

# Asymmetry of information during the application of the model for valuation the sum insured in case of business interruption in the Czech Republic

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**Abstract-** The article titled as Asymmetry of information in the model for valuation the sum insured in case of business interruption in the Czech Republic is focused on identification closed information, which affects correct application of estimative model. Model result is an insured value entering a policy as the sum insured. The information creates asymmetry on the market, which can dramatically affect the amount of sum insured and the amount of the premium and the benefit. The identification these asymmetry of information is contained in the paper too. The aim of the article is the characteristics of asymmetric information and the determination of influence on the amount of the sum insured when arranging the policy for business interruption. The theoretical part comprises of critical analysis of literature and law valid in the Czech Republic. The practical part includes analysis and comparison of information intended for application of a given model which is applied consequently and the insured value is set accordingly. The influence of each variable of the calculation on the insured value is calculated and compared.

**Keywords-** insured value, sum insured, asymmetric information, business interruption, underinsurance, overinsurance, profit and loss account, direct damage, consequential damage, risk management

## I. INTRODUCTION

The article is concentrated on the topic of evaluation of a company which is to conclude a policy for the case of business interruption. It is necessary to know all information, which is not always public, for correct the application of valuation model. Information can find out in laws or in conditions and the documents are public. But some of them have to look for in questionnaires of company or there is part of agreement of contract. The information is depended on communication with company.

A model used for determination of the value in the Czech Republic is based on financial loss of a company. Such loss is caused by interruption of a business due to property damage, in case of fire, for example. The company is not able to carry out its activities for a certain period of time result of which is loss of profit that would not occur if the business was not

interrupted and the company will also have to pay costs which are not related to its activities. These are called fixed costs.

The insured value and consequently agreed sum insured create an essential parameter of a policy because they affect the amount of premium and especially the amount of indemnity in case of claim.

To be able to determine the sum insured, it is necessary to understand certain calculation and thus to have adequate knowledge of all information which might influence it. The aim of the article is the characteristics of asymmetric information and the determination of influence on the amount of the sum insured when arranging the policy for business interruption.

The first chapter provides overall characteristics of the for business interruption caused by natural disaster. A brief theoretical background is based especially on analysis of literature and law in the Czech Republic. More detailed information is provided to determine the insured value which is called the sum insured within the policy. For the purposes of this article the terms "insured value" and "sum insured" are equal because it is supposed that their values are equal. Final part is an exception. It explains the cases of different amount of the sum insurance and the insured value.

The theoretical part serves as the base for another chapter which is also focused on particular calculation of sum insured. Basic information necessary for evaluation is set according to the analysis and comparison of conditions of particular insurers, questionnaires and laws. The summary of the facts, where the information can be found, is provided by the method of induction. Then, a method of modeling is used for determination of the insured value. Field analyses of profit and loss account in the Czech Republic are used for the application of the model. Based on the results gained through the use of the model an analysis of effect of individual items on the insured value is carried out. The comparison is made within the items and within the scope of activities of a company, i.e. industry and services. Last part also contains the explication of influence items of calculation the insured value (sum insured) on the benefit. Cases summarize what can occur during benefit, e.g. full insurance, underinsurance and overinsurance.

## II. BUSINESS INTERRUPTION

A company's business is determined just as much by profit- and safety-related goals as by those of a social and ecological nature. A company's profits are exposed to risks from a number of quarters, which is why its actual results often deviate from its business plans. Conducting regular current comparisons can pinpoint and reduce these deviations during the product planning phase or during manufacture. Business activity is also determined by legal provisions, adherence to which is monitored by the authorities. Examples include the compliance of new buildings with fire regulations or rules on safety in the workplace. Many companies implement safety measures over and above those required by law. In most cases, however, these were traditionally designed only with the protection of property or persons in mind. Business management makes contingency plans to ensure that a company can continue to function in the event of business disruption, such as after a fire. Fire plays a central role. In order to determine what is posing a threat to income and decide on how to counter it, a company's management must identify, assess, evaluate and ultimately master entrepreneurial risks. Business protection is particularly important if the consequences of potential disruptions threaten to take on a dimension that the company can not bear [1].

This chapter includes business interruption within classes used in the Czech Republic. Basic terms related to this kind of are explained and financial loss which has major significance for calculation of the insured value is defined. The model for calculation is described, it is based on financial reporting of the company.

### A. Categorization of Business Interruption within Classes Used in the Czech Republic

Business interruption is included in non-life s according to the Act [2] and also in against damage according to the Policy Act [3]. Insurance against damage is a private and it is intended for compensation of damage resulting from an insured event [3]. Table I shows Basic kinds of according to laws in the Czech Republic.

