectively assessed probabilities for them to occur; and with subjective judgement of the determinative factors. Objective magnitude of risk is quite often very different from a hypothetical uncertainty that an individual or an institution have perceived and evaluated. Subjective risk exists through a subjective perception and subjective assessments in whose formation psychological and socio-psychological characteristics of the actors are involved, relevant to their social status and social situation.

Key words: economic risk, decision making, risk probabilities, risk models

It may be accepted that risk exists **objectively** in nearly all activities within the social and business fields, i.e. it is objective reality. Regardless of the extent to which risking individuals realize it, it can be a fact at the moment of decision-making, as well as during the making of the activity itself. The goal of researchers, supporters of the objective concept of risk, is to develop mechanisms, mathematical or logical models, which allow for its practical lowering. The sciences of risk do not generally dispute the concept of "objective risk". It is related to the frequency interpretation of objective probabilities (Hansson, 2007). The efforts of theoreticians and practitioners are aimed at decreasing the indefiniteness before the activity and achieving a relative clarity about all of its parameters, including its potential outcomes. The economic models for risk calculation (e.g. credit lending, insurance, advertising bank offers, etc.) take into account the objective quantitative parameters of the business environment and actors. Based on the dynamics of the objective parameters, prognoses for the future economic behaviour of the actors can be made, thus

making assessments of the risk for financial institutions.

Contemporary economic theories have developed a few formal models of risk-taking. All of them are oriented towards the application of mathematical methods in economic activities (Hansson, 2007). The problem that conventional theories (e.g. March, 1987) are trying to solve is to find some kind of measure or model of rationality in risk calculations (e.g. its extent) in decision-making, such that comparing to it would be a sufficiently reliable guide for assessing behaviour as correct or incorrect (Luhmann, 1991).

Portfolio theory (Markowitz, Tobin, per Hansson, 2007) uses standard deviation or dispersion (square of the standard deviation) and the value of statistical expectation as statistical measures of the risk in alternative options. The alternative, which has the greatest standard deviation, is viewed as the most risky. When comparing two alternatives, it should be expected that the economic actors would prefer to invest in an alternative, which possesses a

high level of statistical expectation and as low as possible level of risk. Dispersion and statistical expectation determine the optimal portfolio for the different subjects. If the diffusion of probabilities is too high, preserving their mean value unchanged would lead to increasing risk, related to the distribution of the portfolio. This model does not take into account the fact that economic actors differ in the relative significance that they give to the statistical expectation when they make decisions to take or avoid risk.

Other researchers accept the usefulness function as an alternative measure of risk (Rothschild, Stiglitz, on Hansson, 2007). As a result of analysis of this function, the theoretical hypothesis that economic actors would prefer assured results to risky ones, when both types have the same expected usefulness, was formulated. The extent of expression of the personal tendency for risk avoidance, for example, can be measured through the readiness to accept lower-than-expected usefulness (i.e. surrendering of certain advantages) in order to avoid the risky alternative. Such function of usefulness against a specified point "x" has a sustainable attitude of preference towards certain future results and can be calculated for every actor. This embodies the differential significance of the usefulness function in prognosticating the avoidance of or engagement in risk behaviour.

The common element in the presented formal models of risk-taking is the orientation towards objectively calculable statistical or mathematical values, which measure the extent of risk. These values are also the basis for the prognoses for acceptance of risky alternatives or denial of their realization on part of economic actors. Formal models are a basis for risk assessment based on the fundamental assumption that people act sequentially by reproducing their past experience and maintaining their attitudes and preferences constant.

The objective aspect of risk is also related to the decisions' social grounding (Luhmann, 1991). The subjective assessment of the risk and the personal readiness for risk-taking is not only a psychological, but also a social problem. Individual as well as group behaviour are, to a great extent, dependent on socialisation, the referent groups' social expectations, as well as the actor's current

social circle. Therefore, when the issue of risk behaviour is researched, it is very important to know exactly who the risk-taker is, what influences them objectively and within what time horizons the decision-taking takes place (Luhmann, 1991).

The common thesis states that the objective component of risk originates from the environment (natural and social) and the activity (its subject and content).

Of the interpretation of the objective aspect of risk presented thus far, two important statements can be derived: on one hand, risk is objectively present in life and human activities regardless of their subjective goals, and on the other hand - there are objective models, through which it can be calculated and assessed.

