Analecta Technica Szegedinensia
Vol. 18, No. 3 ISSN 2064-7964 2024

RISK-TAKING FACTORS IN A DYNAMIC APPROACH

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Received: 16th June	*Accepted: 19th September*

ABSTRACT

The most common definition of risk is quantified by the probability of an adverse event occurring and the value of the adverse consequence. Theoretically, the decision to take a risk can also be based essentially on these two pieces of information. In addition, according to traditional risk-taking models, the perception of risk, the psychological characteristics of the decision-makers and their relevant experience are also important. In the case of mathematical-statistical-psychological models, little emphasis is placed on the fact that risk is in fact the inability to completely control the activity in question. The causes of this incompleteness are based on the shortcomings in the relevant capabilities of the economic agent. Economic agents have different capabilities, so they rarely face the same risks, even for almost identical activities. Just as the requirements and circumstances of the activity are constantly changing, so are the capabilities of the economic agent. Consequently, the size of the capability gap of an economic agent is also constantly changing. This should be taken into account in risk-taking decisions and their revision. The paper attempts to model this dynamic risk-taking mechanism and to show how different risk-taking strategies may be pursued by economic agents in certain baseline situations.

Keywords: risk, risk taking, risk model

1. INTRODUCTION

In a globalised, fast-paced world, taking risks appropriately, or managing them effectively in general, must be a priority. It would be difficult to judge when economic actors faced greater risks, when life expectancy was barely over 40, when monarchs died of a badly treated toothache and when, if the harvest was inadequate, they starved until the next harvest, or today. What is quite clear, however, is that amid the boom and bust of population growth that followed World War II for many decades - temporarily interrupted only by the oil boom of the 1970s - risk taking and risk management were not as important. These 'happy, peaceful years', which ended in the 1980s, are still part of the collective memory, and thus, in essence, make the later and current times seem more challenging from a risk perspective.

Globalisation, and the erosion of the foundations for growth and sustainability, has increased interdependence, while the willingness to cooperate has not improved. This has led to a more volatile and unpredictable world. This volatility makes it more difficult to adapt to the requirements, which increases the gap between the skills needed for successful management and the skills that management actors possess. This translates into higher risks. Unpredictability also partly increases risks, as they are more difficult to identify, prevent, mitigate and generally manage.

This extremely volatile and unpredictable, i.e. dynamic, world puts risk management based on precisely quantifiable risk probabilities and consequences to the test. However, this approach to risk management is not only prevalent in economic theory, but also in practice in many industries, and most legislation requires this type of risk management. However, the current economic environment is not conducive to this mathematical-statistical approach, and there is an increasing need for risk management approaches, techniques and tools that can support decision-making and facilitate the appropriate management of risk in a volatile and unpredictable world.

DOI: https://doi.org/10.14232/analecta.2024.3.107-117

Today's managers, decision-makers and analysts have grown up and been socialised in the idea that risks are essentially identified by precisely determining the magnitude of the undesirable consequence and the probability of its occurrence. When this is not possible, there is a disruption in the system. After all, the conventional wisdom is that what cannot be measured does not exist. What doesn't exist is perhaps unnecessary. However, business analysts, decision-makers and managers should not bury their heads in the sand: it is necessary to manage risks even if their characteristics cannot be precisely defined.

The first part of the paper briefly reviews the prevailing mathematical-statistical concept of risk and the current problems of its application. The paper will conclude by drawing conclusions.

2. THE EMERGENCE OF THE MATHEMATICAL-STATISTICAL CONCEPT OF RISK AND ITS PRACTICAL LIMITATIONS

Although according to the current usage and interpretation of the term, risks have always existed since the time man evolved, the word itself only appeared in medieval Latin in the 13th century - risco, riscare, rischiare - probably taking over the Arabic word 'rizq', which had existed since the seventh century [1]. In Italian, it appeared in Genoese in 1249 as "rischio", while in French it appeared in the 16th century and in English in the 17th century [1]. In all these languages it had essentially the same meaning, namely, to sail a ship in danger of running aground. Initially, in Arabic and Latin, running aground literally referred to the most common cause of shipwreck at the time, running aground on a rock or sandbank, but very soon it began to be used figuratively to refer to other causes of damage or loss of ships and their cargo, to exposure to these dangers. Later, the term 'risky' was also generally applied to any activity in a 'hostile' environment that threatened serious value.

