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SOME ASPECTS OF OPERATIONAL RISKS
AT ENTERPRISES OF CZECH REPUBLIC

This paper describes the way in which different enterprises see operational risk. Types of operational risks are divided into natural hazards, external risks, risk resulting from partners, risk resulting directly from business activities and risk arising from poorly adjusted processes. Using the probability-impact matrix, the intensity of risk perception was assessed for the whole sample and for different types of enterprises. Our sample of 101 enterprises considered a lack or loss of customers, increased competition, increasing prices of raw materials and fuels, late payments from customers and failure to comply with the required quality of products or services to be the most significant types of risk.

Keywords: operational risk; risk; risk perception.

JEL classification: G 32, M 11.

Драхос Ваньочек, Яна Кубецова
ДЕЯКІ АСПЕКТИ ОПЕРАЦІЙНИХ РИЗИКІВ
ПІДПРИЄМСТВ ЧЕСЬКОЇ РЕСПУБЛІКИ

У статті описано, як різні підприємства сприймають різноманітні ризики. Операційні ризики у дослідженні поділено на такі групи: природні ризики, зовнішні ризики, ризики від партнерів, ризики самої бізнес-діяльності та ризики погано відлагоджених процесів. Інтенсивність сприйняття ризиків було оцінено як для всієї вибірки (101 підприємство), так і за видами діяльності. Найбільш суттєвими ризиками для всієї вибірки стали: втрата або зменшення кількості клієнтів, підвищення конкуренції, підвищення ціни на сировину або паливо, запізнення розрахунків від клієнтів та нездатність відповідати певному рівню якості товарів та послуг.

Ключові слова: операційний ризик; ризик; сприйняття ризику.

Рис. 7. Табл. 2. Літ. 12.

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НЕКОТОРЫЕ АСПЕКТЫ ОПЕРАЦИОННЫХ РИСКОВ
ПРЕДПРИЯТИЙ ЧЕШСКОЙ РЕСПУБЛИКИ

В статье описано, как различные предприятия воспринимают различные риски. Операционные риски в исследовании поделены на: природные риски, внешние риски, риски, идущие от партнеров, риски самой бизнес-деятельности и риски плохо отлаженных процессов. Интенсивность восприятия рисков была оценена как для всей выборки (101 предприятие), так и по видам деятельности. Наиболее значимыми рисками для всей выборки стали: утрата или уменьшение количества клиентов, повышение конкуренции, повышение цен на сырье и топливо, запаздывание платежей и неспособность соответствовать определенному уровню качества товаров и услуг.

Ключевые слова: операционный риск; риск; восприятие риска.

Introduction. Nowadays, many research projects have been focused on the risks that are analysed with regard to economic crisis in its financial aspect mostly. The research team in this paper focuses on operational risk and its perception within the sample of enterprises. Each enterprise, regardless size, specialization, legal form, field of action and other characteristics is subjected to some risk, which must be dealt with in order to reduce its impacts. There is no leadership style or management approach

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that could completely distract the company from potential risks. It is entirely up to the company how will this risk be faced and how they will be ready to deal with it.

Literature review. Risk is a source of danger with a possibility of incurring loss or misfortune. Crisis occurs as the result of risk implementation. Risk at an enterprise is mainly related to the environment, innovation, staff and resources. Risk and especially its consequences can be prevented to some extent by appropriate management.

Risk is an inherent part of every economic entity. An enterprise develops efforts on influencing and controlling risk in order to eliminate the likelihood of harm to itself and also to eliminate its effects. As a result of such efforts operational risk management was developed (Alexander, 2003).

There is a business saying that you can only manage those things which you can measure. The area of operational risk can extend this phrase: we can measure only such things that can be defined. Compared to market and credit risk, operational risk is a challenge for most enterprises. Earlier, the operational risk was defined in negative terms, such as a set of risk that is neither credit, nor market. Over time, an adjustment and more accurate definition of operational risk has been found (Lam, 2003).

It is impossible to find a unanimous definition of operating risk in literature. In general, it can be defined as such a risk which is related to business activities through organization. The impacts of that risk are much more massive. Operational risk represents a broad discipline of different types of risk, including such components, which are the basis for all other risk (Akkizidis and Bouchereau, 2005).

