
GENERAL ASPECTS OF RISK AND UNCERTAINTY IN MAKING FINANCIAL - ECONOMIC DECISIONS

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Abstract

The risk reflects the chance of an unfavorable event with negative consequences for the decision maker. It is influenced by events or phenomena that affect the affairs of commercial companies, the expression of the failure to achieve the intended gain or the loss in economic transactions. When making the financial-economic decision, the decision-maker must take into account the risk of occurrence of events that may have adverse effects on its objectives. In general, the risk is avoided or if it is not possible to try to minimize it or transfer it. This article presents the concept of risk and uncertainty in making financial and economic decisions in the company's activity, the distinction between the two and the consequences that may arise.

Keywords: *Financial - economic decisions, decision maker, risk, uncertainty, decision tree*

JEL Classification: *D81, G31*

Introduction

In the activity of the company there can be risks regardless of the field of activity: economic, social or political, risks that can affect its activity. Thus, economic financial decisions are very important and can be subject to a number of factors that can influence the decision-maker and can not be fully controlled. The decision maker takes certain risks if there is a winning chance, but this gain must be correlated with the degree of risk accepted by the decision-maker concerned. Adoption of decisions under risk and uncertainty can be achieved by several methods, the decision tree occupies an important place. The decision-making factor or the decision-maker is represented by a manager or a managerial body which, by virtue of its objectives, tasks, competences and responsibilities, takes the decision in that situation. The decision-maker is represented by the individual or the set of individuals who are to choose the most advantageous option from many possible ones. The quality of the decision depends on the quality, knowledge and skills of the decision-maker.

Literature review

Bolton, Chen and Wang (2013) present model that can be used to forecast decreases in investment and payouts in unfavorable conditions and equity issues in favorable environments, even without immediate financing needs. Anghelache (2009), Anghelache and Anghelache (2009) are preoccupied by the characteristics of risks associated to future markets and related transactions, and they focus on the appropriate analysis models for the assessment and analysis of these risks. Rampini, Sufi and Viswanathan (2014) analyze the trade-off between risk management and financing, their study outlines the weakness of risk management and the low-intensity application of hedging tools. Eekhoudt, Gollier, Schlesinger (2005) is a complex approach on the decisional process in economy and finances under the impact of risks, the authors approach the measurement and proper management of risks. Anghelache, Anghelache, Anghel and Niță (2016) have analyzed the concepts that govern modern management of banking risks, as part of the general management of banking activity, they focused on the quality of risk management, which can influence the well-being of the banking institution. Anghel and Dumitrescu (2016) have presented a complex model of indicators designed for the analysis of liquidity risk, Anghelache, Manole, Anghel and Soare (2016) have built a model for the analysis of operational and insolvency risks, these models are appreciated as important due to the effects and properties of the measured types of risks, while Anghelache et.al. (2016) have focused on the instruments and characteristics of bankruptcy risk evaluation and analysis, the study emphasizes the proper approach towards this fundamental risk. Perkins et.al. (2007) outline the increasing importance of the IAT, and show the recent application of this instrument in studying the consumer's behavior. Anghelache and Anghelache (2014) discuss on the importance of portfolio investments as instruments dedicated to risk diversification. Pastor and Veronesi (2013) comment on the significant effects on risk premia posed by uncertainty at political level, the put option of the government, whose characteristics are determined by the national economic context, and the risk premium is not proportional to the strength of the economy, but rather with its weakness. Ai, H. (2010) demonstrates the correlation between low quality of information and low volatility of consumption growth, the risk-free interest rate tends to have a likewise low volatility while high equity premium shows an inverse dependency on information quality. Anghel, Diaconu and Popovici (2016) discuss the theoretical framework of risk analysis models, they insist on the usefulness and significant importance of these models as instruments within the risk management process. Anghel (2015) is a reference work in the analysis of financial and monetary risks, as component of financial-monetary