The term risk - rischio - appeared in Genoa in the mid-1200s precisely because, and with the same connotation, it was at this time that the constructions that could be considered insurance began to spread in maritime trade [2]. In such constructions, one party assumed the financial loss caused by the necessary investment, which was to be rewarded from the profits made in the good case. This required the most accurate mathematical and statistical calculations possible, so that the premium on the investment was proportional to the risk and difficulty of getting the cargo to the port of destination. In this way, the concept of risk has spread in Europe and the world at essentially the same pace as the insurance constructions associated with maritime trade. Of course, little by little, insurance was no longer associated only with maritime trade, nor only with commerce, and the term risk became more widely used. So in the Austro-Hungarian Empire, which was essentially uninvolved in maritime trade and for a long time had a rather narrow insurance market in other areas, it is not surprising that the term risk only appeared in the second half of the 19th century. The first comprehensive Hungarian dictionary (1862-1874) by Gergely Czuczor and János Fogarasi, The Dictionary of the Hungarian Language, published between 1862 and 1874, does not, however, include the terms risk, hazard or risqué, but does include the terms danger and bad luck, and fortune and misfortune.

It was therefore not without precedent that in the 20th century the term risk began to be defined in terms of a mathematical, statistical perspective in disciplines related to economics, following Knight (1921), among others [3]. There is now essentially a consensus that, in the case of risk, the possible future realisation alternatives can be characterised on a mathematical-statistical basis. In fact, the use of mathematical probability calculus is explicitly acceptable where probability - non-negative - can be interpreted as the marginal value of relative frequencies [4]. In practice, in economic life, probabilities that can be interpreted as the marginal value of relative frequencies are of relatively little importance: coin tossing, lotteries and other 'pure' gambling are of little economic importance. More important in practice is the definition of relative frequencies, or non-negative weights, which can help to make effective decisions in specific action situations. However, determining these already requires a large number of observations, and preferably as many as possible, and summarising their experience statistically. "If we have a sufficient quantity and quality

DOI: https://doi.org/10.14232/analecta.2024.3.107-117

of observations to use statistical tools, we are talking about risk" (Medvedev, 2011, p. 318) [5]. Risk, except in pure games of chance, therefore tries to replace the probability in mathematics with relative frequencies or relative weights in order to provide a suitable guide to the choice between alternatives to a given action situation. What often causes confusion is that in the case of mathematical probability calculations, the determination of the marginal value of relative frequencies does not pose any particular difficulty - see, for example, the chance of winning the five-way lottery - and it is not this, but the practical, statistically based verification or estimation of the existence of a given marginal value that requires the so-called law of large numbers to be applied. "In the law of large numbers, which is the essence of probability calculation, the word large means very large. Especially when the expected accuracy is also very large" (Medvedev, 2011, p. 318) [5]. Thus, when, in the absence of appropriate, necessary data, there is no way to determine the marginal value of relative frequencies, i.e. 'the' probability - for example, that a regular coin has a 50-50% probability of heads or tails - by mathematical probability calculations, it may be necessary to estimate this marginal value by means of observed frequencies. The term 'probability' is often used to describe this estimate, but some experts argue that the word 'chance' would be more appropriate [4]. If the observed frequencies would require a high degree of accuracy in predicting the chance, then the law of large numbers would inevitably apply. "The need for high accuracy of predictions is directly contradicted by the fact of very few observations" (Medvedev, 2011, p. 318) [5].

Another problem arises with the usability of the forecasts. If the high accuracy forecasts were made using the law of large numbers, the validity of the forecasts is also linked to the application of the law of large numbers. In other words, the probabilities estimated from the frequencies of a sufficient number of past observations will - on aggregate - be expected to be realised for a sufficient number of future observations. That is, if there is a 20% chance that apricot blossoms will freeze at flowering based on 500 years of observations, then this 20% chance cannot reasonably be interpreted in terms of the next 10 years alone: that there will be eight years when no freeze occurs and two years when no freeze occurs. Fortunately, the law of large numbers can be applied at a single point in time - for example, observing 10,000 European apricot growers over the same period - but the odds calculated in this way are still not interpretable for a few growers, but for a very large number of growers, and also for a given period.
Another problem with probabilities or chances, relative frequencies, relative weights, and more precisely their potential applicability, is that they can only be applied with sufficient effectiveness to future action situations with exactly the characteristics - including the characteristics of the participants - for which they have been calculated. The greater the discrepancy between the observed situations and the baseline characteristics of the situations to be predicted, the less applicable are predictions based on the realized frequencies of certain characteristics under consideration. This is emphatically bad news in a world where there is a wide variety of economic situations and economic agents, and where the farming environment is also very diverse and highly variable.

