



COGNITIVE AND AFFECTIVE ASPECTS OF THE SUBJECTIVE ESTIMATION OF ECONOMIC RISK

T. Taneva*

Department of Regional Development, Trakia University, Stara Zagora, Bulgaria

ABSTRACT

Psychologists show special interest in the individual perception of economic risk and its subsequent estimation. The choice between the action alternatives with different risk degree depends on a situational extent and character of the risk, contained in them. It can be expected, that subjective assessments of the objective risk factors are made in relation to relevant individual standards for risk.

The purpose of this paper is to review the concepts about sources of error in estimating economic risk with regard to consequences, risk probabilities, individual distinctiveness and universal cognitions, determining subjective estimation of the risk.

The mechanism of making subjective valuations, as well as the principle in the theory of utility, according to which the acceptance of the risk is a compromise between danger and utility, have been discussed.

The conflict between the striving to avoid losses and to use the risk-related opportunities, is revealed in the risk activity. The form in which the dangerous situation is described, the severity of losses from significant incidents, errors in scientific argumentation, in corporate culture and organisation, in strategies for calculating consequences and probabilities, in specific heuristics used by people when thinking about the risk and which influence the preferences or avoidance of the risk and the framing of selections, as well as the subjective valuation of past experience have been discussed as potential sources of errors in the subjective estimation of economic risk and risk situations.

Key words: risk-taking behavior, heuristic, subjective estimation

Individual perception of economic risk and its subjective estimation are of special interest to psychologists.

Personal proneness to risk is just one of the predictors for risk-taking in business. The choice among various action alternatives depends on the situational estimation of quantitative and qualitative parameters of the risk contained in them (Heimer, 1988). A number of authors discuss examples in which low risk-taking individuals make objectively high risk undertakings due to the fact that they subjectively estimate them as involving minimum risk. Thus, the way in which the subject perceives and estimates risk affects the choice of alternatives.

The assumption that subjective risk estimation is carried out in relation to and according to

mechanisms similar to the construction of general and private self-assessments deserves special discussion. The cognitive aspect of self-estimations is viewed as a result of comparing the real with the ideal I-image, with the target I-image as the really achievable desire and the “regulatory” I-image in the sense of “what shall I be” (Dilova, 1999). A focus is put both on the non-concurrence between these and the valency of experience of the studied person in relation to that discrepancy.

Using earlier studies by Higgins and Van Hook, Higgins (acc. To Dilova, 1999) points out that the discrepancy between these states is accompanied by various emotions, i.e. they have affective meaning as well. Since the discrepancy between ideal and real is related to emotions such as sorrow, low spirits, depressive states, the incongruence between the real and regulatory image shall be accompanied by anxiety and fear.

*Correspondence to: *assoc. prof. Tanya Taneva, Department of Regional Development, Trakia University, Stara Zagora*

That model of construction of subjective evaluations could be equally applied to those of them dealing with personal parameters or potentials and shall be interpreted as significant risk factors and be subjectively structured as risk criteria. Along that vein the subjective estimation of risk will probably depend on the private or general self-assessment. For example, tightrope walking is naturally assessed as riskier by non-professionals rather than by gymnasts and circus acrobats due to the different levels of self-assessment of competence.

The mechanical transfer of that model of formation of subjective evaluations onto the subjective estimation of objective factors for economic risk outside the personality and resulting from the social context of the activity is not quite lawful though. There is no sufficient empirical material in support of the proposition that risk assessment is done namely by comparing real and desired state of activity or of the subject performing it.

A universal assessment mechanism deduced by Dilova (1999) as well, could be successfully applied in self-estimation, comprising correlation of actual state with specific personal standards, often completely autonomous from the social ones. It can be expected that subjective estimations of objective factors of economic risk are carried out namely in relation to such individual risk standards. That accounts for the cases when one and the same activity taking place under the same conditions is assessed by various subjects are involving different risk. With regard to that proneness to risk is probably one of the components forming the personal risk standard.

Another approach to the study of risk assessment is proposed by some psychological surveys of cognitive and conative processes in the individual and their relation to group processes. The objective is to express universal cognitions, determining subjective risk estimation.

Slovic, Fischhoff, Lichtenstein (1987) point out an exceptionally important fact that the form in which the dangerous situation is presented has significant effect on the subjective assessment of economic risk. In their studies they come to a conclusion that danger could be perceived as more serious when expressed in terms such as reduction of average longevity and less serious

when expressed in terms of additional increase of death cases throughout the year. Moreover, Heimer (1988) states that dangers that one can more easily imagine or remember, threatening numerous victims with extremely horrible consequences, are perceived as relatively more powerful (e.g. earthquakes, calamities), rather than ordinary (non-dramatic) accidents, the victims of which each time are few individuals (e.g. a bank bankruptcy).