Operational risk can be seen as a direct or indirect loss resulting from gaps and shortcomings of failures of internal processes, people and systems or from external events (British Bankers' Association, International Swaps and Derivatives Association, PricewaterhouseCoopers, & RMA, 1999). Operational risk often leads to large losses and failures even in many large companies (Alexander, 2003). Risk is often related to organizational crisis. Briefly defined, organizational crisis is an unpredictable event threatening important expectancies of stakeholders. Such crisis can usually seriously impact organization performance and generate negative outcomes (Coombs, 2011). Different common definition is the understanding of crisis by Seeger, Sellnowa and Ulmer (1998), who define a crisis as situation that creates uncertainty and threatens the priority objectives of an organization.

Crises can be divided according by the specific source of natural causes (storms, earthquakes, volcanic activity, etc.), technical causes (violation of energy supply etc.), human disturbances (communication misunderstandings etc.) and decision pending by management (postponed solution of problem, the problem is trivialized etc.). Crisis sources are therefore based on the external environment (such as the sales market crisis, the customer crisis, the crisis in competition etc.) or have their origin within the company (production crisis, financial crisis, personal crisis, the crisis of know-how etc.) (Smejkal and Rais, 2013).

The resulting crisis leads to 3 main results for an enterprise. First, the output can be deep consideration of stakeholders on corporate legitimacy. Secondly, the company will be subjected to detailed analysis in terms of its share in the causes and development of the crisis. And third, enterprise's management can be accused of causing and contributing to the resulting crisis so they must be prepared to suffer the consequences (Dean, 2004).

A large number of studies have been carried out in the area of business management. Very interesting are those that focus on the relation of corporate crisis and corporate reputation. Many scientists, such as Schnietz and Epstein (2005) argue that firms with a good repute (as opposed to disrepute) are able to ride out a crisis which cause less economic losses. Siomkos and Kurzbard (1994) mark good reputation as an intangible asset that serves as protection of an enterprise in crisis situations. Some scientists claim (Tucker and Melewar, 2005) that in the long terms through good reputation an enterprise can take advantage of crisis to achieve reputational profit. It can be concluded that most authors focus on risk management options that do not lead to crises. The authors of this paper focused only on identifying risk and its potential impact according to the managers within the sample.

Research objective and methodology. The aim of the paper is to analyse the perception of risk in the sample of enterprise with a special regard to a possibility of risk and its impact. Natural hazards, external risk, partner risk, risk arising from corporate activity and the risk of poorly designed processes were monitored. Analysis of these types of risk was performed on the sample as a whole and also by the types of enterprises.

In autumn of 2013, a questionnaire survey was carried out in 101 enterprises mostly from the region of South Bohemia. The survey was focused on different types of risk and risk assessment. The questionnaires were completed by students of the Faculty of Economics, University of South Bohemia in Ceske Budejovice. The enterprises were chosen by the students. The sample of 101 enterprises was designed. The data on these enterprises were assessed as a whole and then by types of enterprises'. The enterprises were divided into 5 groups: companies focused on products for household use (furniture, clothing, accessories, sports equipment etc.), retail business, and manufacturing of food products, machinery production, incl. electrical production and agriculture. Table 1 reveals the number of enterprises in each group and their detailed description. The sample consists of different sizes of enterprises. The classification of enterprises by a number of workers is based on the new SME definition published by the European Commission (2006). The definition defines micro enterprises with less than 10 workers; small enterprises with less than 50 workers; medium-sized enterprises with less than 250 workers and large enterprises with more than 250 workers. The classification of the sample by enterprise size is revealed in Figure 1. The classification is for information only as the paper does not work with size groups and the risk assessment within size groups is a matter of further research.

Table 1 recorded the basic characteristics of the reference sample with the absolute and relative numbers.

The number of farms in the sample was significantly low (9%) and their results should therefore be only seen for information. On the other hand, engineering enterprises reported the highest relative share in the sample (32%).

The questionnaire consisted of questions related to 5 groups of possible risk and the following risk was defined in each group:

- 1) natural hazard (floods, drought, other risk);
- 2) external risk (high interest rates, the difficulty to get a loan, crime, unexpected actions by authorities, the inability to meet the EU directives and regulations, price increase in raw material and fuel, failure or deliberate disruption of the information system);

3) risk resulting from partners (competition, unexpected action of a parent company, the loss of an important partner, lack of customers, late payments from customers, bad choice of suppliers, negative influence of a key link in the chain, court trials with customers);

4) risk arising from corporate activity (bad strategic decisions, risk associated with entering new markets, failure to obtain grants and contracts, introduction of new working methods or production processes, production system disorders, failure to comply with the required quality of products or services, large debt and inability to pay its obligations, the inability to apply technical progress, inventory obsolescence, family risk – there is no successor, frequent conflicts etc.);

5) risk resulting from incorrectly adjusted processes (lack of skilled workers, poor planning and poor work of staff, the risk associated with safety, the inability to satisfy customers on time).