Acknowledging the importance of risk management based on the production of relative frequencies and relative weights, and their use to generate forecasts and estimates, it is useful to show that the definition and measurement of risks cannot be based on mass observations alone, but also on the individual characteristics of the risk-taking actor. Of course, this cannot entirely replace the professional use of relative frequencies and relative weights, but it can complement them, especially where mass observations are not possible, precisely because of the lack of repeatability.

In many cases, the specific characteristics of an actor can affect not only the probability of a particular undesirable outcome occurring, but also the probability of other outcomes (Figure 1). In other words, the range of possible outcomes may not change, but the distribution of the probabilities or frequencies of each outcome may change. The original distribution is therefore distorted in a sense. However, it is also possible that the range of possible outcomes changes. Some consequences that are possible in the base case may

DOI: https://doi.org/10.14232/analecta.2024.3.107-117

disappear, while new consequences may, perhaps but not necessarily, appear. New consequences may also appear - as an addition - without any of the old ones disappearing. When the range of possible consequences changes, the basic distribution is not simply distorted, but a new distribution is emerging. In everyday life, it is often difficult to distinguish between the distortion of an already known normal distribution due to the uniqueness of the economic agent and the emergence of a new normal distribution.

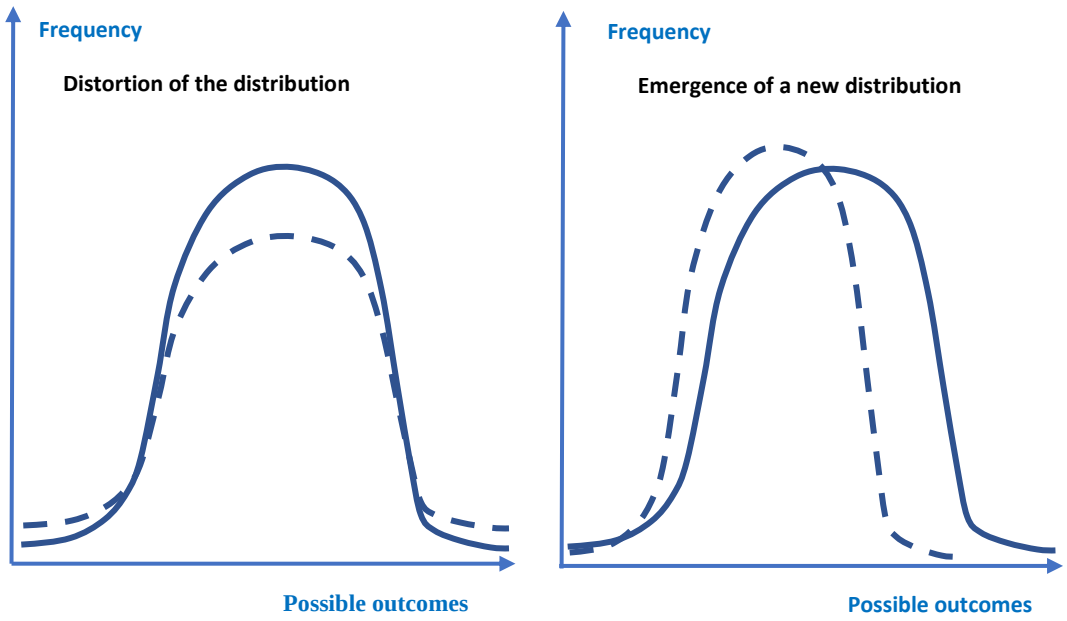

Figure 1: Distortion of the normal distribution and emergence if a new normal distribution

By risk we mean the set of possible future alternatives to a given situation of action, which are undesirable for the actor, and which are possible outcomes. For a given action situation, there may be decision alternatives available to the actor, but each decision alternative may be associated with several outcome variants. It is important to emphasise that these undesirable outcome alternatives will not necessarily materialise. If the action situation is voluntarily determined - which is the most common case in a market economy, in the case of market coordination mechanisms - the actor has at least one desirable alternative, since this is why it chooses to participate in the action situation. In cases of necessity, such as taxation, this desirability may become relative.