<b>Consequential damage</b>	<b>Loss of profit</b>
	<b>Fixed costs</b>

- From sales of products made, products sold and services provided
- Personal costs of employees
- Costs for rent, energy, regular services, advertising, tax
- Property depreciations
- Interests from loans for business operation

Table I Basic kinds of in the Czech Republic

Property against natural disasters can be included in assets and business interruption can be comprised in profit [4, p.20].

Table II summarizes main kinds of insurance against damage in the Czech Republic.

<b>Insurance against damage</b>	<b>Assets insurance</b> , i.e. property and non-property insurance	damage to property, e.g. at a natural disaster
	<b>Liabilities insurance</b> , i.e. insurance of unexpected expenses	damage to a third party
	<b>Profit insurance</b> , i.e. insurance of gains	loss of profit due to business interruption, e.g. at a natural disaster

Table II Insurance against damage

Business interruption can be made providing to contract property in the Czech Republic, e.g. natural of property, engineering, electronics. It is not so common, but is very significant namely for large industry companies. The decision about is a matter of management and it relates with the risk management of company. Risk management provides basic condition for a healthy internal control. The control means the overall measures set by the management to obtain reasonable s the goals will be met and risk management is one of the major tools to carry it through [5].

Field of risk management is characteristic by systematic using in engineering knowledge, technical and managerial skills and reasonable know-how in order to optimal the security of lives, property and environment [6, p. 31].

### B. Basic Features of Business Interruption

Business interruption is for company the risk, which means that actual loss and non-achieved profit, which may occur both due to the incidence of external, unpredictable factors and as a result of human behavior [7]. But here is the resolution for a company - to contract optimal business interruption.

Following characteristics in this part are focused on business interruption, although this refers to property against natural disaster. Property ensures compensation of direct property damage, e.g. damage to property caused by fire. Other property damage can be caused by floods, windstorm or hailings.

Business interruption covers consequential damage. Due to consequential damage financial loss is compensated. The loss is made as a result of business interruption which is caused by damage to property due to natural disaster [8, p. 126].

Basic parameters characterizing business interruption are: sum insured, threats, co- (or deductible, or franchise), period of indemnity, indemnity limits. Methods of determination of the insured value are further described in an individual chapter.

Sum insured for business interruption refers to the period from the moment when the damage is caused to the day when the interruption of the business is finished but the longest until a certain period passes. This period is called period of indemnity [9, p. 27].

Together with this either percentage deductible with a minimum fixed amount (e.g. 10%, min. CZK 20,000) or excess franchise (e.g. CZK 10,000) and also time franchise (e.g. 2 days) are arranged. Percentage deductible means that an insured person (a policyholder) participates in

compensation of the damage by given percentage. If the amount corresponding with the given percentage reaches lower value than the minimum amount, then the policyholder always covers the damage at the minimum amount. The excess franchise stands for an amount which is deducted from the indemnity. If the indemnity does not reach the value of the excess franchise, then the indemnity equals to zero. Time franchise represents a period of time during which the indemnity is paid [8, p.44]. If the time of business interruption is shorter than the time franchise, then the indemnity will not be paid at all.

Together with this there are usually indemnity limits for threats agreed. Indemnity limits are total limits for against natural disaster and business interruption except for FLEXA. FLEXA (FLEXA (Fire, Lightning, EXplosion, Aircraft) represents basic and also obligatory scope of against natural disaster and it includes danger of fire, explosion, lightening and aircraft crash. It is not possible to arrange other threats without FLEXA. Maximum indemnity is set by a sum insured or by indemnity limit [2].

*C. Determination of Financial Loss with Business Interruption*

Determination of insured value is related to financial loss resulting from business interruption caused by property damage. It stands for loss of profit and expenses for costs which increase in case of business interruption. Sum insured for profit and fixed costs is to be determined in the policy so that it should correspond with profit which would be created by an authorized person and with fixed costs which would be paid from profits if the business was not interrupted for the time of evaluation or for part of this period corresponding with period of indemnity if the period agreed makes less than twelve months (i.e. with insured value of the profit and fixed costs) [10].

The insured value is created by fixed costs and operating profit together. Fixed costs for determination of the value are those costs which must be put in even if the business is interrupted. It is also possible to include loss from rent and additional costs in the insured value. These items are not insured automatically and thus it is necessary to include them in the policy. The sum insured is given for the period of one year.