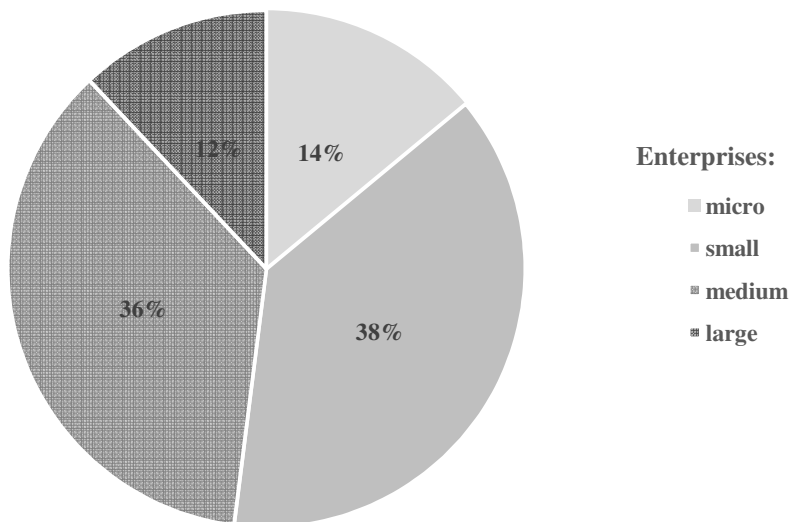


Figure 1. Distribution of the sample by enterprise size, authors'

Table 1. Characteristics of the reference sample, authors'

Index	Household goods		Retail		Food		Engineering		Agriculture		Total		
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	
Number of enterprise	19	19%	22	22%	18	18%	33	32%	9	9%	101	100%	
Part of a foreign company	yes	7	37%	3	14%	3	17%	10	30%	2	22%	25	25%
	no	12	63%	19	86%	15	83%	23	70%	7	78%	76	75%
Managed by owner	yes	16	84%	18	82%	16	89%	28	85%	3	33%	81	80%
	no	3	16%	4	18%	2	11%	5	15%	6	67%	20	20%

The respondents were provided with more detailed text, allowing risk assessment for their business both in terms of the probability of risk occurrence and in terms of the impact of risk, including scoring. Consequently, it was possible to categorize various risks by the probability-impact matrix of Waters (2009).

The probability of risk assessment was carried out on the scale from 1 to 5, with 1 being probable likely to occur and 5 means a very low probability of risk. The impact of risk was evaluated on the scale of 1–6, where 1 means negligible, 2 – minor, 3 – moderate, 4 – serious, 5 – critical and 6 – catastrophic risk.

Group A by the probability-impact matrix consisted of enterprises at the risk showed either as very probable to occur with catastrophic impact, or at least very close to such extreme situation. Group C included businesses with minor or negligible probability of the risk and its impact. Group B created a transitional group between these two extremes. For better interpretation of the text, group A is further perceived as a significant risk, group B as a medium risk, and group C as a negligible risk. The actual probability-impact matrix is displayed in Figure 2.

		Potential consequence					
		Negligible	Minor	Moderate	Serious	Critical	Catastrophic
Probability	Very high	B	B	A	A	A	A
	High	B	B	B	B	A	A
	Medium	C	B	B	B	A	A
	Low	C	C	B	B	A	A
	Very low	C	C	C	B	B	A

Figure 2. **Probability-impact matrix**, Waters (2009), adjusted by the authors

The final assessment was done in two ways: first, for the whole set of 101 enterprises and then by types of enterprises.

Key results.

1. *ASSESSMENT OF THE SAMPLE AS A WHOLE.* The answers of the enterprises' were classified into A, B, C groups (Figure 2). The absolute numbers of enterprises by the probability-impact matrix are displayed in table and are almost the same compared to the relative display as the total number of enterprises was 101. The number of enterprises without the answer are in the "0" column.