The extent to which it would be worthwhile or important for the actor to avoid the realisation of a given undesirable action alternative depends not only on the realisation - outcome - characteristics of the given action alternative, but also on the actor's endowments and characteristics. These endowments and attributes essentially influence, through the decision to take risks, what kind of risk the outcome characteristics of the undesirable action alternative actually pose for the actor. The most important of these factors that influence the magnitude of the risk through the risk-taking decision are:

1. the extent of the lack of actor capacity to prevent a given undesirable alternative action from taking place;
2. the level and extent of the benefits expected by the actor from the given action under the full action situation;

DOI: https://doi.org/10.14232/analecta.2024.3.107-117

3. the level and extent of the availability and indispensability of the resources necessary for the actor to carry out the action under the given action situation;
4. the opportunity cost to the actor of the resources necessary to carry out the activity under the action situation and the risks involved;
5. the level and extent of the time available to the actor to carry out the action under the given situation;
6. the level and extent of the moral force available to the actor to carry out the action under the given action situation;
7. the level of resources available in advance to reduce the disadvantages of the actors in the case of the given undesirable alternative action;
8. the extent of the diversification reserves currently available to reduce the disadvantages of the actors in the case of the given undesirable alternative;
9. the activities currently being carried out to exacerbate the handicaps of the actors in the event of the implementation of the given undesirable alternative;
10. environmental conditions are changed to the detriment of the chosen action alternative.

The above ten factors are explained in more detail below.

First, some explanation on the question of the controllability of the chosen decision alternative. If an actor chooses a particular decision alternative in an action situation, there is every chance that a favourable - or at least relatively favourable - outcome alternative will be realised in the future, and of course there is also a chance that an undesirable or worst possible outcome alternative will be realised. The realisation of undesirable alternatives, like the realisation of desirable alternatives, is conditional on the future fulfilment of certain conditions. The fulfilment of one of these types of conditions may be prevented by the agent in the future, while the fulfilment of the other type of conditions is not fully under the agent's control [6]. With respect to the latter, the agent is thus vulnerable to the future actions, behaviour or other environmental characteristics of others. The actor is therefore unable to fully control the alternative action he chooses, hence his vulnerability, the risk itself. The actor is not able to fully control certain alternatives to action because he lacks the specific capabilities to do so. The lack of adequate knowledge - i.e. information - causes uncertainty, but the risk is caused by a lack of ability. Of course, certain capabilities are related to cognition, to learning, and so deficiencies in these capabilities can cause not only risk but also uncertainty, but uncertainty is not discussed in this paper.

Obviously, if the risk has arisen because the chosen course of action and the conditions for the occurrence of undesirable outcomes are not fully under the control by the actor, the extent to which the actor is able to control these conditions, even if not fully, is relevant. The less able, i.e. the greater the associated lack of capacity, the more threatening the undesirable outcome alternatives and their undesirable consequences for the actor become.

Not only in theory, but also in practice, it is possible that the actor has no ability at all to prevent outcomes that are undesirable for him. That is, with a complete lack of ability, he has no way or degree of control over the risk in question. Such is the case when one plays a lottery ticket in, for example, the weekly game of the five-way lottery. It doesn't matter who has put their numbers on the ticket with what skill, they are just as likely to win - or lose - as others. The name itself implies this: there is little or no significance to the skill or preparation of the players. These are usually lottery games or roulette. However, in the case of card games such as poker, although classified as games of chance, the player has, albeit to a small extent, an influence on the outcome of the game, and is therefore able to control, at least partially, the game, especially the better players.

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Second, consider the actors' expectations about the implementation of the chosen decision alternative and its outcome. A given action situation offers at least as many decision alternatives as whether the actor acts or refrains from acting. However, typically there are more decision alternatives to choose from. A chosen decision alternative can usually be eventually fulfilled in several or many different realisation alternatives. The outcomes of these realisations almost always follow a normal distribution: outcomes of average magnitude or outcomes that do not differ significantly from it are the most common. The frequency of extremely small or large outputs is low. Thus, an actor takes the least risk when its expectation is around the mean for a given action decision alternative. For a significantly smaller or larger value, the associated frequencies will also be smaller in magnitude, which implies an increased risk or risk taking [7]. The actor therefore needs to design or modify the implementation characteristics of the given action alternative so that the expected value is close to the mean value within the new normal distribution associated with it. In this way, the risk and the degree of risk taking are reduced.

