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UNDERINSURANCE OF REAL ESTATE: A THREAT TO POLICYHOLDERS AND INSURED ENTITIES

Hana Janáčková[1], Lenka Přečková[2*]

[1] *VSB Technical University of Ostrava, 17. listopadu 2172/15, 708 00 Ostrava-Poruba, Czech Republic, e-mail: hana.janackova@vsb.cz, ORCID 0000-0001-6910-6290*

[2] *Silesian University in Opava, School of Business Administration in Karviná, Department of Finance and Accounting, Univerzitní náměstí 1934/3, 733 40 Karviná, Czech Republic, e-mail: preckova@opf.slu.cz, ORCID 0000-0002-1973-3293*

** Corresponding author*

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ABSTRACT

The aim of the article is to demonstrate the risk of underinsurance in selected production halls used for business activities in the Czech Republic by means of a case study. The case study determines the insured value in the new price category for three selected production halls. New price is a specific term for property insurance in the Czech Republic and means the replacement value of the property. The cost method of valuation is used to calculate the new price. The insured value is determined by an insurance broker, and two brokerage companies were approached for this purpose. The replacement cost is determined by the independent property appraiser using the valuation decree applicable from 1 January 2024. The case study compares the calculated new prices, assesses their level in terms of the risk of underinsurance and then makes a suggestion of problem areas that should be addressed in the Czech Republic, as they put the policyholder at risk. The results of the case study show an asymmetry of information between the policyholder and insurer. This is due to unavailable or unclear, yet very important information for the policyholder. In order to reduce information asymmetry and the occurrence of underinsurance, it seems important that all insurers follow an explicit procedure leading to the determination of the insured value, which would be known to the policyholder prior to the conclusion of the insurance contract. It seems appropriate to use the current valuation decree, which has been updated annually in the Czech Republic for 35 years, for the procedure of determining the insured value.

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1. Introduction

The article analyzes the current state of determining the insured value of immovable property for the purpose of arranging insurance in the Czech Republic. It highlights the current situation on the Czech insurance market regarding the risk of incorrectly determined insured value, the liability of the policyholder for the determination of the sum insured and the subsequent consequences in the event of a claim. As the authors Holzheu and Turner (2018) note from a historical perspective, most underinsurance of extreme events relates to climate-related events, such as floods and windstorms, but in terms of expectations, earthquakes account for the largest share of underinsurance. This "historical" topic has been discussed in the Czech Republic for a long time with varying intensity, which increases with unexpected catastrophic events, as was the case, for example, in 2021, when a tornado caused the destruction of several municipalities in South Moravia and floods in our territory. During these catastrophes, problems with insufficient insurance coverage come to light, due to the incorrectly determined insured sum of the property agreed on in the insurance policy, which should be equal to the insured value of the immovable property. After catastrophes, insurance companies and policyholders (policyholder/insured/ beneficiary are considered to be the same person) begin to revise insurance policies and set limits and rules for new policies. After such significant damages, legislative changes may occur, which is the current case in the Czech Republic. The authors do not see a problem in the determination of the insurable value of residential immovable property, as calculation methodologies are developed in the Czech Insurance Association (hereinafter referred to as CIA) and in insurance companies, but they recognize a problem in the determination of the insured value for commercial immovable property, e.g. in production halls, for which there is currently no clear methodology for the determination of the insured value and the responsibility for the determination lies with the insurers. In such a case, there is a significant risk of underinsurance.