Follow Table III shows kinds of property damage, which can be included and can be related to business interruption. The fundamental part is created by FLEXA insurance.

<b>Property damage - basic</b>	Damage due to natural disaster: - Fire, Lightning, <u>EXplosion</u> , Aircraft
<b>Property damage – other danger</b>	Damage due to natural disaster: - Flood - Storm, hail - Land subsidence - Fall of trees, poles, others subjects - Snow- weigh - Earthquake - Water damage

Table III Property damage

Following table shows basic items of consequential damage, i.e. financial loss resulting from business interruption caused by property damage except for loss from rent and additional costs. Each item then enters the calculation of the insured value. Table IV describes items of consequential damage.

<b>Consequential damage</b>	<b>Loss of profit</b> - From sales of products made, products sold and services provided
	<b>Fixed costs</b> - Personal costs of employees - Costs for rent, energy, regular services, advertising, tax - Property depreciations - Interests from loans for business operation

Table IV Consequential damage

*D. Calculation of the Insured Value*

Calculation of the insured value refers to the description of the individual items of the consequential damage and, for the purpose of this paper, it will not include loss from rent and additional costs. The insured value consists of two basic items: loss of profit (LoP) and fixed costs (FC). The insured value is calculated from profit and loss account (PLA) and operating financial reporting of a company.

Main items of PLA, necessary for valuation, are shown in the following Table V, whereas the part for financial operation is left out. All calculation is only about operating business.

+ Revenues from of sales of good - Costs paid for goods sold = BUSINESS MARGIN
+ Revenues from sales of own products and services +/- Change in stock of own production, activation - Intermediate consumption (e.g. consumption of material, energy, repairs, servicing) = ADDED VALUE - Personal costs (e.g. wage costs, social security) - Depreciation of long-term material and immaterial property - Tax, fee + Other operating income - Other operating costs = Operating EARNING BEFORE INTERESTS and TAXES (EBIT)

Table V Main items of Profit and Lost Account relating with calculation of value in the Czech Republic

The insured value for the period of indemnity of 12 months means the period of one year. The previous accounting period is applied which usually means a calendar year, and the resulting value must be adjusted according to the business plan of a company. Items from profit and loss account must be arranged so that the resulting value corresponds with the regulations for consequential damage. As it is with any evaluation, it is necessary to verify correctness of provided

data also here. Calculation of the insured value refers to business activities only.

Calculation of the insured value (IV) is made by loss of profit and fixed costs together:

$$IV = LoP + FC \quad (1)$$

Following formula expresses the same as the formula before:

$$IV = N - V \quad (2)$$

$N$  – net revenues

$V$  – variable costs

To determine the insured value correctly by a policyholder, he/she must be informed which items from the financial reporting should be used and also how they should be adjusted for the purposes of the calculation. Which pieces of information affect the insured value and how much they affect it? It will be stated in the following chapter.

### III. INFLUENCE OF INFORMATION ON THE INSURED VALUE

Active risk management depends on information. Company needs flow-up and update of the information as part of identifying risk factors and the probability of manifest [11], [12].

Following chapter deals with and summarizes particular information necessary for calculation of the insured value. Then, the influence on the insured value is described.

#### A. Specification of Information Affecting the Insured Value

Correctness of the insured value is of the highest importance for the policyholder. According to the policy conditions and policy act the policyholder is responsible for correctness of the insured value. To determine the insured value correctly by a policyholder, it is necessary to pay attention to the right value of particular items of the calculation. As it was mentioned before, loss of profit and fixed costs must be calculated and counted up. Or net revenues can be calculated and variable costs must be subtracted from them. The latter procedure is usually used by companies. Each insurer in the Czech Republic has its own methodology for the calculation.

When the insured value is calculated, it is necessary to consider a business plan of the company. The insured value makes the maximum value for indemnity. If an indemnity limit is agreed, the maximum is this limit. Indemnity limit is agreed compulsorily with the additional threats. The amount of the limit depends on the policyholder and it is suggested by an insurer.

Items affecting the insured value are shown in the following table. Each item of the calculation must be explained correctly. Therefore, it is necessary to gain information for an accurate calculation. The method of calculation is based on policy conditions and questionnaires of companies, especially from Česká pojišťovna (Czech insurance company), which is the leader of market in the Czech Republic.