NATURAL HAZARD. In this category, only 11 enterprises out of 101 enterprises see the risk of floods and extreme drought as important. On the contrary, 49 enterprises see the risk of floods as unimportant and 59 enterprises see extreme drought in the same way.

EXTERNAL RISK. Only 7 enterprises can be classified as group A within the question of high interest rates (i.e. important risk). 37 enterprises see the risk of high interest rates as negligible. Very interesting results were revealed regarding the possibility to get a loan. This risk is considered important by 11 enterprises only. Similar significant difference was revealed for the question of the failure to implement the EU directives and measures. 9 enterprises only see this risk as important, 30 enterprises see this risk as negligible. The greatest number of enterprises in group A concerns the question of price increase in raw materials and fuels. 52 enterprises see this risk as important; 4 enterprises see it as negligible. It is possible to conclude that the price increase in raw materials and fuels is considered to be the most important external risk. On the other hand, getting a loan is seen as the least important.

RISK ASSOCIATED WITH PARTNERS. The most important risk of this category included: the risk related to lack or loss of customers (62 enterprises see this risk as important; 9 as negligible); the risk related to increased competition (55 – important; 8 – negligible); the risk of delayed payment or non-payment by customers

(43 – important; 11 – negligible) and the possible loss of an important partner (37 – important; 16 – negligible). On the other hand, the negligible risk included the risk of court trials with customers. Two enterprises only see this risk as important; 52 enterprises see it as negligible.

Table 2. Classification by the probability-impact matrix, authors'

Risk	A	B	C	0
Natural hazard				
Large floods	11	33	49	8
Drought	11	14	59	17
Other natural hazard (write if necessary)	4	14	12	71
Internal risk				
High interest rates	7	53	37	4
Impossibility (difficulty) to get a loan	11	40	45	5
Crime (theft, fraud, vandalism, copying products etc.)	19	54	27	1
Unexpected measures of national or regional authorities	16	49	31	5
The inability to implement the EU directives and regulations (on emissions etc.)	9	58	30	4
Price increase in raw materials and fuels	52	44	4	1
Failure or intentional hindering of information system	21	45	27	8
Partners				
Increasing competition	55	38	8	0
Unexpected measures of a parent enterprise	9	16	36	40
Possible loss of an important partner	37	45	16	3
Deficiency (loss) of customers	62	29	9	1
Late payment (or non-payment) from customers	43	46	11	1
Wrong selection of suppliers	19	61	21	0
Negative impacts from a key link in the chain	15	50	24	12
Court trials with customers	2	40	52	7
Enterprise				
Bad strategic (long-term) decision	23	57	21	0
Associated with entering new markets	11	48	32	10
Failure to obtain grants, contracts	19	30	37	15
Introduction of new working methods or production processes (unfulfilled expectations)	14	51	29	7
Disorders in the production system	29	53	17	2
Non-compliance with required quality of products (services)	40	47	14	0
Large debt, inability to pay under obligations	28	45	25	3
Inability to consistently progress technically	10	49	38	4
Obsolescence of inventories	9	42	47	3
Family risk (small enterprises)	15	21	41	24
Processes				
Lack of skilled workers	25	54	21	1
Bad planning (overproduction, lack of product or service capacity)	13	65	21	2
Bad work of staff	31	59	11	0
The risk to safety (accidents, fires, leaks of dangerous substances)	11	53	37	0
The inability to satisfy customers on time	18	56	24	3

RISK RESULTING FROM ENTERPRISE ACTIVITIES. This category reported the risk of non-compliance with required quality of products or services as the most important. This risk is seen as important by 40 enterprises and only 14 of the

sample see it as negligible. 28 enterprises see also the risk of debt and impossibility to pay its obligations as important compared to 25 enterprises that see this risk as negligible. On the other hand, the less important risk included the risk of obsolescence of inventories (only 9 enterprises see this risk as important; 47 see it as negligible) and the risk related to family business (no successor, frequent conflicts etc.) is important for 15 enterprises; negligible for 41.

RISK RESULTING FROM INCORRECTLY ADJUSTED PROCESSES.

This category covers the risk of the lack of skilled workers as the most important (25 enterprises; on the other hand, 21 enterprises see this risk as negligible). The risk related to labour safety, such as injuries, fires, leaks of dangerous substances etc. is seen by a third of the sample enterprises (37 enterprises) as negligible. Only 11 enterprises see the risk as important.