analyses. Anghelache, Bodo and Marinescu (2017) have asserted the influence of improper information, that is insufficient, on the level of risks that affects the decisional process and subsequently is associated with decisions taken and implemented. Colacito and Croce (2011) have considered an equilibrium model that addresses the international stock markets. Koszegi and Rabin (2007) develop a model that follows the classical prospect theory and, for large risks, outlines the priority of utility related to consumption in the face of utility associated to gain-loss. Anghelache and Bodo (2016) have outlined the impact of the systemic risk on the development of decisional process and its results, within a crisis-driven environment. Woodford (2012) describes a theory of efficient perceptual distortion, in which the error of state estimate is reduced to minimum, through the relation between subjective perceptions and the objective state, designed and measured as a statistical correlation. Bloom, Bond and Van Reenen (2007) consider that higher uncertainty contributes to the lower effect of demand shocks on investment evolution, conclusion confirmed through the use of a complex model. Anghelache, Anghel, and Diaconu (2016) develop on the importance of analysis in the modeling of individual preferences, they consider the low level of acceptance associated to the expected utility theory, and the various approaches to its concepts. Cox et. al. (2013) provide a framework that addresses the approaches towards small-stakes risk aversion and large-stakes risk aversion in decision theory. Bekaert, Engstrom and Xing (2009) have developed a model that correlates the dividends and consumption growth's evolution. Hansen, Heaton and Li (2008) outline the effect, which they consider to be significant, of growth rate for consumption and cash flows on the valuation of assets, their research also emphasizes the issues related to measuring the long-run risk-return trade-off. Strzalecki (2013) emphasizes the interdependence between ambiguity attitude and preference timing of uncertainty solving in dynamic models of ambiguity. Manole, Anghel, Stanciu and Badiu (2016) describe the models dedicated to the analysis of financial risks. Savor and Wilson (2013) develop on the investors' behavior as affected by macroeconomic risk, and they demonstrate the trade-off between this risk and returns from investments in assets. Werner (2009) studies the effects of aversion to mean-independent risks on a particular type of choices that is the agents' choices affected by risk.

Research methodology and data

Risk is a social, economic and political category whose origin lies in the uncertainty with which damage can occur due to hesitation in making the decision. It can become a brake on the unfolding and extinction of economic life by reducing the volume of business and incurring material damage. In

the general sense, risk reflects a chance of aprifying an unfavorable event, as a possibility of loss, danger, distress. From an economic point of view, there is the chance of an unfavorable event related to decision variables and involves knowing the probability of occurrence of the events. Risk is a state with negative effects that can occur. The definition and measurement of risk requires the use of statistical concepts such as: probability distributions (the more likely the distribution of future profitability probability is, the lower the investment rate), the expected (expected) profitability, the standard deviation, the „average variant” , Beta coef. Risk can not be suppressed or removed because it exists in the business world, in the economic, social and political life of society, there are some activities that increase risk. The risk reflects the possibility of undesirable events, and the more negative or unintended the consequences of the decision being taken was more risky. From the economic, social and political point of view, two categories of risks can be defined: catastrophic, objective risks that are the consequence of unforeseen, tragic accidental events (floods, wars, earthquakes, hurricanes, fires), in which case there is a likelihood of loss Capital without the possibility of being recovered; Hedge risks related to decisions, being events with a probability of occurrence and depending on the environment in which they act.

Management has two concepts: risk and uncertainty. When a decision is taken at risk, it involves knowing the assumed risk, ie knowing the likelihood of the risk occurring. In the case of a decision taken under uncertainty, the risks are not known, although they are assumed. The level of uncertainty or risk is determined by the level of information, ie the amount of zero information (total ignorance) to a set of complete information. The boundary between uncertainty and risk is represented by the minimum level of information needed to address risk situations.

According to the degree of knowledge of the environment by the decision-maker, decisions are divided into: decisions adopted in certainty; Decisions taken at risk; Decisions adopted under conditions of uncertainty.

- **Decisions in certainty.** When managers know for sure what are the alternatives and results associated with each alternative, we say there are certainty. In organizations, however, there are few decisions that are taken under such conditions due to the complexity and changing nature of society. An ideal concept (similar to the one of perfect competition), the certainty condition provides a framework for assessing risk conditions in decision-making. The degree to which a manager believes in a particular decision depends on the degree of certainty in which the decision is made. In other words, the more secure a manager of the results of a decision, the more he will have more confidence in making that decision.

- **Risk decisions.** When information is incomplete there are risk conditions. Although the information may be incomplete, the decision maker has the ability to calculate the probabilities of events, results and costs and then choose the most favorable alternative. The probabilities of occurrence of future events can be objectively determined from historical data, or subjectively, based on past experience or intuition.

- **Decisions in conditions of uncertainty.** In many situations the decision-maker lacks the information, the objective determination of the probability of the possible results, thus becoming difficult. Due to the current situation, this situation is often encountered by decision makers, which is why the decision making base is their intuition. Confidence in the success of the decision taken in such situations is lower due to the absence of historical data.

• **Methods of substantiating decisions in certainty**

Under certainty, the probability of achieving the condition of objective conditions is unitary and the consequences of each of the rationalization criteria are certain. As a method of substantiating decisions in a certainty are: decision table, decision simulation, etc.

