

Insurance as an Important Factor Reducing the Risk in Industry

Iveta Mižíková¹ and Adriana Csikósová²

This paper describes the definition of the risk of an entrepreneuring entity in the mining and processing industries and introduces a possible procedure of involving the insurance risks by an insurance company. The extent of this paper allows neither a deeper analysis of the risks nor a detailed instruction of the process of rating the insurance risks by the insurance company, but provides a coherent view of the issue. It can serve the managers in the process of risk management, in obtaining an overview of risk factors, in planning protection from possible damages and their elimination, and in staff trainings.

Key words: insurance, insurance company, types of risks, risk management

Introduction

Insurance belongs to special types of risk transfer. Negative consequences of the risk of a future unfavourable situation are transferred onto an insurance company, which under the terms of the insurance policy covers loss or damage, either in full or in part. Insurance helps maintain economic stability of entrepreneuring entities, protects the company from sudden and unpredictable events, which bring financial losses for the enterprise. Increased costs, the need for credit, insolvency, and the like are the result of underestimating a risk.

The insurance system is divided into two basic forms. The first one represents the system of social insurance with the participation of the state. It is usually obligatory for a specified range of the insured persons and determines the minimum range of insurance protection in the field of social insurance (health, sickness, and pension insurance). The second system - the commercial system - is built on liberal commercial, and thus competing principles [4]. Operation of the insurance market, the legal status of insurance companies and reinsurance companies and their activities in the insurance system, and the status of beneficiaries of insurance services are regulated in Slovakia by a wide range of legal enactments [13].

Insurance market in Slovakia

In the year 2007, 24 insurance companies associated in the Slovak Association of Insurance Companies operated in the Slovak insurance market. This year was characterized by a continuing trend of a growing proportion of life insurance per total insurance premiums rated (Fig. 1). In the year 2007, member insurance companies showed a total rated (technical) insurance premium of SKK 57.690 billion, out of which SKK 28.801 billion was life insurance and SKK 28.888 billion was non-life insurance.

The proportion of insurance premiums rated per gross domestic product is the indicator how significant the insurance industry is. In the year 2007 it was 3.11 percent, which is a decrease by 0.19 percentage point. The reason for this is a much faster growth of GDP - by 10.4 percent, while rated insurance premiums increased by just over seven percent [8]. It is clear from the assessment of the development of rated insurance premiums in both life and non-life insurance that the proportion of insurance companies per GDP was stagnating or decreasing (Fig. 2). The reason for this is not only rapid growth of GDP in recent years but also a slower development of the insurance market and strong competition. Table 1 shows the proportion of rated insurance premiums by types of non-life insurance in the year 2007.

¹ Ing. Iveta Mižíková, Regional Head Office of Entreprenuring Risks, ČSOB Poist'ovňa, a.s., Letná 27, 040 01 Košice, Slovakia, imizikova@csob.sk

² prof. Ing. Adriana Csikósová, CSc., Institute of Entreprenuring and Management, BERG Faculty of the Technical University of Košice, Park Komenského 19, 043 84 Košice, Slovakia, adriana.csikosova@tuke.sk
(Review and revised version 15. 12. 2009)

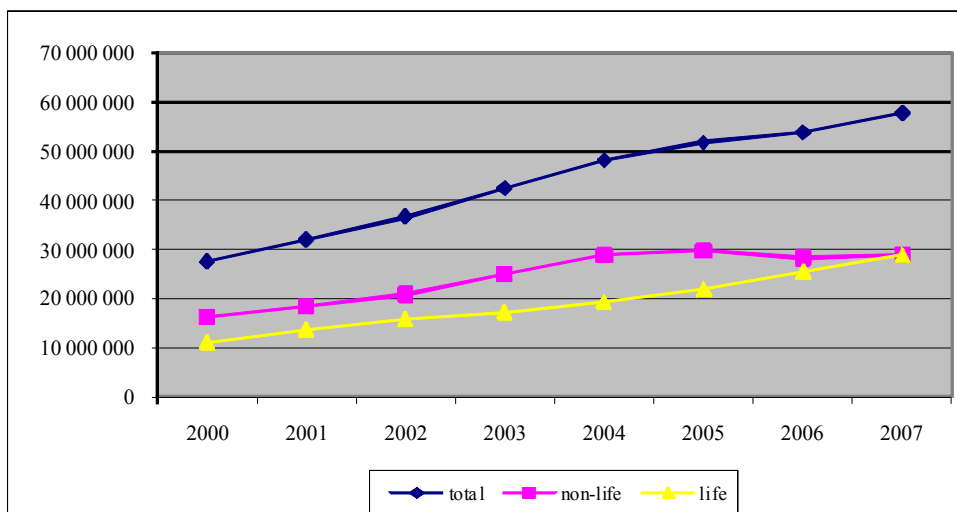


Fig. 1. Development of the rated insurance premium – total, in both life and non-life insurance in 2007 (in thousands of SKK)
Source: SLASPO.