2. ASSESSMENT OF THE SAMPE BY ENTERPRISE TYPE. The second part of the research classified all 101 enterprise into 5 groups by the prevailing type of production. In the sample, the following types and numbers of enterprises were recorded: enterprises with production of household goods (19), retail (22), food production (18), engineering (33) and agriculture (9).

NATURAL HAZARD. As supposed by the research team, agricultural enterprises see natural hazards as the most important with floods seen as the important risk by 44% and extreme drought by 78%. Figure 3 presents the relative number of answers to the question of natural risk by different types of production with regard to risk A.

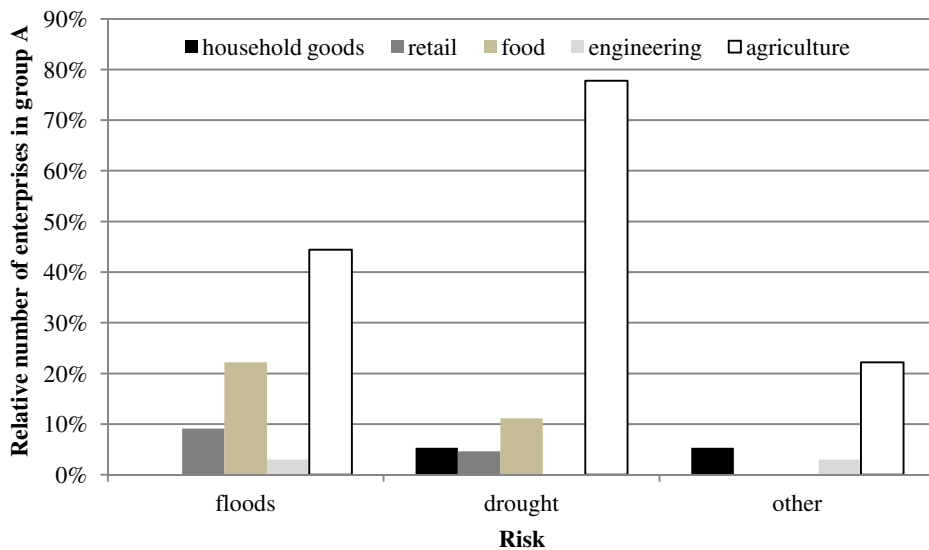


Figure 3. Companies that see natural hazard as important, authors'

EXTERNAL RISK. High interest rate risk is seen as important by 11% of the sample food production enterprises with the same situation within agricultural enterprises. The impossibility to get a loan is very low. Only 21% of the enterprises producing household goods and 22% of food producers see this risk as important. The risk of crime is seen as important by 33% of agricultural enterprises and by 27% of household producers. The rest of production types reported this risk group as significantly low.

The risk of unexpected measures of national or regional authorities and the risk of inability to implement the EU regulations is seen as important by a low number of enterprises – such as by 33% of agricultural enterprise. The risk of price increase in raw materials and fuels reported significantly higher values. This risk is seen as important by almost 67% of food producers, by 59% of retail enterprises, 56% of agricultural enterprises, and 42% of household goods producing enterprises and by the same percentage of engineering enterprises. The risk of failures of the information system is seen as important by 36% of retail enterprises and 24% of engineering enterprises with the lowest percentage for food production (6%).