The decision table is an evolved form of block schematics used by computer scientists. The table can be used both in the automated processing of information and in the manual machining situation. As its name indicates, it has the form of a structured table (table 1) in four quadrants.

Structure of the decision table

Table no. 1

I Goals or decisional requirements --- --- ---	III Combinations of objectives or decisional requirements --- --- ---
II Possible actions or operations --- --- ---	IV Combinations of possible actions or operations --- --- ---

The upper left dial contains the objectives or requirements that need to be considered when making the decision; The lower left quadrant is intended to insert the set of actions or operations involved in achieving the objectives set; The upper right quadrant includes all combinations of objectives or decisional requirements; The bottom right quadrant inserts all the actions or operations

required to achieve each combination of objectives or requirements in the previous quadrant, in fact the possible decision alternatives that are vertically structured. This method is used for decisions with multiple objectives or conditions, with repetitive character. Such decisions are frequently encountered in the production activities of industrial firms.

The main advantages of using this method are to increase the efficiency and operability of decisions, along with the economics of effort on the part of the managers involved, due to the predetermination of the decisional alternatives.

As a limit, we can mention the great amount of work required to draw up the table and the relatively frequent need for its updating, depending on the changes taking place in the decisional situation. Under market economy conditions, the decision table gains increased utility as it implies a great deal of decision-making flexibility, in line with market developments.

• **Decision-making** simulation has seen a widespread use in competitive firms in developed countries, being typologically in the category of specialized decision-making methods. Decisional simulation consists in creating a decision model based on the identification and establishment of logical relations between the variables that define a typical decisional situation with a certain periodicity, with which it is projected several decisional variants for determining the effects in order to facilitate the selection of the one that corresponds To the greatest extent certain predefined managerial criteria. The analysis of the definition of the decision simulation usable in the management of the companies reveals its main features: it is used only for typical decisional situations that are produced with a certain repeatability; Is based on building a model of the decisional variants involved that produces the decisional decision making mechanism; Using the model, based on start-up information, several decisional variants for determining the decisional characteristics and the effects it generates at the firm level; Of the proposed decision alternatives or alternatives, the one that best matches a set of predetermined decision criteria is chosen.

Making a decision simulation is a laborious process that requires several steps:

- a) the delimitation of the typical decisional situation for which it is considered necessary to use the decision simulation;
- b) identifying and evaluating the variables involved and establishing the functional relationships between them;
- c) establishing the decisional model that reflects the decisional mechanism related to the managerial situation;
- d) elaboration of computer programs by means of which the model is operationalized;

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- e) testing models and programs followed by their finalization;
 - f) elaboration of documentation necessary for the current use of decision simulation;
 - g) decision-making simulation in order to make decisions by managers, according to the company's needs.

Decisional simulation is based on updated information about the parameters of the variables incorporated in the models. From the point of view of the scope, the company simulations are divided into general and partial. The general simulation refers to all of the enterprise's activities, being designed to allow strategic decisions to be based on the whole of the unit. Such simulations are particularly complex, involving thousands of variables. Partial simulation refers only to some activities or sub-activities in enterprises. On their basis, very effective decisions can be made, especially in the field of production. The main advantage of the use of simulation in decision-making is to ensure high-efficiency decisions in the context of less workload on the part of managers, which prevents non-economic use of resources, while speeding up their training and improvement process. The main limit for the use of decision simulation lies in the laborious and pretentious process of developing decisional simulation. To this is added the need for quasi-permanent updating of the models and variables involved to reflect the frequent changes that occur in the decision-making situations considered in the firm.

- **Decision and decision making**

In practice, for business companies and autonomous regions, managerial decision takes two forms: decision-making (quantitative predominance within the firm) and decision-making (specific to more complex decisions). The decision-making act refers to situations of low complexity, or when the situation has a repetitive character, the variables involved being very well known by the decision-maker, it is no longer necessary to collect information and analyze them. The core of decision-making is the experience and intuition of managers. The decision-making process consists of all the phases through which the management decision is prepared, adopted, applied and evaluated. Given the variety of decision-making situations and the decision-making processes involved are particularly heterogeneous in terms of constructive and functional parameters.

- **Strategic decision-making model**

Evolved normative approaches go beyond the decision-making phase, materializing in normative models. Of these, the most important are dynamic models that anticipate an effective way of structuring the decision-making process

by integrating the involved elements and their interrelationships into a logical scheme that reflects the willful functionality of the decision-making mechanism. This category also includes the dynamic model depicted by William Morris. On this dynamic model, reservations can be raised about the absence of important phases of the decision-making process (outlining the problem and specifying objectives), while overestimating operations such as data collection. Dynamic model designed for the strategic decision-making process of the Romanian enterprise (based on this model is the structure of the decision-making process).