Tab. 1. Proportion of the rated insurance premium by types of non-life insurance in 2007.

Types of non-life insurance	Proportion of rated insurance premium [%]
Accident and sickness insurance	2.82
Liability insurance of a motor vehicle operation	33.57
Liability insurance for damage to land means of transport	30.46
Liability insurance for damage to other than land means of transport	0.78
Forwarder liability insurance	1.02
Property insurance	22.05
General liability insurance	5.54
Credit, bond, and miscellaneous financial loss insurance	0.99
Legal protection insurance	0.28
Assistance insurance	2.47
Other	0.01

Source: SLASPO

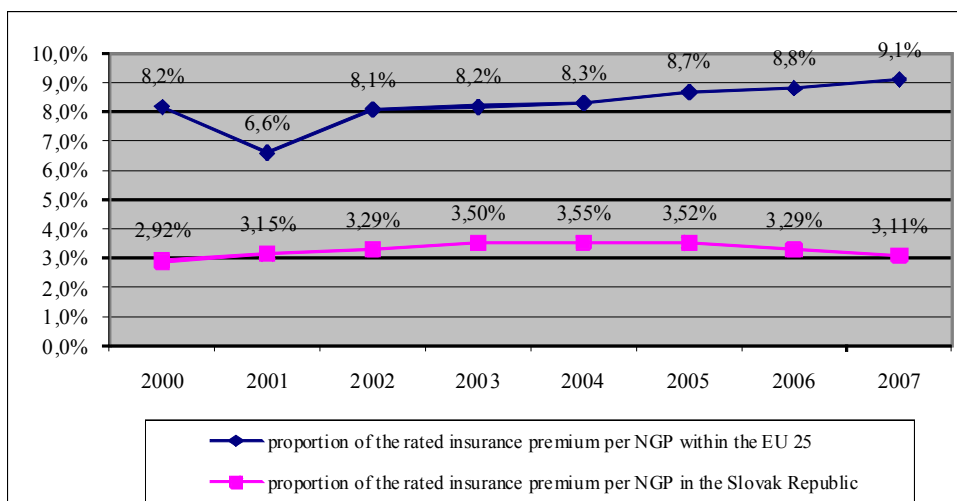


Fig. 2. Development of the proportion of the rated insurance premium per GDP, Source: SLASPO.

Risk management as an opportunity to prevent the emergence of claims

Risk is an event that has an uncertain financial impact on business and profitability of the company. Effective risk management practices of an entrepreneuring entity may reduce the risks to an acceptable level. In expert publications, e.g. [4], [3], and [2], several classifications of risk according to different criteria are referred to.

Systematic risk management of an entrepreneuring entity should belong to the strategic roles of each entrepreneur. Performing the task of protection and security of assets of an entity falls within the competence of the risk management. In practice, it is possible to come across two main approaches to the management of entrepreneuring risk:

- removal or minimizing the causes of the risk,
- minimizing the amount of the damage.