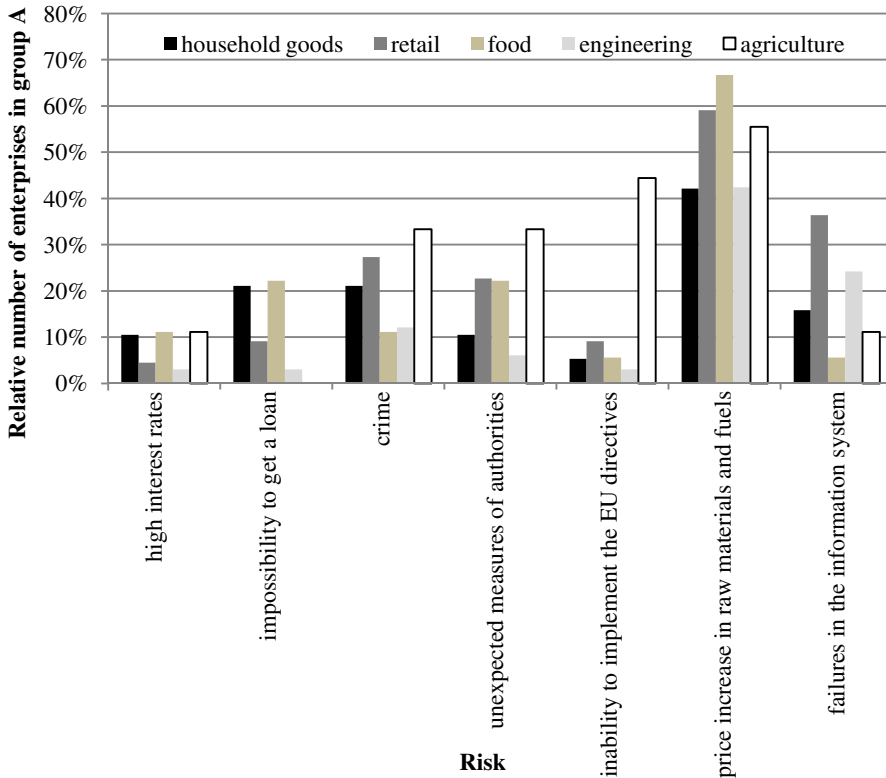


Figure 4. Enterprises that see external risk as important, authors'

RISK ASSOCIATED WITH PARTNERS. The risk of customers loss is seen as the most important one (79% of household goods enterprises, 67% of food producers, 64% of retail, 58% of engineering and 22% of agricultural enterprises), followed by the risk of increasing competition (63% of engineering enterprises, 59% of retail, 50% of food producers, 47% of household goods enterprises and 33% of agricultural enterprises) and the risk of delayed payment from customers and the loss of an important partner.

RISK RESULTING FROM ENTERPRISE ACTIVITIES. The risk of non-compliance with required quality is seen as the most important one (55% of engineering; 42% of household goods; 33% of agricultural; 32% of retail and 22% of food production enterprises) similar to the risk of large debt (53% of household goods

enterprises; 33% of agricultural enterprises and approximately 20% of other types of enterprises). On the other hand, the risk of obsolescence of inventories is seen as negligible.

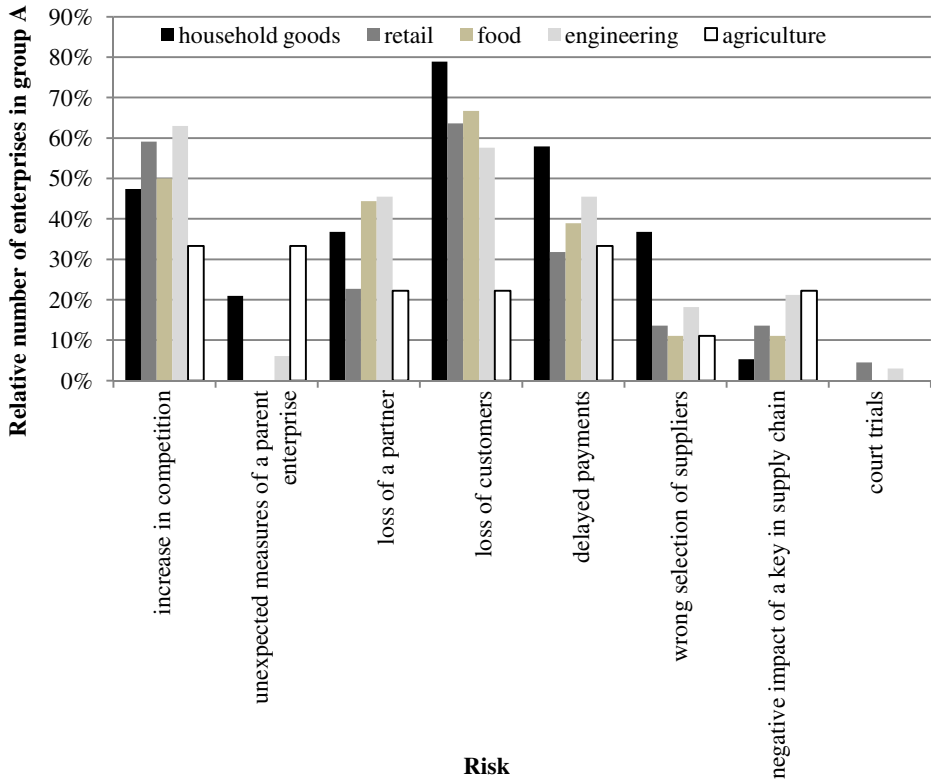


Figure 5. Enterprises that see partner’s risk as important, authors’

RISK RESULTING FROM INCORRECTLY ADJUSTED PROCESSES. The risk of the lack of skilled workers is seen as the most important risk resulting from poorly adjusted processes. Similarly, the risk of bad work of staff is seen as important (44% of agricultural, 41% of retail, 40% of engineering, 26% of household goods enterprises and surprisingly no food production enterprise). On the other hand, the risk of failure to comply with labour safety is seen as negligible.