The acceptance of the economic risk is a compromise between risk and utility and thus it is an expression of the conflict between the striving to avoid losses and use the risk-related opportunities.

Referring to earlier studies (Alygin, 1989) three potential sources of error have been discussed in risk assessment – in forecasting consequences, calculating opportunities and underrating personal tension (anxiety) in a risk situation and social sensitivity in case of risk from accidents.

In forecasting consequences, an increase in the effect of significant accidents has been noted. The more severe the losses, the riskier the event;

In calculating opportunities for possible occurrence of risky events it has been found out that they are perceived as more likely immediately after dramatic accidents and as significantly less likely if these had not been recorded (Alygin, 1989). According to the author, people are more prone to foresee greater costs for prevention of potential calamities immediately after the occurrence of these and with the drift away of dramatic events in time the value of these costs decreases.

Errors in determining risk probabilities could also be (Alygin, 1989):

- Corporate culture errors. They could be a problem of management and available reliable procedures for control of security and risk.
- Human errors. These refer to cases when in big technological accidents it is found out that the main problems are related to people and not to the equipment. Therefore, the main source of risk are “erroneous relations between the subject and object of activity”.
- From the point of view of scientific argumentation, discusses that scientists

could be a subject of some of the same weaknesses influencing society identifying real risk with additional social trends. Such trends can be due to wrong information or irrationality, for example with regard to underestimation of relationships between private small problems. That gives grounds to authors to make a conclusion that common and scientific reasons are equally erroneous in measuring the risk. Although citizens often have wrong information, they show more “common sense” than generally expected.

- Information stereotyping – errors due to external social factors. Very often little attention is paid to behaviour outside formal organization (e.g. terrorism, sabotage).
- Disintegration of estimations is also possible when people think they have not been given adequate information along traditional channels. Attention is paid to possible threats for society, for social structures or for social institutions.

The effect of influence of social significance on “signal” accidents is also widely discussed – cases when technology can be faulty and result in social increase of the risk”. We are talking about single cases of accidents with socially significant sites.

Heimer (1988), Tversky a. Kahneman (1982) have observed some interesting heuristics used by people thinking about economic risk and having effect on preference or avoidance of risk and the framework of choices. These heuristics can also cause constant errors in estimations:

1. Adequacy of updating. Depending on how fast and easily information and practice needed for estimation can be updated. That updating (reminding) is easier with more general categories, more widely spread results and greater clarity of the individual memory. When reminding and repetition of events differ, the presence of heuristics results either in overestimation of the recurrence of the result, with the more easily remembered ones, or to underestimation of the recurrence of the more unclear but more general facts.
2. Heimer (1988) comments on another type of errors, the so-called “cognitive illusions”, which make people think that they have many choices, when in fact, only one of them is real.
3. Support errors. In final estimations of the risk extremely important is the start position, especially when influenced by competent

support (opinion, experimental or statistical data). This rule applies to cases of doubt in competence.

In the work by Coombs a. Avrunin (1987) there are data according to which the utility of selection of one or another solution can be represented as a single peak function. Therefore, an effective procedure of searching a single optimum solution can be adopted.

According to Alygin (1989) the structural nature of theories for risk-taking by the individual presuppose viewing the risk undertaking as a multi-dimensional incentive. The subjective perception of its components determines the degree of the risk involved. He points out experimental data evidencing the fact that people can prefer various probabilities when solving different tasks (Edwards, Van der Meer acc. to Alygin, 1989).

Significant effect on the attractiveness of selection can be exerted by dispersion – the ideal dispersion can be determined for each person in order to be the most attractive for him. Based on an experimental study of persons making decisions dispersions can be classified according to preferences related to them. On the other hand, these preferences depend on the structure of the risk tasks. Hence, from a psychological point of view subjective estimations contain cognitions both about the components of the environment presupposing risk in the activity, and the value of probability for success (resp. failure) as end result. That is, the cognitive and affective components for risk perception define the personal significance and the degree of preference of various alternatives or possible consequences from the risk behaviour.

Isen and Patrick (1988) conducted a study on the effect of positive influence on risk-taking. They found that when there is no probability for significant losses, people in whom positive affect is induced are more apt to risk than the ones with neutral affect.

Weber (1988) deals with measuring the realized risk of selected alternatives, which makes it possible to assess the role of realized risk in decision making. The function of risk understood as conjoint expected risk, introduced here, can hint the subjective opinion about risk alternatives on the basis of a small number of easily assessable, individually different parameters.

The study of mechanisms along which subjective evaluation is done is an issue that requires special interest and profound insight. That issue is slightly dealt with in literature. A theoretical guideline is the idea that estimation is done by comparing real parameters of activity with individual personal risk standards due to which various people assess the same situation as a source of risk varying in degree.

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TANEVA T.