Identifying and defining the problem is the first step in developing strategic decisions. At this stage it is necessary to recognize the situation that requires the strategic decision (made in time and space), by specifying the component elements and the persons or compartments of which it is part, determining the degree of novelty of the problem, an operation that can indicate to what extent the experience And the previous processes are also useful in the directions in which efforts must be made to complement the knowledge and working methods.

The correct definition of the problem creates the premises for the proper specification of the objective. Quantitative techniques can be used to measure past achievements and anticipate the evolution of future factors and conditions. An important part of the analysis is devoted to establishing the correlation between the organization's overall habits regarding profit, turnover, share of the market, etc. and the problem. The set goal must be real mobilizing and stimulating.

In order to determine the alternatives or the decisional variants, the ways of achieving the objective. Various techniques of harvesting ideas, such as, sinetic, brainstorming, Delphi techniques, etc. are used. At this stage, it is essential to gather the main information characterizing each likely course of action and its logical order. To this end, lists containing the elements indispensable to the evaluation of the identified alternatives are drawn up, highlighting the potential advantages and disadvantages of each of them.

Establishing the goal and knowing the possible courses of creation create the conditions for choosing the most convenient and realistic one, ie the decision. The selection of goal completion courses is based on evaluation criteria that most often refer to profit, costs, productivity, product quality, export opportunities, etc.

The decision-making process continues with the implementation of the decision. This stage needs to be prepared with great care, especially in the case of decisions that bring about radical changes in the activities of the company or the autonomous administration.

The decision-making process does not end once the decision is

implemented, but continues with the evaluation of the results obtained. At this stage it is determined the extent to which the fixed objectives have been met, the causes that have generated the possible deviations, the unpredictable factors that have put their mark on them. Reassessing the way in which the previous steps were carried out. In practical decision-making, the operations corresponding to the different stages are not strictly delimited, and their order is not rigid. Falling into the rational succession of decision-making operations should not be transformed into an objective in itself to be pursued at all costs. The key elements of a strategic decision-making process adapted to the conditions of the Romanian trading companies are as follows:

a) The decision-making process aims to solve problems related to the effective development or development of the activities of the companies. There is always, in one form or another, a stimulus situation that, in the conditions of transition to a market economy, can be represented by privatization, restructuring, financial blockade, diminishing turnover, hiring a new general manager, etc.

b) The quality of human factor work is essential for the effectiveness and efficiency of the decisions taken.

c) Environmental decision makers include not only those in the firm but also those exogenous who are involved in the problem.

d) The influence of the decisional environmental factors is manifested at each stage of the decision-making process, indirectly, through decision-makers. This way of influencing the decisional course again highlights the importance of the human factor in decision making, its considerable influence on the effectiveness of the commercial society or the autonomous direction.

e) In the last two stages of the decision-making process, the influence of the decisional environment is manifested directly, directly. The results of the decision-making process depend not only on the quality of decision-making and the efforts of the decision-making center, but also on the joint action of environmental factors, whose evolution can not always be accurately predicted, especially in situations of risk and uncertainty. Among the environmental factors and the evaluation of the results there is a direct, univocal relationship, manifested in the sense of the influence of the decisional environment on the assessment of the effects of the decision.

f) The model is a concretisation of the systemic approach of the decision-making process in commercial companies. Each stage serves as the premise or basis of departure for the next.

g) At the end of the model the interdependencies that exist between the decisions are suggested. Such a model is theoretically useful by providing a coherent picture of the decisional process as a whole on the main elements and contemporary phases and the correlations between them . From the point of

view of practice, its usefulness is that it can be used in training and improving managers and specialists.

- **Methods of substantiating decisions in risk situations**

Methods of substantiating risk-based decisions include the decision tree method, which consists of solving complex problems in risk conditions by developing a decision-making system built in the form of a tree in which decision moments alternate with random ones and the method of hope Mathematical, which implies the weighing of the definite consequences, corresponding to each decision variant, with the probability of achieving the state.

- **Methods of substantiating decisions under uncertainty**

The grounding of decisions under uncertainty, when the probability of realizing the states of nature can not be estimated, is based on the use of general criteria of appreciation, namely the optimistic or maximax criteria; The pessimistic or maximin criterion; The equal probability criterion; The criterion of minimizing maximum regrets.

Conclusion

Market risk acceptance in market economy is based on analysis and forecasting. At the core of any economic activity is a business plan. Risk control must be done to see whether the financial regulations have been respected and whether the types of management tools have been correctly used; Performance analysis involves measuring them as a result of coverage in risk exposures.

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