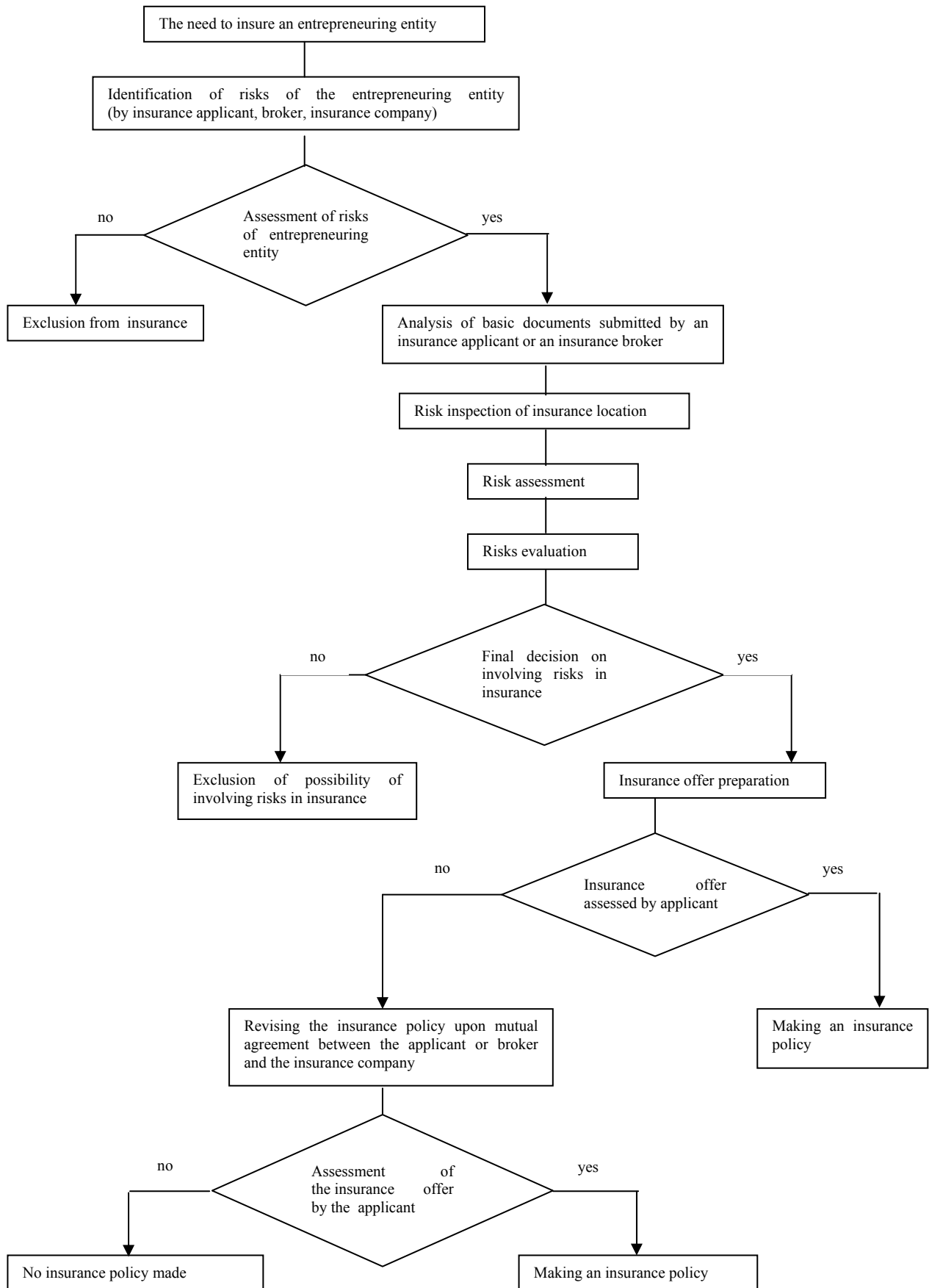
The issues of identification and management of business risks are described in specialized sources, e.g. [4], [6], [17]. For the purpose of reducing the risk in enterprises, the following effective processes (5) are developed and implemented:

- introducing the systems of risk management and crisis management,
- defining the critical points of production and other processes in terms of continuous upgrading the quality and process safety and minimizing the process risk,
- introducing quality management systems according to national and international standards, their evaluation, audit, and certification,
- performing the energy audits,
- introducing and implementing metrological and autodiagnostic systems,
- assessing the application of the so-called Best Available Technologies (BAT),
- introducing the systems of environmental management according to national and international standards, their evaluation, audit, and certification.

Algorithm of involving the insurance risks by an insurance company

Several steps precede the insurance becoming effective. Only after a comprehensive risk assessment is carried out, it is possible to recommend a solution to the total insurance programme of the enterprise and to effect insurance. An update of insurance according to the needs of the enterprise is required during the period of insurance, and as the enterprise develops, it is necessary to review and update the insurance programme. It is desirable to carry out indexation of the insured property. The final decision on the extent of coverage and what risks shall be insured depends on the entrepreneur.