Items of the calculation		
Net revenues (N) – profit part	$N_1$	revenues from sales of goods
	$N_2$	revenues from sales of (own) products and services
	$N_3$	change in stocks of own products
	$N_4$	activation
	$N_5$	other operating revenues
Variable costs (V) – costs part	$V_6$	costs paid for goods sold
	$V_7$	material and energy consumption *
	$V_8$	services (external costs) *
	$V_9$	premiums depending on turnover
	$V_{10}$	license fees
	$V_{11}$	other operating costs
	$V_{12}$	loan interests

Table VI Items included in the calculation

\*  $V_7 + V_8$  = total intermediate consumption (services, materials and energy consumption)

Formula for calculation of the insured value (2) can be recorded in the following way:

$$IV = N_1 + N_2 + N_3 + N_4 + N_5 - V_6 - V_7 - V_8 - V_9 - V_{10} - V_{11} + V_{12} \quad (3)$$

Items  $N_5$ ,  $V_7$ ,  $V_8$ ,  $V_9$ ,  $V_{10}$ ,  $V_{11}$  a  $V_{12}$  cannot be found exactly according to the requirements of the calculation in profit and loss account. It is necessary to make corrections based on operating financial reporting of the client.

Items  $N_1 - N_5$  represent net revenues, i.e. revenues without VAT, consumer taxes, receivables, bad debts etc. Item  $N_3$  includes difference between final and initial stocks of own products. Decrease in these stocks means decrease in net revenues, increase in stocks means increase in the net revenues. Item  $N_4$  stands for outputs produced with own overheads so that the manufacturing operation is supplemented. Item  $N_5$  represents net revenues for performances provided to third persons. These performances are regular and run together with the main business activities of the company.

Items  $V_6 - V_{12}$  represent variable costs and they do not arise during interruption of a business, and therefore they are not dependent on turnover of a company. Item  $V_6$  stands for costs related to purchase of goods for the purpose of resale.  $V_7$  means total amounts of raw materials, materials, energies and additional substances used at manufacturing or with provision of services. It is important to set estimated share of inevitable expenses at the time of business interruption. This share will create fixed costs. Insurers recommend share for fixed costs of 20-30% of overall costs. Thus, variable costs share ranges from 70 to 80% of overall costs. Item  $V_8$  represents overall

expenses of companies for their outputs, such as rent, services of consultancy companies, payments of fees to transport companies, etc. Estimated share of inevitable expenses at the time of business interruption is to be determined from profit and loss account. This share makes fixed costs again. Recommended share from insurers is the same as with item  $V_7$ , i.e. 20 - 30% of overall costs. Items  $V_9 - V_{12}$  must be sought after from the operating financial reporting of a policyholder. Item  $V_9$  stands for costs paid for of such business activities that are directly dependent on turnover. It includes expenses such as of transported products or goods. Item  $V_{10}$  represents costs for license fees paid according to the contract with a license subject for each product made. Item  $V_{11}$  includes operating costs referring to item  $N_5$  (other operating revenues). The last item  $V_{12}$  represents loan interests. It is necessary to calculate only that part of loan interests which is related to operating activities of the company. This item does not include interests from financial operations loans. After calculation the item  $V_{12}$  is to be included in variable costs but as a minus amount, thus it will be added. A business plan forms another information which enters the insured value. Profit and loss account covers last accounting period and does not show the future of the company. The company must consider its development for next year and this development must be reflected in the given insured value.

Indemnity limit also creates important information related to the sum insured. Indemnity limit does not mean compensation of the sum insured and "non-application" of the under. Indemnity limit is a restricting amount applied in case of a claim caused by a threat related to the indemnity limit. If the insured value makes CZK 50m and indemnity limit for floods makes CZK 20m, then the maximum indemnity in case of damage caused by floods is the amount of CZK 20m.

As for the annual sum insured, it must be minimum equal to or it must be higher than personal costs and depreciations reached together for this period. The company must earn money at least for these costs.

#### *B. Releasing of the Information Related to the Determination of the Insured Value*

Knowledge of information for determination of insured value directly influences the amount of premium and insurance benefit. Some insurance companies have completed the questionnaire for application of estimative model, but some of them go out from general definition in law and insurance condition and determination of sum insured is business of insurance holder, who is responsible for correct amount in the insurance contract.

Knowledge of information for calculation of sum insured is one of the parameters, which effect quality of insurance product. Information affecting determination of the insured value can be found in the Policy Act, in conditions and in the questionnaire submitted by an insurer. Some information is stated only in a particular policy in contractual form which does not comply with conditions. Then there is often an

agreement about under with a policyholder. This agreement guarantees that the insurer will not apply the under if the sum insured is lower than the insured value maximum by 15%. Except for the items of the calculation, it is also important to focus on definition of financial loss, insured value and sum insured.