Thirdly, we analyse the question of the availability and indispensability of the resources needed to implement the chosen decision alternative. Obviously, if the actor does not have the resources necessary to implement the chosen decision alternative - funding in general, but also tools, materials, and human resources among others - even if the implementation succeeds to some extent, the quality of implementation will suffer [8]. The quality of implementation is reflected in the output characteristic achieved, i.e. a lower quality of implementation means a less desirable output - or even an undesirable one. In other words, inadequate resource availability increases the degree of risk, since a temporary or permanent shortage may prevent the desired outcomes from being achieved. The issue of dispensability is linked to the basic state characteristics of the actor. This means that if an entity has the resources necessary to implement the chosen decision alternative at the right time and with the right quality, it may not use them for the given action situation if, in the meantime, it has to use them for tasks that threaten its existence, i.e. survival. Of course, if the given action situation is exactly such a survival-priority situation, then if the necessary resources are available, there is no question that they will be used here. However, if the situation is not a priority for action, then the alternative action chosen becomes more risky because of inadequate resource availability. The question of availability or indispensability is therefore closely linked to the general economic situation of the actor, its capacity utilisation, liquidity and value-creating capacity [9]. For an actor at the limits of its current production potential, the implementation of virtually any decision alternative chosen is riskier than for an actor with plenty of resources or capacity left. The economic slowdown of the Soviet Union in the early 1970s is a good example of this: although some experts expected the Soviet Union to overtake the United States in terms of GDP per capita in the late 1960s, as it approached the limits of its production potential, it became exposed to risks which ultimately set back its uninterrupted development.

The fourth factor is the opportunity cost of the chosen alternative action for the actor. In this case, the extent to which the operator's production, management and financing are overstretched, and hence the additional risks that are imposed on him for each risk he takes, is not the relevant factor. Regardless of the state characteristics of the actor, it may also be relevant that when it decides to implement a given alternative course of action in certain action situations, it does so at what opportunity cost [10]. The opportunity cost is in principle the benefit of the non-chosen decision alternative that was second in the ranking according to the benefit, without taking into account the associated risks. In practice, alternatives that offer less benefit are regularly undercut in decision making, even if they would do so by assuming significantly less risk for the actor. However, it is also common for an alternative with a very high expected return to be associated with high risks that clearly fall into the category of unacceptable for the actor. It is therefore worth considering the potential benefits together with their risks, alongside other factors such as costs, when taking into account opportunity costs. Of course, in many cases, when decisions are qualified ex post, with considerably more information, they may appear to be inappropriate. From our point of view, however, it is not the decisions that are wrongly classified in this way that count, but those that already appear wrong at

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the time of the decision, based on the benefits sacrificed and the risks involved. It should be stressed, however, that it is very difficult to establish in a professionally correct way what the conversion ratios should be in terms of benefits (returns) and the associated risks. Theoretically, however, it can be said that a decision in favour of an alternative that aims for relatively too low a return and relatively too high a risk makes it more difficult, and may even jeopardise, the economic survival of the operator. In other words, an inappropriate decision must be calculated not only in terms of the direct risk of the alternative chosen by the operator, but also in terms of the additional risk - taken together - which the operator is forced to take in relation to its overall situation, and which it risks being placed at a competitive disadvantage compared with its competitors who have made a better choice. In other words, account must also be taken of the fact that there may be a trade-off between the individual risk of a given alternative course of action and the overall state of the actor's risk.

The fifth factor that significantly affects the degree of risk is time. The less time available for the actor to implement the alternative chosen by his decision, the higher the probability that the alternative will be implemented in a way that is undesirable for him [11]. Thus, the probability that the alternative implemented - the outcome - will be unfavourable for him and/or the extent to which it will be unfavourable increases. A tighter or even overstretched time frame means that professional protocols cannot be adhered to, or not to the same extent and quality, and this degrades the actor's performance, and even if he or she would otherwise have the necessary skills to master the situation - in relation to a wider time frame - to the extent and in the manner required, he or she still has apparent skill deficits, his or her ability to master is reduced. However, it is not only the relative brevity of the timeframe that is a problem. Sometimes it is also the excessive duration. For example, when a position needs to be maintained for a long period of time, where a shorter period was the plan, and the skills and abilities of the actor are suitably matched, the basic risk is again compounded by additional risk [12]. It is not easy to maintain a high quality of activity in the short term, to maintain a similar quality in the longer term.