Insurance companies apply the principles and procedures of underwriting risks, which are involved in internal directives, regulations, and methodological procedures of individual insurance companies. Underwriting a risk represents a process of analysis, evaluation, and assessment of the risk, which is to be subject to insurance. The next section (Fig. 1) presents a possible procedure - the information gathered to underwrite the risks is processed and the subsequent decision whether or not to involve insurance risks in the insurance is taken.



1 Procedure of involving the risk in insurance

A model example of involving the risks in insurance

This case study describes the entity that is interested in insuring the risks. The entreprenuring entity develops its activities in two main spheres, namely the mining activity, which involves opening and preparing limestone deposits, and limestone quarrying and lime production. The list of risks in Tab. 2 in the first part shows the overview of the risks in the mining and processing industries that can serve managers in the process of risk management with the objective to minimize them, whereas in the second part of the table, the risks that threaten all other industries are listed. Identification of risks is made in the form of structured interviews with the managers and the enterprise management.

Tab. 2. Risks in the mining and processing industries.

Risks resulting from the activities of a mining entity
Damage caused to tangible property while seeking and researching the deposits, when carried out by mining works, by mining the exclusive deposits, by setting, ensuring, and liquidating the mining works and quarries, including their equipment; by waste, dump, and sludge management of organizations, by treating and refining the minerals carried out within the context of mining, as well as damage caused by special intervention into crust of the earth, [1]
Risk of loss of surface and underground water, significant reduction of the yield of water resources and the decline of quality as a result of activities of the entity, [1]
Damage to the environment – air, soil, and water pollution, damage and destruction of the surrounding forest growth, forest animals being endangered,
Breakdowns and incidents caused by failing to observe obligations resulting from the law – organizations and bodies are liable for ensuring safe operation, including breakdown prevention and performing the tasks of mine rescue service, for immediate removing dangerous situations threatening public interests, especially operational safety and health protection, and taking necessary intime preventive and safeguard measures, [1] (risk of explosion, land and rock slide, casualties, interruption of continuous transport, civics, telecommunication wiring, etc.)
General risks operating in the whole economy
<i>Natural disasters</i>
Fire, explosion, lightning stroke, blast or crash of a piloted flying object, its part or its cargo,
Flood, high water, tempest, hailstorm, earthquake,
Soil slide, stone or soil fall, not as a result of an industrial or constructional operation,
Avalanche slide or fall, snow force, vehicle crash, smoke, supersonic wave,
Fall of trees, masts, and other objects, if they are not part of the damaged insured thing,
Incidental and immediate damage or destruction of a thing by a liquid leaking from a water piping device,
Risks caused by human performance
Failing to observe working procedures, insufficient training of the employees, unqualified personnel,
Working inconsistency,
Theft, vandalism, sabotage, strike,
<i>Technological risks</i>
Errors in technology, damage caused by defective products,
<i>Risks related to the operation of machines and machinery</i>
Failure to measure or interlock plants, damage caused by frost, construction defects,
Material defects, insulation defects, production defects,
<i>Transport risks</i>
Accidents of the means of transport, insufficient cargo security, theft,
<i>Risks of interrupted operation</i>
Mechanical interruption of operation, fire interruption of operation,
<i>Market risks</i>
Sale risk, purchase risk of necessary raw materials, spare parts, price change, sale risk, risk in purchasing the necessary raw material,
Development of exchange rates and rates of interest, failing to pay for the goods, failing to take over the goods,
Risks related to failing to perform contractual terms, expected recession, unfavourable political changes,
<i>Financial risks</i>
Credit risk, liquidity risk, liability for damage to property of third parties risks,
Liability for damage to life and good health of third parties risks.

After having documented the risks, the process of assessing individual risks follows, in which it is necessary to assess the impact of individual risks on the routine operation of the enterprise, in our case it is an enterprise concerned with mining the raw materials and the production of lime and its orientation and goals for the future. For individual risks, it is necessary to determine the risk probability and the claim amount that the given risk may cause. Insurance companies have their limits determined, within what

insurance premium amount the risks may be considered and underwritten. If the insured amount is too high, the insurance company may ask a reinsurance company for the permission to underwrite the risks or to effect insurance with another insurance company. Due to this reason the insurance company determines Probable Maximum Loss (PML).