Following Table VII provides basic information for correct determination of the insured value. YES means that the information can be found in the relevant document, NO means that the information cannot be found there.

Information	Law	Insurance conditions	Questionnaire
definition of financial loss, sum insured, insured value, indemnity limit	YES	YES	YES
liability for agreed sum insured	YES	YES	NO
item of the calculation $N_1, N_2, N_6, V_8, V_9, V_{10}, V_{11}, V_{12}$	NO	YES	YES
item of the calculation $N_3, N_4, N_5$	NO	NO	YES
correction of items $N_5, V_7, V_8, V_9, V_{10}, V_{11}$ and $V_{12}$	NO	NO	YES
consideration of the business plan	NO	NO	YES
limits for minimum sum insured	NO	NO	YES

Table VII Information affecting correct determination of the insured value

#### *C. Determination of Intensity of the Influence of Information on the Insured Value*

In this chapter we can find calculation of sum insured for business interruption. The calculation is based on comprehensive information from the Ministry of Industry and Trade of the Czech Republic (hereinafter referred to as MIT), and it is intended for an aggregate sum insured for industry and services [13]. Then, the average sum insured for a company is determined. The impact of particular items of the calculation is given in percentage. Items which are not calculated in profit and loss account, except for  $V_7$  and  $V_8$ , are expressed by zero value. Items  $V_7$  and  $V_8$  are shown in total value, and it is 70% from the overall item for intermediate consumption. Their value is often zero or very low and thus insignificant in relation to the overall insured value.

Table VIII shows results of the determination single items entering to the model for the calculation of insured value. Introduced rules are resource. The table also shows calculated amount of insured value (aggregate and average) Items net revenue  $N_2$  and variable cost  $V_{7+8}$  for industry are with the highest influence.

	Aggregate -CZK in thousands (956 companies)	Average per company - CZK in thousands	Influence on IV -In %
$N_1$	225,796,477	236,189	4.99
$N_2$	2,617,056,508	2,737,507	57.93
$N_3$	-9,323,857	-9,753	0.21
$N_4$	17,563,018	18,371	0.39
$N_5$	0	0	0.00
$\Sigma$	<b>2,851,092,146</b>	<b>2,982,314</b>	<b>63.52</b>
$V_6$	190,629,298	199,403	4.22
$V_7$	1,457,338,552	1 524,413	32.26
$V_8$			
$V_9$	0	0	0.00
$V_{10}$	0	0	0.00
$V_{11}$	0	0	0.00
$V_{12}$	0	0	0.00
$\Sigma$	<b>1,647,967,850</b>	<b>1,723,816</b>	<b>36.48</b> <b>100.00</b>
$IV$	<b>1,203,124,296</b>	<b>1,258,498</b>	

Table VIII Calculation of the insured value for industry

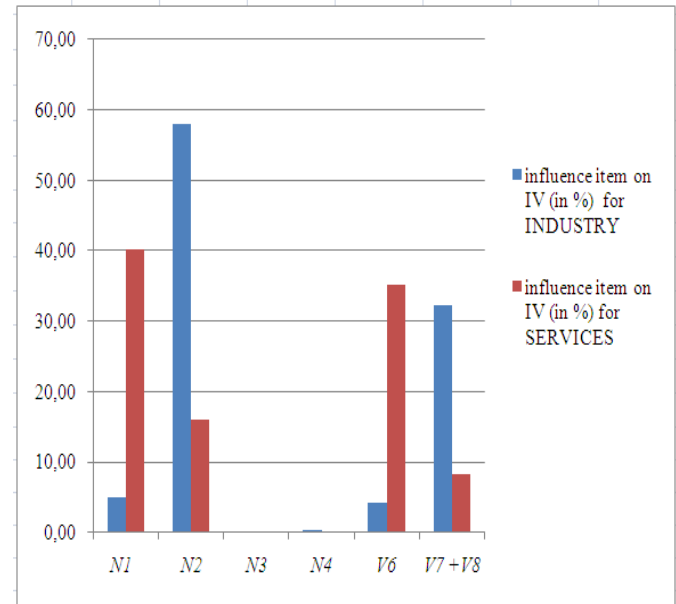
Table IX indicates the same items and value of calculation as previous, but for services. On the basis of comparison of percent values, it is obvious that the highest value is in item net revenue  $N_1$  and variable cost  $V_6$ .

