Identifying the priority methodology for reinsurer default risk assessment

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Abstract. The summarised methodologies for reinsurer default risk include such type of approaches as assessment of the impact of stress factors, individual models of risk assessment, capital adequacy assessment to cover risk, rating assessment, and evaluation by means of indicators of sustainability. The technology of identifying the priority methodology for reinsurer default risk assessment is improved. It is based on an integrated approach and covers selection criteria: based on public data; no need to involve additional experts for evaluation; simplicity of calculation and interpretation of assessment results; accuracy of calculation; no need to use special software for evaluation. It was determined that the methodology for reinsurer default risk assessment in an insurance company using solvency assessment tools according to EU requirements of Solvency II is a priority. The influence of the reinsurer default risk on the level of solvency of insurance companies (with the example of Ukraine) is determined. It was found that the capital requirement for counterparty default risk (SCR_{def}) has the highest solvency burden, compared to the capital requirement for non-life underwriting risk (SCR_{nl}), the capital requirement for health underwriting risk (SCR_h), the capital requirement for market risk (SCR_{mkt}) and the capital requirement for operational risk (SCR_{op}). The results obtained are of practical value and can be used by insurance companies to monitor the reinsurer default risk.

Keywords: reinsurer default risk, insurance companies, risk assessment.
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1. Introduction

The value of reinsurance is shown in the protection mechanism of a particular insurance company and the insurance market as a whole, as it protects a direct insurer against financial losses, which would be incurred by the need for insurance payments and claims on insurance contracts without reinsurance coverage. Often reinsurance goes out of the country and maintains the required balance in the activities of insurers by entities from abroad.

The efficiency of using reinsurance shows an increase in an insurer's capacity, because majority of these are not able to take very large and unexpected risks. Researchers examined the problem of risk and uncertainty that both insurer and reinsurer face. A wide range of issues related to the provision of reinsurance in insurance companies is reflected in the works of such researchers as Abinzano [2014], Balbása [2015], Bojko [2011], Chen [2017], Cheung [2014], Dyachkova [2010], Kuzmenko [2013], Pozdnyakova [2010] and others.

Reinsurance helps insurance companies to take very large and unexpected risks. At the same time, using reinsurance raises the question of reinsurer default risk. This risk is very important for insurance companies to cover unexpected risks [Balbása et al. 2015; Chen et al. 2017; Cheung et al. 2014]. Reinsurer default risk was reflected in scientific work, which in particular examined the effects of operational risk on fair premiums and solvency capital requirements under Solvency II [Gatzert, Kolb 2014].

Canadian researchers assumed that the initial capital or reserve of a reinsurer is regulated by the value-at-risk of its promised indemnity [Abinzano et al. 2014; Cai et al. 2014]. However, insurance regulation needs to use different methods to identify and cover reinsurer default risk. The European risk-based regulatory framework Solvency II is very important for insurance companies. Thus, this raises the question of how to identify the priority of the methodology for reinsurer default risk assessment and proves its relevance. It should be noted that previous research on the subject has not investigated problems concerning reinsurer default risk assessment in insurance companies, which proves the originality of this research and demonstrates its relevance.

This article aims at identifying the priority methodology for reinsurer default risk assessment. The tasks of the article are: (1) to identify the theoretical framework of the assessment methodology; (2) to identify the priority methodology for reinsurer default risk assessment; (3) to assess the effect of the reinsurer default risk on the solvency of the insurance companies (with the example of Ukraine).

The methodological basis of the study is the hierarchy analysis method by Saaty used for identification of the priority methodology for reinsurer default risk assessment. In studying and generalisation of scientific research, the methods of comparison, analysis and synthesis were used. The influence of the reinsurer default risk on the level of solvency of insurance companies (with the example of Ukraine) is determined, using factoring analysis.

2. Theoretical framework of the assessment methodology

The researchers considered the effect of reinsurance on the activity of insurance companies. The research [Hudakova, Adamko 2016] conducted an analysis of insurance regulation, which should provide protection for policyholders and beneficiaries while promoting market stability through valuation and risk efficient capital allocation. An essential pillar in the structure of insurance regulation constitute capital requirements for insurance and reinsurance activities with respect to potential risks.

Reinsurer default risk reflects the possible losses due to unexpected default, or deterioration in the credit position of the reinsurer over the next 12 months [Directive of the European Parliament 2009]. Direct reinsurer default risk – a risk that the insurer does not receive the money, which is owed, because the other party, the reinsurer, announced a default on its obligations [Pukała et al. 2017]. Implementation of reinsurer default risk assessment is advisable in two directions: in predicting future impacts on the assessment of a possible reinsurer insolvency and diagnosis of the financial condition of the reinsurer.