The area of valuation of items in the case of insurance is, as already mentioned, a debated topic and there are a number of unresolved issues in this area, which the article highlights. Insurance companies do not calculate the insured value when taking out insurance and leave the amount of the sum insured to the policyholder's proposal, for which the policyholder is fully responsible (the terms of the insurance companies' policy conditions). Insurance companies (or the insurer) follow their own unpublished, inconsistent and unclear methodologies. According to Act No 89/2012 Coll., Civil Code, as amended (Article 2814, hereinafter referred to as Civil Code), the insurer negotiating the insurance contract is the proposer of *"the upper limit of the insurance benefit, which is the sum insured in an amount corresponding to the insured value of the insured property at the time of the conclusion of the insurance contract*". The insurance company has the right to review the insured value of the property at the time the insurance is taken out. It follows from the Civil Code that insurers do not propose the insured value and therefore do not have to determine it. This problem is highlighted by Gmentová (2020), who points out that the insurance conditions delegate the responsibility for setting the sum insured to the policyholder, but there is no methodology available for setting it. The policyholder, even as an expert or property appraiser, may base the valuation on the valuation legislation but may not be aware that the market value or observed value is not the same as the insured value. Moreover, the market value or observed price is the price including the land, but only the value of the building is relevant for insurance, as land is not insured. Gmentová (2020) points out that, by this unclear approach of determining the insured value, policyholders may perceive insurance underwriters as fraudulent. Gmentová (2020) calls the responsibility of the policyholder (or also the insured) for setting the sum insured "*a bit of a scam on the customer*". These negative experiences of policyholders with insurance lead to a reduction in insurance trust, as reported in Courbage and Nicolas (2021) or Schanz (2009), and hence a reduction in the shame of the target for insurance purchase.

The procedure for determining the insured value is different in the case of insurance of immovable property used for residential purposes or immovable property used for business purposes. The difference lies in the fact that in the case of the insurance of, for example, a family house, insurers may, at the request of the prospective insured, determine the insured value of the immovable property or determine the insured value on the insurers' website (calculator) or on the CIA's online calculator. In contrast to the above-mentioned insurance of immovable property used for business purposes, there is no manual or calculator for calculating the insured value, but the responsibility for determining the sum insured always lies with the policyholder, which follows from the insurance companies' terms and conditions and the Civil Code. It follows from these facts that the risk of underinsurance for production halls may be higher than for immovable property for dwellings.

The article focuses on the issue of determining the insured value of entrepreneurs' immovable property, specifically a hall used for business. Production halls represent active business activity or storage of tangible movable assets. If a commercial hall were to be damaged, it may also result in lost profits and a halt to the entire business. The authors have dealt with this issue earlier for the area of family houses, when they pointed out this sensitive and unresolved topic in the form of a case study and indicated that it is advisable to negotiate an amount of insurance for family houses in the amount of the calculated replacement cost (i.e. the insured value in the form of a new price) according to the valuation decree, with a possible increase. The use of the valuation decree is also recommended by Nemeček and Janata (2010). The authors also stressed that, after the conclusion of the insurance contract, the policyholder should monitor the development of the prices of immovable property and react to changes by changing the sum insured in the insurance contract. Since this problem is found in all types of immovable property and this area is sporadically studied, the authors want to highlight, as they have previously stated, the problem in valuing production halls for the purpose of arranging insurance.

To begin with, it is important to briefly analyze one of the most important legal norms, which is the new Czech Civil Code, as well as the literature on insurance-related valuation to show where the essence and the starting point of further research lies. Those interested in insurance have to refer to the legislation in force, in particular the aforementioned new Civil Code (selected provisions of § 2756 - § 2872 related to insurance) and the insurance terms and conditions, which are an integral part of the insurance contract. Understanding the terminology is complicated by the fact that each insurance company has its own terms and conditions of insurance, which are not always identical. Under the new Civil Code (Article 2811), it is stipulated that in the case of "*damage insurance, the insurer shall provide an insurance benefit that compensates, to the extent agreed, for the loss of property resulting from the insured event*". Furthermore, Section 2814 (1) provides that the insurance benefit shall be limited to an upper limit, which is determined by the sum insured. As noted by Sandroni and Squintani (2013), differences between the sum insured and the insured value can potentially signal information asymmetry if one party has more accurate information about the risk than the other. The problem should be viewed from two points in time. The first asymmetry occurs at the time of insurance negotiation between the insurer and the policyholder (the insured), when the asymmetry in knowledge of the detailed policy conditions is definitely on the side of the insurer, as rights and obligations are mainly governed by the Civil Code, the policy conditions and the insurance contract. Provisions in the insurance contract deviating from the Civil Code or the policy conditions prevail. This asymmetry is amplified by the fact of setting the responsibility for the amount of the sum insured on the policyholder. And the second asymmetry arises at the moment of the occurrence of the insured event, when the insurer strictly follows its internal models in calculating the claim. The insured (beneficiary) cannot interfere (intervene) in the calculation process. The authors Sandroni and Squintani (2013) point to the understanding of the relationship between the sum insured and the insured value as being crucial for insurers to accurately price insurance and for policyholders to ensure adequate coverage. Any discrepancy or inconsistency between these values could indicate a potential information asymmetry that may affect the effectiveness of the insurance contract. Stiglitz (1977) was one of the first authors to draw attention to the information asymmetries in the insurance market and gave rise to further in-depth and intensive research. Subsequently, one can find a number of authors who have addressed information asymmetries in the insurance market from different perspectives (e.g. Cohen, 2005; Chiappori et al., 2006). Subsequently, the authors Daňhel et al. (2007) highlight this problem and draw further conclusions for the insurance market. The insurance market can be characterized as a market with mutual information imperfections regarding the occurrence of states of the world that result in a random event with negative financial consequences for both participants in the insurance transaction, with a slight preponderance on the supply side (Daňhel et al., 2007, pp. 18).