	Aggregated -CZK in thousands (316 companies)	Average per company -CZK in thousands	Influence on IV -In %
$N_1$	1,026,659,717	3,248,923	40.17
$N_2$	409,423,143	1,295,643	16.02
$N_3$	-455,388	-1,441	0.02
$N_4$	5,714,773	18,085	0.22
$N_5$	0	0	0.00
$\Sigma$	<b>1,441,342,245</b>	<b>4,561,210</b>	<b>56.43</b>
$V_6$	900,697,296	2,850,308	35.24
$V_7$	212,992,651	674,027	8.33
$V_8$			
$V_9$	0	0	0.00
$V_{10}$	0	0	0.00
$V_{11}$	0	0	0.00
$V_{12}$	0	0	0.00
$\Sigma$	<b>1,113,689,947</b>	<b>3,524,335</b>	<b>43.57</b> <b>100.00</b>
$IV$	<b>327,652,298</b>	<b>1,036,874</b>	

Table IX Calculation of the insured value for services

Following graph will compare percentage impact of individual items of calculation on resulting insured value for industry and services. The horizontal axis shows individual

non-zero items of the calculation and the vertical axis shows percentage expression of sum of all absolute values of all items ( $N_1 + \dots + V_{12}$ ).

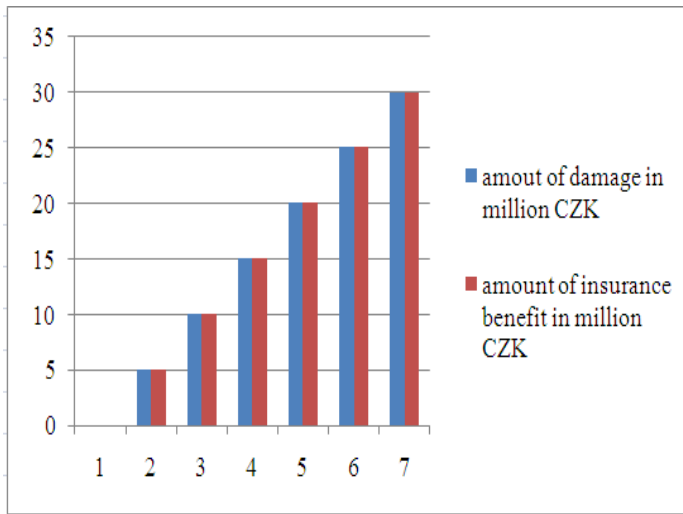


Graph 1 Percentage influence of items of the calculation on the insured value

The graph clearly shows that item  $N_2$  has the greatest influence as for the industry and  $N_1$  for services, then follows the item  $V_6$  for services and the overall item  $V_7 + V_8$  for industry. The smallest influence have the items  $N_3$  and  $N_4$  for industry and also services, these items do not even reach the value of 1%.

#### D. Determination of Influence of the Insured value on the Insurance Benefit

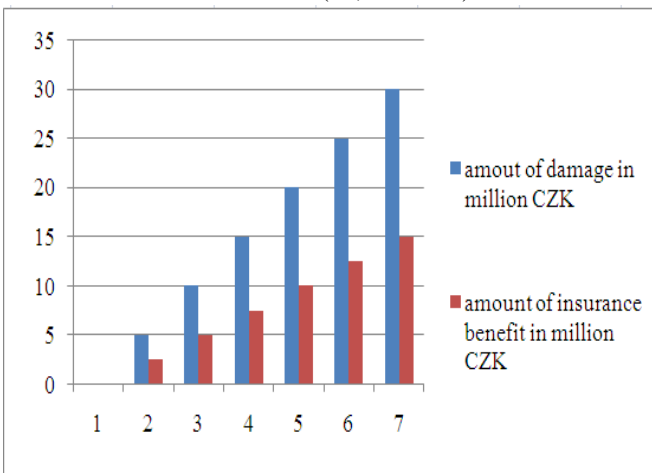
Separate items of calculation influence the final insured value. The insured value is the sum insured in the insurance contract. Correct determination of sum insured impacts on the amount of premium and on insurance benefit. Three cases can occur. In the case of correct valuation of sum insured, the risk of underinsurance or overinsurance does not threaten. The benefit responds to occurring damage. The example is illustrated in the following Graph 1 that the sum insured is determined as amount 50m CZK. If insurance rate is 0.5%, then annual premium will be 15,000 CZK. Graph 2 demonstrates the amount of insurance benefit in relation to occurred damage, which will be event. The deductible is not included in the calculation. There are 6 case of damage on the horizontal axis. There are financial amounts in the million CZK on the vertical axis.