The risk analysis is made on the basis of the following:

- basic documents submitted by the applicant for insurance or an insurance broker (e.g. a questionnaire to assess the risk, forensic and expert reports, an inventory of movable and immovable property, drawing documentation of the land lot, buildings, photocharts, different plans, layouts, descriptions of machines, descriptions of manufacturing processes, ways of storage of raw materials, finished products, hazardous and flammable substances, document revisions, inspections, maintenance of electric, gas, engineering and technological equipment, etc.)
- physical inspection of the operation location of the entrepreneuring entity.

The process of risk assessment can be carried out e.g. by placing the risks into the so-called risk grid or on the basis of a questionnaire, which includes close-ended questions, questions offering possible answers, or open-ended questions, which must be answered specifically. The most important evaluation criteria of an enterprise engaged in mining and processing the raw materials are summarized in Tab. 3.

Tab.3. Evaluation criteria of a mining enterprise in the process of evaluating and underwriting the risks by an insurance company.

Evaluation criteria	What is being considered
Types of constructions and conditions of objects	construction of building, roof, roof covering, thermal insulation, coats applied, floors (flammable, inflammable), cracks,
Providing for fire-fighting protection	division into separate fire-fighting complexes, condition of fire-fighting walls, locks, doors, flaps, fittings and condition of fire extinguishers, electric fire-fighting signalization, keeping the documentation of fire-fighting protection ,
Condition of used machines and facilities	information on maintenance, repairs, service (trained by the manufacturer), input raw materials, location from the viewpoint of placing flammable and explosive substances, technological procedures,
Organization, maintenance, order	plans of staff trainings, level of personnel structure, plans of maintenance, restoration, and protection of property, revision of systems related to supplying all types of energy and services, cleanliness and order in the workplace,
Ways of supplying all used types of power/energy	way of heating, kind and storage of fuel, placing and protection of transformer stations for the supply of electric power, material used and ways of distributing electric power, gas supply by public or own regulation station, water resource from a public water-supply or own resource,
Level of anti-flood protection	object situated or not situated in a flood territory,
Level of protection from soil slide and wind	object subsoil, shape of the surrounding terrain (plain, hilly, valley, altitude),
Claims record	Breakdowns and accidents up to the present, damage to property and liability (date of damage emergence, damage cause and amount), information on follow-up measures to prevent from repeated claims.

An evaluation report, the so-called risk report, in which individual risks are evaluated, is the outcome of risk evaluation and assessment. This report also contains proposals and recommendations of the insurer to the insurance applicant to remedy the identified risks, or even a date of agreed inspection.

After the final involving the risks in the insurance, the insurer shall prepare a proposal for insurance of risks, which can be insured and in which the applicant is interested. The insurance proposal is being prepared on the basis of basic documents submitted by the applicant for insurance and on the basis of the evaluation report. Not all the risks identified in the mining and processing industries can be insured. Non-insurable risks are excluded from the insurance, e.g. the risks listed below:

- damage caused by an explosion related to the extraction or shocks caused by transportation,
- damage caused by using flammable and explosive substances, gases,
- damage caused by infiltration of groundwater, except for the cases where the damage was in causal connection with floods or high water,
- damage caused by soil sinking, soil sliding, industrial shooting, erosion, undermining, exposure to temperature, gas, steam, moisture, ash, smoke, radiation of any kind, waste of any kind, any pollution caused by waste water, pollution of soil, air, flora and fauna, movables and immovables, the insurance also does not apply to the costs related to clearance or decontamination,
- damages caused to the overground and underground wires of any kind,

- damage to the vehicle caused by an explosion of the transported cargo (e.g. explosives, highly inflammable substances) even if the explosion was caused as a result of an accident of the motor vehicle,
- damage caused by failing to observe legal regulations, standards, official publications, and other norms recognized and observed in professional practice [7].

In step *Assessment of the insurance offer by the applicant*, the insurer submits to the applicant an insurance offer with the amount of the insurance premium, as well as the conditions under which the insurance may be effected. Insurance premium rates are influenced by a number of factors, e.g. claim-free record, physical assets of the entity, risk factors, good fire-fighting protection, the amount of the insurance, the amount of general average contribution, frequency of payment, etc. In some cases it is possible to depart from the policy terms and conditions and to agree on specific arrangements. The insurer and the applicant for insurance should reach an agreement at this stage, which would be acceptable to both parties. Further to the offer or a bid revised according to further arrangements, an insurance policy shall be prepared and consequently made (signed).