Risk is also a **subjective reality** because it is related to an uncertainty of success or the occurrence of a desired event due to possible unfavourable outcomes with subjectively evaluated possibilities of them happening and with subjective assessments of the factors that define them.

The objective value of risk in practical activities can be very different from the subjective hypothetical uncertainty, which an individual or even an institution perceive and evaluate (Hansson, 2007).

In daily life, there are fairly frequent cases when even the valence of the supposed activity result is not perceived the same way by the actor and their social circle or other participants in the activity. Moreover, this result can actually be interpreted and evaluated contrarily by the actor and their social circle (the positive result subjectively perceived by the actor could be evaluated as negative by their social circle and vice versa - e.g. the preservation of the available assets could be subjectively seen as a success by the actor and as a failure by their peers).

According to the representatives of the subjective concept Kahneman (1979), Ahlgin (1989), Slovic (2000) and others, subjectivity is an invariable feature of risk because the actor perceives its parameters, makes assessments and a conscious choice, while considering the possible alternatives. This concept is based on the assumption that the subject of the risky economic act is capable of

realizing (to an extent) the consequences of choosing a certain line of behaviour and evaluating the objective chances of its outcomes.

Compared to objective risk, the concept of “subjective risk” is relatively vaguer. In psychological literature it is interpreted twofold (no Hansson, 2007):

- as a subjective evaluation of those factors of risk, which are ignored or omitted during the process of assessing the objective risk (e.g. the potential consequences of human activities on the natural environment);
- as a subjective evaluation of the objective risk - an individual summarised assessment of the extent, social and personal significance of the danger or supposed threat (as well as the significance of the favourable opportunities).

The first interpretation of subjective risk assumes its distinction from objective risk, yet is complementary towards it (e.g. subjective assumptions of eventual consequences of human activities on the natural environment complement objectively known risks). The complementary relation, on the other hand, means that actors should accept unambiguously the objective risks, yet it is well known that this is not always the case (Hansson, 2007).

According to the second interpretation, the subjective assessment depends on many factors that do not match the traditional measures of objective risk. For example, despite the increased frequency of car accidents, a large part of car owners do not make all necessary insurances, optimistically assuming that the probability for them to take part in a car accident is lower than the probability for other motorists. Another typical example discussed by Kahneman and Tversky (1979), related to economic behaviour, is participation in lotteries. Results from their research have shown the presence of a stably shared attitude by the players that the sequence of losses logically brings closer the moment of winning (i.e. the chance of winning increases after a sequence of losses). In reality, there is no such objective tendency - chances are the same for every separate bet and the expectations for cumulative chances of success in following participations are not statistically justified.

The common element in both interpretations is that risk is equalised to the assessment of the risk. This terminological ambiguity

necessitates the differentiation of the two concepts. In fact, the term subjective risk denotes an uncertainty of future outcomes, originating from the person, whereas the subjective assessment is related to the extent of uncertainty. Subjective risk exists through subjective perception, subjective assessments, in the formation of which participate attitudes, expectation, necessities, values, intellect, competence, cognitive schemes, emotions, will, etc., respective to the social position and social situation of the actor.

In psychological literature, the terms “subjective assessment of risk” and “subjective perception of risk” are often considered the same thing. The issue of their differentiation is complex. It may be assumed that subjective perception of risk is related to the recognition of uncertainty and its registering.

Because risk is a complex phenomenon, its perception is something different from the elementary forms of perception related to modalities. The perception of risk is a cognitive process of formulating a subjective image of a specific activity in the actor's mind, assuming uncertainty of the results. The provoking objects, which influence the actor (their senses, feelings, and intellect), are the objective and subjective actual or alleged conditions and factors, under which the activity is expected to occur. In order to form a perceptive image of the risk activity, however, the signals from provoking objects are more or less assessed, thought over and explained by the actor through the preliminarily available individual thought and/or affective schemes (stereotypical, unique, sustainable or variable). Thus, the subjective perception is a process of recognition of the activity as risky through realization (clearer or vaguer) of the presence of uncertainty.