The insured value should therefore be equal to the sum insured at the date of the policy and is stated in the policy provisions in the form of a new or time price, and the new price should be the replacement cost and (replacement value) is used most often. While the time price (specific insurance term in the Czech Republic) is used exceptionally. If a time price is agreed, then the calculation would be based on the replacement value less wear and tear (see Ort & Ortová Šeflová, 2017, pp. 41).

The new price is not defined in the legislation. The definition can be found in the insurance companies' policy conditions and its content is essentially the same. For example, according to the insurance terms and conditions of Generali Česká pojišťovna (2024), the new price means: "*the price at which the insured object can be purchased as a new, unworn object of the same kind, purpose, quality and technical parameters at a given place and time. If the insured object is a building, its new price means the price of a new building, i.e. the amount which would normally be required to build a new building of the same type, extent and quality in the given place, including the cost of drawing up the project documentation.*" This definition implies that the new price corresponds to the replacement value and therefore the cost approach to valuation should be applied. According to Cupal (2012), insured value is determined using a simplified cost approach by insurance specialists or qualified appraisers. The specific valuation methods for insurance in insurance companies are also highlighted by Majtánová and Sojková (2014). The authors Cupal et al. (2019) draw attention to the policyholder's risk in choosing the sum insured that should correspond to the insured value and propose a model for predicting the insured value for single-family houses only.

The risk of underinsurance arises in the case of a low new price (i.e., a sum insured lower than the insured value), as stated, for example, by Ducháčková (2015, pp. 56) or Ort and Ortová Šeflová (2017, pp. 42-43), and implies for the insured a benefit lower than the actual loss. In the case of underinsurance, the insurance does not fulfil its function because the insurance benefit will not be sufficient to repair or reinstate the insured item. The concept of underinsurance is also highlighted in a study by Pitthan and De Witte (2021), who discuss the emergence of underinsurance by analysing consumer behaviour. Why does underinsurance occur? There may be a number of factors. The sum insured affects the premium and the policyholder may be "motivated" by lower premiums, as pointed out by Smejkal and Rais (2013, pp. 752). Another reason may be the failure to increase the sum insured that was current at the date of the insurance contract, and thus the failure to take advantage of the possibility of indexing the sum insured and the premium to the average annual construction work index (Smejkal and Rais, 2013, pp. 752). A significant reason is very often the lack of knowledge of insurance terminology and valuation procedures among prospective policyholders. The opposite situation can also occur, where the insurance line is higher than the insured value and so-called overinsurance occurs. In this case, the claim will not be lower than the actual loss, but the policyholder pays a higher premium.

In the event of an insured event, the insurance benefit is calculated by the insurance company's adjuster, who verifies the insured value of the property at the time of the insured event and compares it with the insured amount agreed in the contract to determine the amount of underinsurance (insurance companies tolerate approximately 20% underinsurance). When calculating the insurance benefit, the adjuster may apply two different calculations of the insurance benefit, which is related to the double interpretation of underinsurance in the Civil Code (§ 2854, until 31.3.2024): "*If the sum insured at the time of the insured event is lower than the insured value of the insured property, the insurer shall reduce the insurance benefit in the same proportion as the amount of the sum insured bears to the actual insured value of the insured property.*" The double interpretation is related to the interpretation of the insurance benefit. The insurance benefit may be understood by the insurer as an assessment of the actual damage to the property or an assessment of the insurance benefit up to a maximum of the agreed sum insured.