In Ukraine, components have been established of an organizational provision that are presented as regulatory requirements to the reinsurer [The National Commission for State Regulation of Financial Services Market of Ukraine 2013], one of which is to monitor the level (rating) of the financial soundness of reinsurance of non-residents [The Cabinet of Ministers of Ukraine 2004]. Increased requirements for reinsurers, including non-residents, allowed identification of methods of evaluating their level (rating) which include "A.M. Best" (USA), "Moody's Investors Service" (USA), "Standard & Poor's" (USA), "Fitch Ratings" (UK), etc.

These are specific rating methods, which allow determination of the credit rating of the reinsurer. It is the insurance companies that use reinsurance which may be users of these methods. It is necessary to determine a general list of techniques for the assessment of reinsurer default risk in the insurance company, the use of which will allow the insurer to investigate the risks of reinsurance and participate in the evaluation process. Thus, in insurers' practice, there are a number of different and somewhat reasonable methods of evaluation of stability (of risk). However, these methods can test for the assessment of the financial stability or solvency of insurance companies. These methods can be used partially to evaluate the reinsurer default risk, however, given the specificity of reinsurer default risk.

The methodologies of risk assessment of reinsurers in insurance companies include assessment of the impact of stress factors [The National Commission for State Regulation of Financial Services Markets of Ukraine 2014], the individual models of risk assessment [KPMG 2002], capital adequacy assessment to cover the risk [CEIOPS 2012], rating assessment [National Rating 2016; Institute of Risk Analysis 2010; A. M. Best 2014; Fitch ratings 2014; Moody's Investors Service 2016; S&P 2016], and methodologies for evaluation by means of indicators of sustainability [The State Commission for Regulation of Financial Services Markets of Ukraine 2005]. Each of these methodologies of reinsurer risk assessment has the priority

of practical use. Thus, stress-testing is a promising method of risk assessment for the factors exerting the risk of an adverse character [The National Commission for State Regulation of Financial Services Markets of Ukraine 2014].

The individual models of risk assessment may rely on stress-resting instruments, and the need for detailed risk analysis in the modern practice of default risk assessment leads to more widespread use of internal models of risk by insurers.

The capital adequacy to cover the risks of an insurance company is calculated by the regulator within defined formulas: for each component of the overall index of solvency capital requirements a defined standard measure of vulnerability to risk, which consists of the necessary capital for individual risks and / or type of insurance in the overall index. This approach makes it possible to determine the solvency of the insurance company for the worst conditions – a reinsurer in default.

Credit rating (probability of insolvency, vulnerability to risk, and currency risk assessment) is evaluated by methodologies of rating assessment on a time horizon of the selected level of confidence. It should be noted that important when evaluating a forecast horizon is that the longer the term of forecasting, the harder it is to provide an objective assessment. Therefore, there is the problem of determining the optimal term evaluation.

Credit ratings may be short-term (describing the credit risk in the current term – one year) and long term (describing the credit risk in the long term – more than one year). In turn, the short-term and long-term ratings are divided into two groups of levels –investment and speculative.

Use of methods that are based on warning tests or evaluation methods using indicators of sustainability allow diagnosis of conduct aimed at early informing of existing weaknesses of a reinsurer based on retrospective analysis. Analytical methods, built on this approach, are aimed at early detection of functioning problems through the use of performance-indicators and their respective limits. Deviation of an indicator exceeding the threshold value indicates a possible threat to growth trends and other risks.

The process of assessing reinsurer default risk based on the rating methods domestic and international rating agencies is of particular urgency. Some rating methods, including analysis of indicators and criteria for methods of the IG "Expert Ukraine" assessment scoring center [Expert Ukraine 2006] and the "Institute of Risk Analysis" [Institute of Risk Analysis 2010], etc., are based on a common approach to assessment, including evaluation of:

– the current or retrospective financial condition of the reinsurer in the following areas: financial performance, business activity, insurance portfolio, the level of consumer confidence, the level of technology, quality of assets, distribution channels, internal risks and the relationship between them, etc.;
– the environment (changes in the economy and related industries, external risks, the effectiveness of state regulation, etc.) and market position;
– the reinsurance capacity to withstand internal and external risks (quality control, the amount of capital efficiency activities).