It is essential to take into account, sixthly, the moral force of the actor and its decision-makers and employees. The importance of moral force derives from the phenomenon of moral hazard. The extent of this moral hazard becomes significant when the actor, after deciding in favour of a given alternative course of action, considers that he can increase the associated risk to a given extent - providing additional benefits for himself - by transferring the risk increase to others, his stakeholders. This may work in the short term, but in the longer term it may "backfire" if, in the context of new, repeated activities, stakeholders are able to compensate in some way for the risk transferred to them by the moral hazard. In this case, too, there is a trade-off between the amplification of moral hazard by the actor and the future willingness of stakeholders to cooperate, which benefits the actor [13]. Thus, in the medium and longer term, the amplification of moral hazard by the actor should be expected to lead to an increase in risk for a number of risks whose magnitude may be influenced by the willingness of stakeholders to cooperate. A classic example of this is when the insured changes his behaviour after he has taken out an insurance contract, in such a way that he gains additional benefits for himself but imposes additional risks on the insurer. Obviously, however, the insurer will react in the following period, either by increasing premiums or by cancelling the contract, and will try to internalise the negative externality created by the moral hazard. This internalisation, however, implies an additional risk for the actor, essentially for any alternative course of action currently chosen.
The seventh factor to consider is the size and availability of the necessary reserves. We have seen earlier how important the amount and availability of the resources needed directly to implement the chosen action alternative can be in order to avoid adding another layer of additional risk to the baseline risk of the chosen action alternative. However, the reserves are needed just when the undesirable outcomes of the chosen course of action - i.e. the risk itself - become realised. And the realisation of the risk generates an additional resource requirement over and above the resources needed to implement the chosen course of action. The partial or total lack of reserves has an impact on the magnitude of the risk assumed: the undesirable consequences may

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be even greater [14]. Replacing a failed part in an important machine also causes a loss of time, energy and money, but using a spare part allows to avoid much more imminent damage, i.e. the magnitude and extent of the undesirable consequences are limited. A reserve can be not only a material resource but also a human resource, or even a back-up 'B' and additional plans, or time itself. The emergence of insurance has brought a major breakthrough in this area, as it has substantially reduced the level of individual reserving required, with the insurance company or risk community taking over the creation of reserves - financial reserves. At the same time, however, individual provisioning by the actor for specific materials, parts or human resources, plans and time remained essential.

The eighth factor is a special reserve, the diversification reserve. Diversification essentially means standing on several - sometimes very many - legs, either in terms of parallel activities or in terms of product, financial and other portfolios [15]. In this case, the actor partially foregoes the advantages that would result from full specialisation in a single activity, product or investment in order to compensate for the disadvantages that he would suffer from the possible undesirable alternatives to the realisation of that alternative by the advantages that could be realised by other alternatives. Giving up specialisation altogether, moreover, increases the risk of the chosen alternative action - which was linked to the thing where specialisation was possible - since the actor does not develop his skills and knowledge as much as he would otherwise have been able to. At the same time, however, diversification creates the possibility that if an undesirable alternative is realised in one 'leg', causing a disadvantage, the advantages gained by other 'legs' - where desirable alternatives are realised in the meantime - compensate for this disadvantage. A well-executed diversification allocates the actor's resources between the individual "legs", the actor assembles alternatives in such a way that their individual risks are as little as possible interdependent or dependent on the same factors [16]. On the other hand, the magnitude of the disadvantages that could be suffered or the benefits that could be gained should be able to compensate each other adequately. Even in the case of a well-executed diversification, the portfolio as a whole will still have an unavoidable risk, but this will be significantly smaller than as a result of a less well or poorly executed diversification. However, it is not only the portfolio as a whole that may be reduced in this way, but also the individual elements of the portfolio - but as part of the whole. The reason for this is that the vulnerability of the actor is reduced by the individual portfolio elements, the disadvantages caused by undesirable alternatives implemented individually are - in aggregate - less threatening for the actor. Thus, as part of a well-diversified portfolio, "legs" are created and undertaken which, because of the magnitude of their individual risk, could not have been undertaken individually.