The author Podávka (opojisteni.cz, 2022), in his article, gives an example of the reduction of insurance benefits for underinsurance as applied until 31 March 2024 in accordance with the new Civil Code. The example concerns an insured house with a replacement value of CZK 5 million, insured with a sum of CZK 3 million. In the case of a total loss, the interpretation can take two forms, either that of a "good" lawyer or that of a "bad" lawyer: "*In the case of a total loss (the whole house burnt down), the insurance claim is limited to the sum insured of CZK 3 million, to which the insurer applies underinsurance and thus pays only CZK 1.8 million (CZK 3 million × 0.6). A bad lawyer will argue that the law says "reduce the insurance benefit" and yet the insurance benefit is the maximum sum insured*". The second interpretation of the "good lawyer" is different because the insurance company applies underinsurance to the loss incurred. "*For a total loss of 5 million, it will just pay the maximum sum insured of 3 million (5 x 0.6).*" The difference between the claims for the two interpretations in this example is 1.2 million. Insurance companies have responded to the provisions in the new Civil Code (until 31 March 2024) in three ways:

- regulate the insurance benefit arrangements in the event of an insured event in the insurance conditions,
- used the same provision in the binding conditions as is formulated in the new Civil Code,
- did not specify sub-insurance in the policy conditions.

This problem has been pointed out by other authors (e.g. Šídlo, 2022; Podávka, 2023; Kaplan, 2017). The discussion of insurance payouts was a central issue in 2021 in response to the devastating effects of the tornado in Moravia. As a result, the new Civil Code was amended as of April 1, 2024, with a proposed provision for underinsurance: "*If the sum insured at the time of the insured event is less than the insured value of the insured property, the amount corresponding to the amount of the loss, reduced in the proportion that the sum insured bears to the insured value of the insured property at the time of the insured event, shall be used to determine the amount of the insurance* *benefit*". This arrangement makes it clear that the amount of the underinsurance will be based on the amount of the actual loss.

2. Material and methods

The aim of the article is to demonstrate the risk of underinsurance in selected production halls used for business activities by means of a case study. The aim of the case study is not to quantify the risk of total damage to the selected production halls but to quantify the insured value in the new price category for selected halls used for business activities. The cost method of valuation used to calculate the new price is based on the valuation decree applicable as of 2024 and the methods used by brokerage companies. To achieve the objective, the following research questions are specified. *Do the procedures for calculating new prices differ according to the methods of brokerage companies and the valuation decree? Are there differences in the new prices submitted by brokerage companies? Are there differences between the new prices submitted by brokerage companies and the replacement value determined by the property appraiser using the valuation decree?* The procedure to achieve the objective is as follows. In the previous (introductory) section, the problem of determining the insured value was introduced from a general perspective, and the problem of underinsurance in the payment of insurance claims and the connection with the changing provisions of the Civil Code from 1 April 2024 was explained. In the following first step, the insurance market for business insurance is introduced. For these insurers, the total market share, the market share of non-life insurance and the market share of business insurance are presented. Data from CIA statistics are used for the calculation. Insurance companies that are members of the CIA represent more than 98% of the Czech insurance market. Three production halls are selected for the case study. The production halls, by their construction, protect the company's assets (production lines, crane, inventory, working machines) intended for business activities. Data on the size of the halls, their use and their age are taken from their project documentation and from the owners themselves. From this data, the replacement value (new price) is calculated according to the Decree No. 441/2013 Coll., as amended (the current price code) and this data has been submitted to insurance brokers (2 entities) to determine the new price according to their methodology, which will then be the sum insured in insurance policies. Insurance brokers do not publish the calculation methodology and therefore did not provide the authors with the calculation procedure. In the current environment of asymmetric information, it is not possible to examine in depth the differences in the methodologies of the insurance brokers and therefore the resulting new prices they set.