Many and various parameters of the activity are taken into consideration, as well as the environment and/or the personality, assumptions and understandings are made, impressions are formed, explanations are constructed along with interpretations of the greater or lesser part of these parameters (e.g. the environment is unsure, the results might not be achieved or they have a problematic significance to the actor, etc.). Because risk is multi-component phenomenon, its perception within complex human activities (e.g. economic activities) can rarely be done

automatically (as it is possible with elementary modal perceptions realized through the senses - hearing, eyesight, taste, etc.).

Perception of complex phenomena such as risk is the process of its recognition, yet as a result of conclusion. During the process of this recognition, and due to it a number of preliminary assessment processes take place (which are the signals of uncertainty and how subjectively significant they are), the result of which is the perceptive image. Its structuring inevitably passes through a complex process of subjective assessment of its separate components as well as an overall evaluation of its various aspects: qualitative (potential positive and negative consequences), quantitative (amount of risk and the potential losses or benefits) and axiological (how subjectively valuable are the potential positive and negative consequences for the actor).

Due to this, the distinction between the terms “*assessment*” and “*perception*” of risk is problematic. Subjective perception of risk pertains to the formation of an overall subjective image of the activity’s expected results as uncertain. It could be said that risk perception is a complex result of the awareness of its sources and their consequent assessment. It is only after the formation of the perception of present risk that it can be evaluated as high or low, significant or insignificant, justified or unjustified, etc. Very often, however, the two processes occur simultaneously within the concrete train of thought. Because their strict analytic distinction is impossible at this stage of development of our psychological knowledge of economic risk, the following two terms will be used in the next two chapters - subjective “*perception*” and subjective “*assessment*.”

Subjective perception has temporal dimensions - the process could be shorter (almost automatic) or longer. Apart from that, the perception of the activity as risky by the same actor could change over time and be dynamic.

On the other hand, the perceptive process could be more or less active (requiring effort), cohesive or fragmentary (due to lack of sufficient signals), as a result of which the perceptive image could be more or less accurate (or even inadequate - e.g. an objectively risk-free activity could be perceived as risky or vice versa).

Subjective perception of risk has social dimensions as well - it is influenced by the social position and social situation of the specific actor. Just as with temporal, social dimensions of risk perception could also provoke disagreement or mismatching of the subjective assessments regarding its amount, probability and significance, which considerably complicates the management of risk behaviour (Luhmann, 1991).

According to Drottz-Sjöberg (2004), the subjective risk could be studied through the methods of measuring attitudes and psychological scaling. It is problematic, however, to what extent the subjective expectations and preferences are realized, so that they could be registered in empirical studies.

The perspective theory developed by Kahneman and Tversky (1979), suggested a descriptive approach towards the studying of deviations in the behaviour of the actors from the theoretically constructed criteria for rational behaviour in risk situations. This theory is the most in-depth attempt to explore the hidden dynamics of intentions and behaviour of the subjects, which realize economic activities.

Subjective risk is the unity of three constructive elements: cognitive, affective (emotional) and conative (will). The cognitive component pertains to the heuristics and analytical schemes, which the subject applies as they think about and assess the risk. This component acts during the choice of alternatives and decision-making stage, as well as during the stage of realization of the risky economic activity.

The affective component is related to the expectation of favourable or unfavourable consequences of the chosen economic behaviour and the extent of tension/anxiety, which accompanies this expectation. Their experiences, as an emotional background to the risky activity, and the expectations of specific negative or positive results defines, to a great extent, the subjective preferences to one or another risky alternative. From the perspective of the risky economic activity, the affective component acts during the decision-making stage, during its realization and during the evaluation of the result.

The conative component is found in the purposefulness, insistence, and stubbornness, with which the subject engages in the risk behaviour, even when it is necessary to reduce the eventual benefit of the economic activity's result or change the selected alternative. The intensity of the affective and conative components is related to the subjective value of the consequences or the behaviour itself of the risking individual. Moreover, the result of the risk behaviour can be concealed within the behaviour itself (e.g. realizing the tendency of risk because of the risk itself- bungee jumping is done for the pleasure of feeling danger and the adrenaline rush). Prognosticating risk behaviour is further complicated because the goal of such behaviour is not always clear for the researcher or the risking individual.