Conclusions. The overall risk assessment by the sample enterprises is based on two aspects: the probability of risk and the assessment of its impact. This approach allowed the classification of all the answers by the probability-impact matrix.

The answers displaying high (important) risk with critical and catastrophic impact were classified as group A. In this group, the enterprises are afraid of the following risk:

- loss of customers (62 enterprises);
- increasing competition (55);
- price increase in raw materials and fuels (52);
- late payment from customers (43);
- non-compliance with required quality of products and services (40).

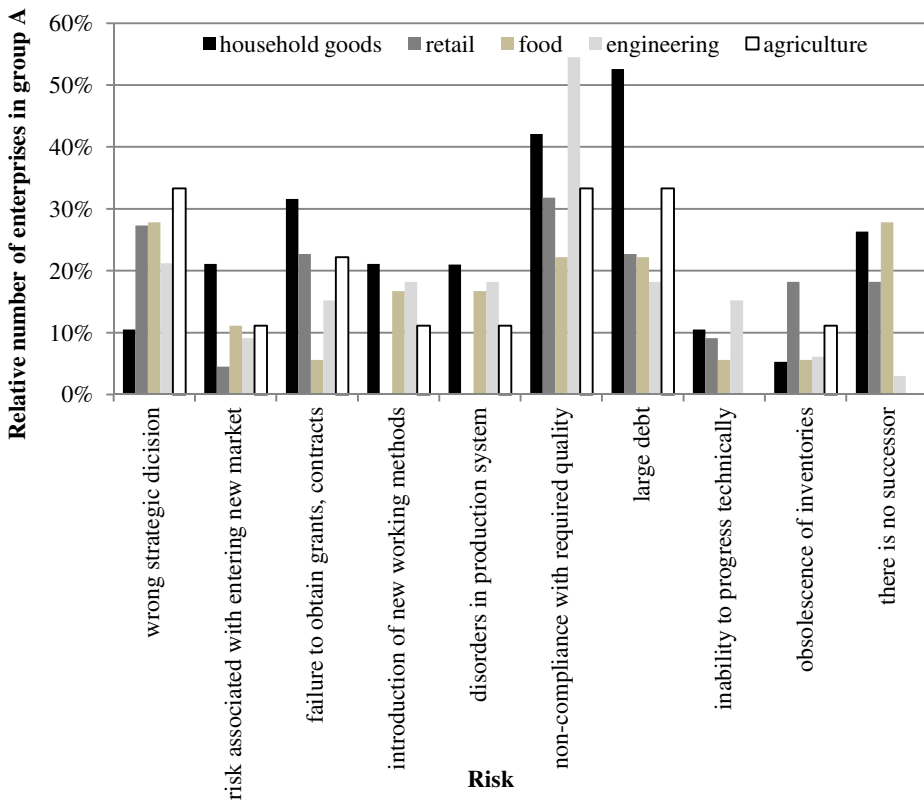


Figure 6. Enterprises that see risk resulting from enterprise activities as important, authors'

Group C represents the other end of the assessment by the probability-impact matrix. The types of risk classified into this group are seen as minor or negligible. The following types of risk occurred in this group:

- extreme drought (59 enterprises);
- court trials with customers (52);
- large floods (49);
- obsolescence of inventories (47);
- impossibility to get a loan (45);
- family risk if there is no successor or in case of frequent conflicts (41).

Enterprises with household goods see the following types of risk as the most important:

- loss of customers (79%);
- delayed payment by customers (58%);
- large loss (53%).

Retail enterprises see the following types of risk as the most important:

- loss of customers (64%);
- price increase in raw materials and fuels (59%);
- increasing competition (59%).