Graph 2 Sum insured is equal to insured value

The other two cases mean wrong determination of the sum insured. If wrong calculation occurs then the sum insured is lower or higher than the insured value.

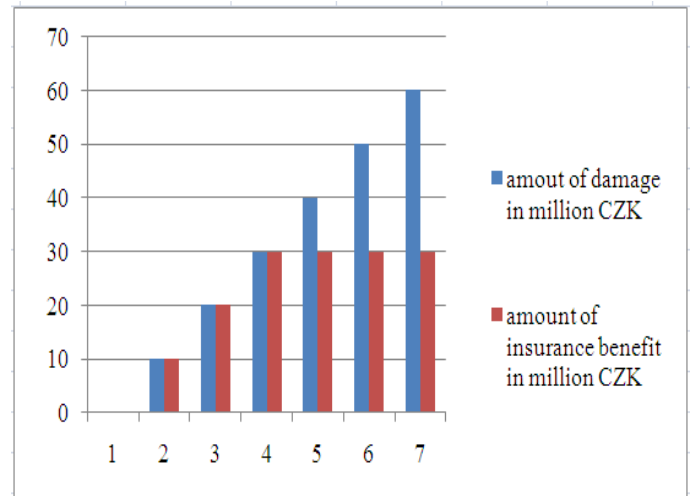
If the sum insured is lower than the insured value, company reduce to the benefit in proportion to as amount of the sum insured to the real amount of the insured value. It is the case of underinsurance [3]. Graph 3 demonstrates the case, when the sum insured is determined as one half of the insured value. The sum insured is 15m CZK, instead of the correct value 30m CZK. Graph describes five partial damages and one case of total damage and their benefits. Order of cases is on the horizontal axes. Financial amount as amount of damage and benefit is on the vertical axes. The benefit is equal to one half of the damage for each case. The premium in related to the sum insured with insurance rate 0.5‰ is 7,500 CZK, which is also one half of correct value (15,000 CZK).



Graph 3 Sum insured is lower than insured value

If the sum insured is higher than the insured value, then it is case of overinsurance [3]. Graph 4 demonstrates the case, when the sum insured is determined as 60m CZK. The premium in related to the sum insured with rate 0.5‰ is 30,000 CZK. The correct sum insured is 30m CZK. The real damage will be paid in the case of benefit. It is not possible to

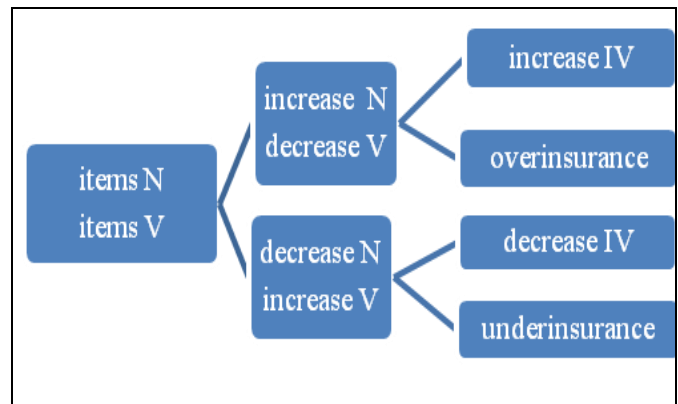
pay higher benefit than is the correct sum insured. Order of cases is on the horizontal axes. Financial amount as amount of damage and benefit is on the vertical axes.



Graph 4 Sum insured is higher than insured value

Underinsurance or overinsurance means the negative financial impact on insurance holder in both cases. In the case of underinsurance, it is reduction of the insurance benefit during the event. In the case of overinsurance, it is higher amount of premium during valid contract.

Items of revenues and variable costs have diverse influence on calculation of the insured value. Following scheme depicts formation of under or over in case of wrong determination of the insured value due to increase or decrease in items of the calculation.



Scheme 1 Direction of the influence of the items of calculation on the insured value

#### IV. CONCLUSION

The article is focused on the issue of insured value for business interruption. Emphasis is put on adequate provision of information to a company – future policyholder- during negotiations about the sum insured included in the policy. Determination of the insured value (sum insured according to the policy) is very important because the sum insured creates the intensity of protection. The aim of the agreed is to gain financial compensation for recovery of destroyed or damaged things in case of the claim (event). It is, of course, possible

only if the insured value of the property and financial loss is determined correctly.

The theoretical part of the article is devoted to a product including the model for calculation of the insured value. Hypothesis about the influence of information on the insured value and intensity of this influence is stated.