3. Results

The following Table 1 lists the insurance companies providing business insurance in the Czech Republic, comprising 14 out of 23 insurance companies offering non-life insurance in the Czech Republic (as of 2023) with the exact name of the commercial insurance company including the abbreviation used in the text of the article. Their market share can be found in Table 1.

Table 1

Market share of insurance companies in the Czech Republic (2023)

Insurance companies/insurers (ABBREVIATION)	Share of insurance company - total	Share of insurance company - non-life	Premium written (stipulated premium) - business insurance (thousand CZK)	Share of insurance company- business insurance
Allianz pojišťovna, a.s. (ALLIANZ)	11.6%	13.3%	2 707 303	10.4%
Colonnade Insurance S.A., os (COLONNADE)	0.9%	1.2%	1 075 265	4.1%
Česká podnikatelská pojišťovna, a.s. (CPP)	8.3%	9.4%	2 367 869	9.1%
ČSOB Pojišťovna, a. s., member of ČSOB Holding (CSOB)	9.0%	9.7%	2 759 441	10.6%
DIRECT pojišťovna, a.s (DIRECT)	2.0%	2.9%	268 955	1.0%
ERV Evropská pojišťovna, a. s. (ERV)	0.8%	1.1%	8 506	0.03%
Generali Česká pojišťovna a.s. (GCP)	24.1%	25.9%	7 779 368	30.0%
HALALI, všeobecná pojišťovna, a.s. (HALALI)	0.02%	0.03%	3 598	0.01%
HDI Versicherung AG, os (HDI)	0.4%	0.5%	591 871	2.3%
Hasičská vzájemná pojišťovna, a.s	0.6%	0.9%	561 063	2.2%

(HVP)				
Kooperativa, pojišt'ovna, a.s. (KOOP)	23.4%	20.3%	6 348 632	24.4%
MAXIMA pojišťovna, a.s (MAXIMA)	0.7%	0.9%	194 187	0.7%
Slavia pojišťovna a.s. (SLAVIA)	0.9%	1.2%	235 743	0.9%
UNIQA pojišťovna, a.s (UNIQA)	7.8%	7.9%	1 070 346	4.1%
Total			25 972 447	100%

Source: own study based on statistic of CIA.

Table 1 shows the market share of insurers offering business insurance in the Czech insurance market. It is not possible to find a calculation of the insured value on the websites of these insurers. All the information about insurance is available in the policy conditions, but the information does not concern the calculation of the insured value (calculation, procedures), but only the basic concepts of claims.

3.1 Case study

Table 2 below shows the price categories of the selected production halls. The new price is set by the insurance broker. Two brokerage companies were contacted. The reproduction value is determined by the independent property appraiser using the valuation decree applicable from 1 January 2024. The price categories are recorded in the table below. According to the description of the production halls, it can be assumed that the second hall could be problematic to insure (confirmed by one insurance company on the Czech insurance market based on the question asked). This is due to the age of 80the fact that it is 80 years old, the devastation of the external surfaces, damage to plumbing and the poor wiring. Time value insurance would be more appropriate for this hall. However, the brokers set new prices, as shown in the table.

The new price was determined by brokerage companies and was found to be based on a base value, which is adjusted by a clearance factor and a factor that takes into account the evolution of prices in the construction industry. The base value is based on the activity therein and whether it has a crane runway.

Table 2

Comparison of price/value categories of selected production halls in the Moravian-Silesian Region in 2024 (Czech Republic)

Hall	Price category	Insurance broker 1	Insurance broker 2	Difference
Hall 1 Nová Bělá, Ostrava 4 500 m^3 New	New price calculated by the insurance broker	24 330 000 CZK	22 374 800 CZK	8.0%
	Replacement price calculated using the valuation decree	18 937 500 CZK		22.2%
Hall 2 Hnojník 1 406 m^3 80 years	New price calculated by the insurance broker	11 740 000 CZK	11 054 500 CZK	5.8%
	Replacement price calculated using the valuation decree	4 846 300 CZK		58.7%
Hall 3 Vřesina, Opava 4 516 m^3 8 years	New price calculated by the insurance broker	25 400 000 CZK	17 928 900 CZK	29.4%
	Replacement price calculated using the valuation decree	6 590 700 CZK		74.1%

Source: own study, calculations submitted by insurance brokers and independent property appraiser.