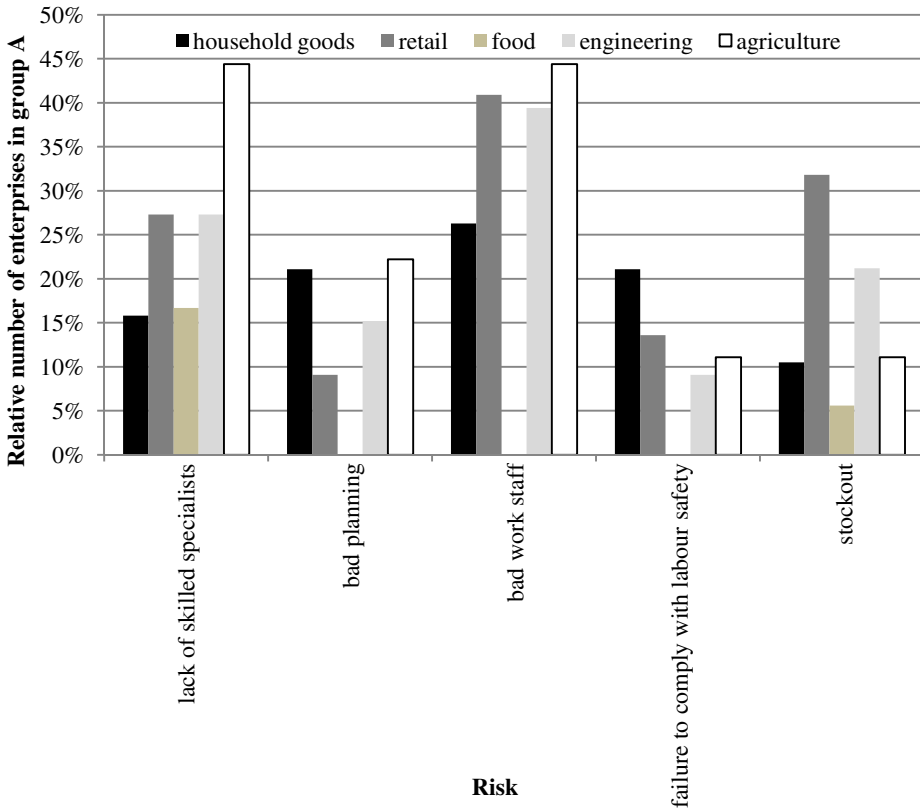


Figure 7. Enterprises that see risk resulting from incorrectly adjusted processes as important, authors'

Food producing enterprises see the following types of risk as the most important:

- price increase in raw materials and fuels (67%);
- loss of customers (67%);
- increasing competition (50%).

Engineering enterprises see the following types of risk as the most important:

- increasing competition (63%);
- loss of customers (58%);
- non-compliance with required quality (55%).

Agricultural enterprises see the following types of risk as the most important:

- extreme drought (78%);
- price increase in raw materials and fuels (56%);
- lack of skilled workers (44%);
- inability to implement the EU directives (44%);
- floods (44%);
- bad work of the staff (44%).

Obviously, agricultural enterprises cannot be compared to other production types. Agricultural enterprises are seen as a separate group within risk assessment.

The research reported the risk of price increase in raw materials and fuels, the risk of increased competition, the risk of the loss of customers or business partners and delayed payments to be the most important types of risk in the sample.

Each enterprise is a complex system of interrelated processes. These processes not only fulfil the strategic objectives of an enterprise, but under certain circumstances they may become a source of threat and danger, it means that they can be risky. A shift from probable risk to real risk leads to some losses, which are understood primarily as financial ones, but they can also be a danger to people or the environment.

The paper deals with managers' opinions on the possibility of risk occurrence and its impact in the sample of enterprises. Surprisingly, natural hazards are underestimated in Czech Republic, although they have been reported more often during last 15 years and this type of risk is related to a high risk of operations disruption up to enterprise liquidation. Currently, managers have not seen this risk as a direct one but they do not realize that in the global environment, if some risk significantly affects suppliers, it will later appear throughout the whole supply chain. This risk will be greater the greater is the integration of enterprises in the chain and therefore, the more the enterprises are related.

Unexpected risk has been also showed by the current Russian-Ukrainian conflict, which resulted into the EU economic sanctions against Russia. Interruption of supplies to Russia has created a new situation in which the EU member states must quickly find new markets not to get into a crisis situation.

Directions for further investigation. The issue of enterprises risk is very extensive, therefore, this paper is only a part of a larger study focusing on risk and crisis in business.

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