The practical part is concentrated on analysis and comparison of information affecting the insured value. The information can be found in legal acts, conditions and questionnaires. There is also an option of differing agreements which are fully individual and depend on the needs of a client. This information cannot be found in any of those documents mentioned before, it is included in particular policies. Then, the calculation of the insured value by method of modelling is carried out. Data for calculation are collected from aggregate information of the Ministry of Industry and Trade of the Czech Republic. The insured value is calculated in an aggregate way for industry and services and also by means of averages for an individual company for industry and services.

The average sum insured makes CZK 1,258,498 for industry and CZK 1,036,874 for services. The influence of the items of the calculation is set by percentage and is based on the same data as it was with the calculation of the insured value. The outcome is that the influence is different for industry and services. The greatest influence has the item including revenues for sales of own products and services, category of industry (57.93%); and revenues for sales of goods, category of services (40.17%). Then there are items of variable costs, item of costs for goods sold in the category of services (35.24%) and item of intermediate consumption for industry (32.26%). The remaining items do not reach influence of at least 10%. The influence of net items and variable costs is opposite as it is obvious from the arrangement of the model used. Last part of paper also shows wrong calculation of amount of insured value. Wrong valuation has influence on insurance holder by negative financial impact, in case during payment of the premium (higher amount) or during receipt of insurance benefit (lower amount).

If a company is interested in opening an, then it is necessary to determine all items of the calculation correctly. To reach the correct determination information, which is not always public, must not be underestimated. The calculation of the sum insured according to this article and expressing of the influence on the insured value cannot be generalized. Each company is specific and the influence of the items can differ from this article.

#### REFERENCES

- [1] Swiss Reinsurance Company, *Business interruption insurance*. Zurich: Swiss Re, 2007, pp. 47. Accessible also on the Internet: <[http://media.swissre.com/documents/pub\\_business\\_interruption\\_insurance\\_en.pdf](http://media.swissre.com/documents/pub_business_interruption_insurance_en.pdf)>
  - [2] Act No. 277 as of 22nd July 2009, on and on amendment of related acts as amended. The Czech Republic.
  - [3] Act No. 37 as of 17th December 2003, on policy and on amendment of related acts as amended. The Czech Republic.
  - [4] T. Cipra, *Actuarial mathematics-theory and practice*. Prague: Ekopress, 2006, pp.399.
  - [5] P. Marin, C. Ion, A. Florin, H. Natalita and M. Grigoriu, "Risk management," in *Proc. International Conference on Risk Management, Assessment and Mitigation*, Romania, 2010, pp. 414-418.
  - [6] J. Daňhel, E. Ducháčková, O. Poul, P. Sosík, P. Vinš, *Theory..* Prague: Professional Publishing, 2005, pp. 332.
  - [7] L. P. Paliu, G. Dobrota and A-G. Babucea, "Cost assessment of activity risks," in *Proc. International Conference on Risk Management, Assessment and Mitigation*, Romania, 2010, pp. 391-395.
  - [8] E. Ducháčková, *Principles of and industry*. Prague: Ekopress, 2003, pp.178.
  - [9] J. Hora, J. Šulcová, A. Zuzáňák, *Guide for agents*. Prague: Linde, 2004, p.p.349.
  - [10] Česká pojišťovna, a.s., *Additional conditions for business interruption*. 2010.
  - [11] G. Dobrota, L. P. Paliu and G. A. Babucea, "Risk management at the level of economic agents within the context of sustainable development," in *Proc. International Conference on Risk Management, Assessment and Mitigation*, Romania, 2010, pp. 380-385.
  - [12] M.H. Balteanu, "Professional risk management using computerized monitoring," in *Proc. International Conference on Risk Management, Assessment and Mitigation*, Romania, 2010, pp. 51-55.
  - [13] Ministry of Industry and Trade of the Czech Republic, *Financial analysis of business sector in 2009*. Accessible also on the Internet: <<http://www.mpo.cz/dokument76325.html>>.
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- PŘEČKOVÁ, L. Oceňování majetku pro potřeby pojišťovnictví v České republice (Valuation of property for purpose of in the Czech Republic). In *Finanční řízení podniků a finančních institucí*. Ostrava : VŠB TU, 2009. ISBN978-80-248-2059-0.
- PŘEČKOVÁ, L. Pojišťovací zprostředkovatelé na pojistném trhu v České a Slovenské republice ( intermediary on market in the Czech republic and Slovakia). In *Acta academica karviniensia, č.1/2009*, Karvina : OPF SLU, 2009. s.189-199. ISSN:1212-415X.
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