According to the data in Table 2, a comparison can now be made. The new prices submitted by the brokers differ and the percentage difference is shown in Table 2, with the higher price always being the basis for the calculation. The new prices submitted by the brokerage companies are higher than the replacement value set by the independent property appraiser for all three production halls. For each hall, the percentage difference (see Table 2) between the new price and the replacement value is calculated, always taking the higher new price as the basis for the comparison.

The first case is the new hall in Ostrava in Nová Bělá. It is a hall built in 2024. The hall has a concrete structure and beams with a sandwich system. Both brokerage companies have set a new price. The difference in values is minimal (8% difference). There is a noticeable difference between the new price submitted by the brokerage companies and the replacement value determined according to the valuation decree. The difference is 22%. The increase in the new price by the brokerage company may be due to the caution associated with the possible increase in the value of the halls in the future.

The second case is an 80-year-old hall in Hnojník.

The hall is made of bricks. This hall is characterized by the previously mentioned wear and tear/damage. Both brokerage companies have set the new price at approximately the same amount, but significantly higher than what is determined by the valuation decree. The difference between the new price and the replacement value is almost 59%. It is important to point out that it would be necessary to take out insurance on the time value of this hall, i.e. to reduce the new price by the corresponding wear and tear. Insurance companies use a linear method to calculate wear and tear, but the method of calculation is not publicly traceable anywhere. In addition, it is not standard practice to negotiate a time value of the hall.

The third case is a hall 8 years old and located in Opava - Vřesina. This hall was approved in 2016 (eight years old). It is built of steel structures, the shell is made of metal sandwiches. There is a crane in the hall. Both brokerage companies have calculated the new price significantly higher than determined by the valuation decree, with the new prices are also being significantly different (by 29%). The difference between the higher new price and the replacement value is 74 %.

4. Discussion

The following summaries emerge from the case study:

– Insurance brokers overestimate the new price because they are aware that the policyholder is at risk of underinsurance, and thus a reduction in the insurance benefit in the event of a claim. The risk of underinsurance has been pointed out by a number of authors, e.g. Pitthan and De Witte (2021), Cupal et al. (2019), and Gmentová (2020). The reason for the overvaluation is probably the risk of a possible future increase in the new price of production halls on the Czech insurance market, which is related to the risk of underinsurance. The question regarding what level of increase would be acceptable in terms of predicting the future development of the property market remains. It is also important to note that an insurance broker (hereinafter referred to as the broker), pursuant to Act No. 170/2018 Coll., on the Distribution of Insurance and Reinsurance (hereinafter referred to as the Distribution Act), arranges insurance for the customer and signs a cooperation agreement in writing with the customer (Section 12). The job of the broker is, among other things, to assist the customer in the administration of the insurance and in exercising his rights under the insurance (Distribution Act, § 2). This assistance also entails the correct determination of the sum insured, but this does not mean that the policyholder's liability for the amount of the sum insured is thereby abolished. It is important to bear in mind that if the sum insured is higher (i.e. the new price calculated), the policyholder will pay a higher premium. The sum insured is the basic variable that goes into the calculation of the premium. In the case of the third hall, due to the high overestimation of the new price/insurance amount, the phenomenon of overinsurance is evident (see Civil Code, § 2853).
– In the event of an insurance claim, the damage incurred will be assessed by the claims adjuster, and the procedure is unknown. The adjuster will examine the amount of the sum insured in the policy and compare it with the current new price, and then decide on underinsurance. In insurance practice, underinsurance of 20% is usually acceptable to avoid reducing the insurance benefit.
– Also, it cannot be known at the time the insurance policy is taken out how the new prices/reproduction values will develop. Cupal et al. (2019) point out this fact and propose a specific model.
– For older production halls (Hall 2), according to the insurance conditions and insurance practice, it is important to determine the insured value in the time value category. In this case, the procedure for calculating the time value at the time of taking out the insurance is not known. Policyholders should know this information and determine the time price correctly. Seeing as how there is a risk of setting the insured value incorrectly and the risk of underinsurance, the following issues should be addressed. At what level of wear and tear does the insurer insure for the time price? How to does one calculate the time price since the procedure is not known? How will the claims adjuster go about calculating the insurance benefit?
– There is a noticeable asymmetry of information in the insurance market, as noted by Sandroni and Squintani (2013), which could be mitigated by unifying the procedures for repricing. The information asymmetry is amplified by the fact that the insurance relationship between the policyholder and the insurer, according to