Conclusion

The following information results from the algorithm of involving the risk in the insurance and the subsequent description demonstrated at the specific example: the final output is not only effecting insurance or failing to effect insurance, but this procedure can also serve for other purposes, e.g.:

- as an overview of risks in the given industry, which can also assist the managers in the process of risk management,
- as a report on the evaluation of risks, identified shortcomings,
- as an overview of the risk factors that increase or reduce the risk,
- as a proposal and recommendation of the insurer to correct the identified risks,
- as information for planning protection from damage and its elimination,
- as a basic document for planning the staff trainings, information on possible risks.

No entreprenuring entity operates in a vacuum, in which it would be absolutely safe, just the opposite is true. The number of risks, which affect enterprises, is increasing. We learn about various disasters, accidents, breakdowns, floods, fires, etc. from the media every day. Even if the insurance does not keep off these events, it can and does help mitigate the consequences.

References

- [1] Mining act – Act No. 44/1988 Coll. on the protection and usage of mineral resources.
- [2] Drugdová, B.: Insurance of non-life risks (international risks). Bratislava: ŠEVT, a.s., 2008. 158 s. il. ISBN 978-80-8106-002-1.
- [3] Chovan, P.: Insurance system in short. Bratislava: Slovak association of insurance companies, 2006. 359 s. il. ISBN 80-967410-1-2.
- [4] Koščo, T.: Risk and insurance system. Nitra: SPU, 2005. 143 s. il. ISBN 80-8069-539-3.
- [5] LAPA SERVICE s.r.o. Settling insurance claims, minimizing the damages, prevention of follow-up damages, implementation of usable rests. [on-line], [quotation 2009-01-04]. <http://www.lapaservice.com/view.php?sid=4&lng=3#minimalice> .
- [6] Merna, T., Al-Thani, Faisal, F.: Risk management. Risk management in an enterprise. Brno: Computer Press, 2007. 208 s. il. ISBN 978-80-251-1547-3.
- [7] Insurance terms of the following insurance companies: ČSOB Poist'ovňa, a.s., KOOPERATIVA Poist'ovňa, a.s., Groupama Poist'ovňa, a.s., UNIQA poist'ovňa, a.s.
- [8] Seňová, A., Slaninová, P., Weiss, E.: Assessment of the risk by a point method for the selected profession in the mining industry In: Acta Montanistica Slovaca. year 13, issue 2 (2008), p. 278-284. <http://actamont.tuke.sk/ams2008.html> , ISSN 1335-1788.

- [9] Seňová, A., Antošová, M.: Assessment of risks of possible threatening the safety and good health of employees as part of quality work life in an enterprise. In: Management in theory and practice: On-line expert magazine on new trends in management. year 3, issue 1-2 (2007), pp. 30-37. <http://casopisy.euke.sk/mtp> , ISSN 1336-7137.
- [10] Antošová, M.: Mining company personal planning method. In: Acta Montanistica Slovaca. year 9, issue 2 (2004), p. 78-84. <http://actamont.tuke.sk/ams2008.html> , ISSN 1335-1788.
- [11] Szombathyová, E.: Telework and work environment. HRM&E Human Resources Management and Ergonomics, year I, issue 3/2007., pp. 61 – 65. ISSN 1337-0871.
- [12] Antošová, M.a: Strategic management. F BERG TU Košice, p.122., ISBN 80-8073-664-2.
- [13] Act No. 8/2008 Coll. on the insurance system as amended by Act No. 270/2008 and Act No. 552/2008 Coll.
- [14] Naščáková, J., Weiss, E., Mixtaj, L.: Hodnotenie výkonnosti systému manažérstva kvality v podmienkach výrobného podniku. In: Acta Montanistica Slovaca. year 13, issue 3 (2008), p. 326-332. <http://actamont.tuke.sk/ams2008.html> , ISSN 1335-1788.
- [15] Slovak association of insurance companies: Annual report. [on-line], [cit. 2009-01-31]. www.slaspo.sk .
- [16] Bednárová, L., Liberko, I., Weiss, R.: Benchmarking in firms management. In: Acta Montanistica Slovaca. year 14, issue 1 (2009), p. 86-91. <http://actamont.tuke.sk/ams2008.html> , ISSN 1335-1788.
- [17] Varcholová, T., Dubovická, L.: New risk management. Bratislava: Iura Edition spol. s r.o., 2008., 196 s. il. ISBN 978-80-8078-191-0.