In the mismatch between objective risk of one's actions and their subjective assessment, the asymmetric nature of risk is exhibited (Ahlgren, 1989). When driving after alcohol consumption, for example, the extent to which the perceptions and reactions of the driver are influenced is often underestimated subjectively, due to which the objective risk of the occurrence of accidents is assessed as low or insignificant. On one hand, the reverse phenomenon can be observed - subjective overestimation of the objective value of risk (e.g. it is often considered that the risk of plane crashes is greater than the risk of car accidents).

The subjective significance of the eventual results of the activity under the conditions of uncertainty is one of the main criteria for the choice of an alternative and engagement into risky behaviour. That is why this issue is reviewed in a separate section of the first chapter.

Subjective significance

It has already been mentioned that many authors invariably relate uncertainty to risk. There is an impression that they presuppose each other - uncertainty suggests risk and risk contains uncertainty.

The mutual content matching within the analytical relation of "uncertainty - risk," however, should not be considered absolute. Solving a Sudoku, for example, (which always involves a specific degree of uncertainty about the solution) could be seen as related to risk (i.e. it would be interpreted as a potential success or failure) in the situation of a contest with a

considerable prize. Uncertainty exists, yet without risk in the trivial daily situation of sipping the morning coffee or waiting for the train to arrive at the station (when the goal of the game would be to provide entertainment or an interesting pastime). In the general case, the activities that people do daily are related to an extent of uncertainty, yet they are not considered risky. Consequently, the presence of uncertainty is a necessary, yet insufficient condition to consider the activity risky. Uncertainty could be a source of risk only when there is sufficiently high personal significance of the activity's eventual outcomes. Moreover, the accompanying experience while performing the activity could be seen as a result.

Luhmann (1991) supports the thesis that the goal of risky activity is a future condition, whose significance is subjectively determined from the point of view of its desirability or undesirability. It is also possible that the subjective assessment of the result in the present or the future (when the action is complete) to be significantly different. It is important for the analytical orientation in the issue of subjective significance to account for the extent, to which the alternative-choosing actor realizes the risk as a consequence of their own decision, regardless of whether this happens at the time the decision is made, or in case of winning or losing as a result of the decision. The question is of the actor realizes at all, and to what extent, that a potential loss could have been avoided (Luhmann, 1991).

Furthering the statement of Luhmann, a hypothesis could be built up that the subjective significance of the result would increase with the realization of one's own responsibility for the decision and vice versa - if the activity's result is not realized as a consequence of the actor's decision, its subjective significance would probably decrease. For example, in case of failure, most people, as a whole, prefer not to take responsibility and explain the failure with factors outside of their decision ("other things or people are to blame").

The issue, according to Luhmann, whether or not to take risk, is the question of the risk's underlying value. In other words, one of the criteria for taking risks is the ratio between the subjective significance of the expected benefits and the potential harm (Luhmann, 1991).

On the other hand, it could mean that subjective significance of the results is extrapolated on the subjective significance of the risky activity (e.g. if I win often at the roulette, even if that happens by chance, playing the roulette will possibly become very enjoyable for me). It should be expected that high personal significance of the results would increase (to an extent, but not necessarily in a straight correlation) the subjective significance of the activity and vice versa. If the result (e.g. higher income) is strongly desired, the activity through which it is achieved (e.g. a second job) could be chosen (i.e. increasing its subjective significance), even if it is not a preferable one (not the optimal preferred option in a given time) for the actor.

The results of the risky activity are perceived not only as possible, but also as desirable or undesirable, preferred or non-preferred. The intensity of this desirability (preference), combined with the uncertainty of achieving the result, underlie the subjective perception of the amount of risk in the activity. The high subjective significance of the results at high uncertainty of their achievement would prompt a high subjective assessment of the risk.

Luhmann (1991) derives as a criterion for the subjective significance of loss a specific psychological variable - regret. According to him, risk is evident only if the harm is significant, i.e. they could be regretted in

retrospect. Taking risk is oriented towards taking chances, while rejecting it - towards the preservation of what is already accomplished, in order to limit regret. Furthermore, depending on the nature of the risk (what is risked) and the subjective value of the benefits, an individual could change their strategies for taking or rejecting risk (Luhmann, 1991).

The subjective significance of the results of risky activities could also be viewed as one of the causes, due to which one and the same activity related to an extent of uncertainty is perceived by the different subjects, in different situations, as carrying

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