established insurance practice, is usually entered into by insurance brokers, who promote the conclusion of insurance contracts and may also err in their interpretation of policy conditions or legislation.

- The insurer may use an expert opinion or estimate to be prepared for the purpose of insurance.
- The risk of underinsurance has a real impact on the policyholder, who is fully responsible for the determination of the sum insured in the insurance contract, which is related to the calculation of the new price (the sum insured is to be equal to the insured value). A risk arises due to the lack of a methodology for calculating the new price, the inconsistent procedure for calculating the new price by individual insurance companies, and the inconsistent calculation procedures used by brokerage companies. Furthermore, this may be supported by the lack of clarity of the concepts of sum insured and insurable value, new price, time price, but also the purchase price that may be available to the prospective buyer as a result of the purchase contract. For the purchase price, the risk may also be increased by the fact that the price includes the cost of the land.
- There is also a further question concerning the underinsurance observed in the settlement of claims for insurance contracts concluded before 1 April 2024.

5. Conclusions

The aim of the article is to demonstrate the risk of underinsurance in selected production halls used for business activities by means of a case study. The purpose of the case study is to quantify the insured value in the new price category for selected halls used for business activities. The cost method of valuation used to calculate the new price is based on the valuation decree applicable as of 2024 and the methods used by brokerage companies. To achieve the objective, the following research questions are specified: *Do the procedures for calculating new prices differ according to the methods of brokerage companies and the valuation decree? Are there differences in the new prices submitted by brokerage companies? Are there differences between the new prices submitted by brokerage companies and the replacement values determined by the property appraiser using the valuation decree?*

Do the procedures for calculating new prices differ under the brokerage companies' methodology and the Valuation Decree? Thanks to the offers submitted by the brokerage companies, it can be deduced that the calculation procedure is based on the cost method. The brokerage companies and the valuation decree are based on the built-up area of the hall and the basic value, which is based on the structural elements of the hall and the disposition of the crane hall. The brokerage companies, like the Valuation Ordinance, adjust the basic value by coefficients, but the coefficients used by the broker are different and their amount cannot be deduced. It can be concluded that the brokerage companies use a modified calculation procedure according to the valuation decree.

Are there differences in the new prices submitted by brokerage companies? The case study demonstrates such differences. The highest difference in the new price is for the third hall, which is 8 years old and has a crane runway, and amounts to nearly 30%. A further difference is seen for the first new hall, with the difference in new prices being 8%. The second hall, which is worn and damaged, was valued by the brokerage companies at the same level. The brokerage companies agreed to value this hall at time price.

Are there differences between the new prices submitted by brokerage companies and the replacement values determined by the property appraiser using the valuation decree? The case study showed significant differences in this aspect. The highest difference, at 74%, is for the third 8 year old hall. For the second oldest hall, the difference is almost 59%, and the first new hall shows a difference of 22%. The reason for this difference can be seen in the fact that brokers hedge against the occurrence of underinsurance in the future, but this means higher premiums for the policyholder. The policyholder is not in the position to check the new pricing procedure but is fully responsible for the new price.

To reduce information asymmetry and reduce the risk of underinsurance, the authors suggest that all insurers follow an explicit procedure that is known to the policyholder before the policy is taken out. For example, the use of the valuation decree, which is updated annually in the Czech Republic, for the calculation of the insurable value would help to achieve uniformity. This is an area that would merit further research attention, particularly in carrying out further scenario analysis, for example on the level of compensation assuming total damage, which is now very topical in the wake of the devastating floods.

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