The ninth influencing factor affects the outcome of the implementation of the chosen alternative action not from the point of view of capabilities, or goals, resources, including time and reserves, but from the point of view of parallel activities. Earlier we saw the moral hazard of repeated "play", which has an adverse effect in subsequent games. However, inappropriately chosen parallel actions have a negative impact on the outcome already in the given "game", i.e. already during the realisation of the chosen action alternative. In the spirit of constant adaptation, the actors are constantly having to make decisions regarding new action situations, but also in the case of already known action situations, in the light of new changing circumstances and newly acquired information. Some of these decisions and some of the action alternatives chosen may have a direct negative impact on the implementation of the action alternative, on the characteristics associated with undesirable outcomes [6]. The disadvantage may simply result from a lack of consistency, for example, by scheduling two deliveries on the same day, which in principle can be solved, but which creates additional risk. On the other hand, it can also result from the fact that the chosen alternative action and the chosen alternative of the "chosen" alternative action situation explicitly interfere with or hinder each other. This may be the case, for example, if in a confined work area, the requested work activities have to be carried out simultaneously, interfering with and obstructing each other. Also in the case of medicines or plant protection products, the risks indicated in the instructions for use only apply in the manner and to the extent indicated

DOI: https://doi.org/10.14232/analecta.2024.3.107-117

if certain other activities are not carried out in parallel. In the case of medicinal products, such a typical additional risk factor is the consumption of alcohol or other medicinal products not previously tested in trials.

Finally, the tenth factor is the change in environmental conditions outside the actor - not caused by the actor. In the previous cases, the distribution of possible outcomes of the chosen alternative to the given action situation, which is typically a normal distribution, has been distorted to some extent, with frequencies being somewhat rearranged, so that the frequencies of the unfavourable outcomes have taken on a distribution that is less favourable to the actor. It is rare - but certainly not impossible - for the previous nine factors to change so permanently and substantially that we can speak of a completely new distribution. In this tenth case, however, if the change in the unfavourable environmental conditions does not follow the usual pattern of variability, it is quite possible that it is not a mere distortion but a transition to a new normal distribution [17]. This may occur, for example, if the legal conditions for the actor's operation or activity change substantially, if market conditions change substantially [18], or even if the natural environment changes substantially [19]. In each of these cases, a substantial increase in variability, or a substantial increase in the frequency of extreme outcomes, which were previously less frequent, or the emergence of outcomes that did not exist before, already indicate the existence of such a new normal distribution. Of course, some of the changes may be positive, and this cannot be ruled out, opening up new business opportunities and other beneficial effects, but more often substantial changes cause additional risks to the chosen course of action. Failure to consider sustainability issues may impose additional risks on the chosen alternative to a given course of action, even if this may only be noticed later [20].

3. CONCLUSIONS

Both of the two fundamental works of literature that have a decisive influence on the contemporary understanding of risk, both of which are unaware of each other but dispute each other's position, were published in 1921. Knight (1921) offered an attractive approach: for risks, probabilities and undesirable consequences can be precisely determined, thus making it possible to eliminate the undesirable effects of risks by means of insurance and hedging [3]. Consequently, economic profits in excess of normal industry profits can only be realised if the decision-maker chooses between alternatives with uncertain outcomes. Keynes (1921), on the other hand, was of the opinion that the probabilities and undesirable consequences associated with risks can be determined, but the accuracy of these determinations can range from negligible to 100% [21]. Insurance, hedging transactions could be associated with risk definitions of high accuracy. In this way, economic profits in excess of normal industry profits can be realised with a sufficient degree of risk taking. As usual in economics, Knight's view is correct in some cases, Keynes' in others. Obviously, Keynes' model has much greater explanatory power in everyday practices, since it is much less rigorous, much less constrained.

As we have seen in this paper, practice may be closer to Keynes' approach because the individual characteristics of the economic agent may have a decisive, or at least a significant, influence on the risks he actually faces when deciding on a given course of action. The more specific the characteristics of the economic agent, the less it is possible to determine with high precision the consequences and probabilities of undesirable alternatives using mathematical-statistical models based on the law of large numbers. However, the identification of specific characteristics, i.e. the self-assessment of the economic operator, is a necessary condition for determining the risk probabilities and consequences with the highest possible accuracy in relation to the given situation and the specificity of the operator, which exists even without self-assessment. Self-assessment can only be used to predict the distortion of a given normal distribution or the emergence of a new normal distribution. By failing to self-assess, or by incorrectly self-assessing, the economic actor is not in a position to make decisions on the basis of sufficiently accurate data, thereby adding significant additional risk to the already existing risks of the given situation.

DOI: https://doi.org/10.14232/analecta.2024.3.107-117

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