Thus, the groups of methods were identified for which using retrospective performance of reinsurance and prospective evaluation of adverse stress factors on reinsurance can be an alternative method to estimate the capital adequacy of the insurance company in case of reinsurer default risk (the failure to fulfill obligations to the insurer).

3. Selecting the priority methodology for reinsurer default risk assessment

The hierarchy analysis method by Saaty was chosen to define the priority methodology for assessing reinsurer default risk. The hierarchy analysis method by Saaty built on a gradual process of setting priorities and is systemic. The intensity of the interaction of the components of the hierarchy is estimated on the scale by Saaty [Liamiec, Teviashev 2004].

The hierarchical model of selecting priority methodology for reinsurer default risk assessment is based on a comprehensive approach that includes focus on hierarchy – the choice of methods for assessing reinsurer default risk, which is placed on top. Intermediate criteria of the selection of alternatives are calculation based on public data, no need to involve additional experts for evaluation, simplicity of calculation and interpretation of assessment results, accuracy of calculation, and no need to use special software for evaluation.

The methodological basis of the research is the hierarchy analysis method by Saaty, which is used to determine the priority of the methodology for assessing the risk of default by a reinsurer. The theoretical framework is based on the rating methods of domestic and international rating agencies, and also on Ukrainian regulations for insurance companies.

Diagram 1. Selecting the priority methodology for reinsurer default risk assessment
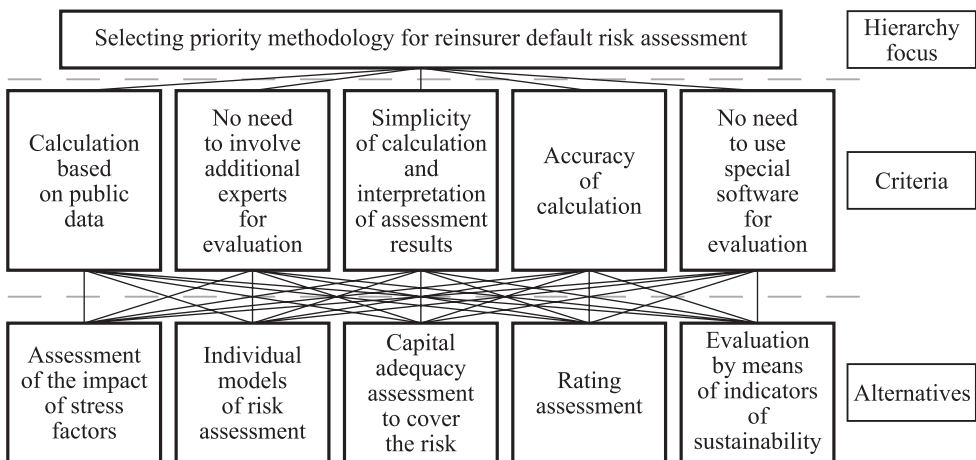
Source: Authors' own elaboration.

Alternatives for the assessment of the reinsurer default risk include the following methodologies: assessment of the impact of stress factors, individual models of risk assessment, capital adequacy assessment to cover the risk, rating assessment, and evaluation by means of indicators of sustainability (Diagram 1).

When selecting a methodology for assessing the reinsurer default risk (Figure 1), the experts chosen were scientists, managers and employees of insurance companies, as well as representatives of state authorities in Ukraine. In the analysis, the authors used points for the scale method by Saaty [Liamiec, Teviashev 2004] determined by odd numbers from 1 to 9 inclusively. For evaluation other integer values can also be used, as specified in the Table 1.

Table 1. The scale of assessment of methodology by Saaty

Mark	Value
1	Settings equivalent
3	The first parameter has slight strength
5	The first option prevails
7	The first parameter has significant strength
9	The first option has obvious strength
2,4,6	Interim evaluation measure benefits between neighbouring values

Source: [Liamiec, Teviashev 2004, p. 448].

Priority for selection criteria methodology for assessing the reinsurer default risk (Table 2) was defined based on the experts' assessment on a scale that is presented in Table 1 and pairwise comparison of different levels using the analytical hierarchy of selection criteria.

Table 2. Priority for selection criteria for identifying the methodology for assessing the reinsurer default risk

Alternative	I	II	III	IV	V	Priority of the weight ratio
I	1.00	3.00	0.33	0.20	3.00	0.125
II	0.33	1.00	0.33	0.33	0.50	0.039
III	3.00	3.00	1.00	2.00	0.50	0.307
IV	5.00	3.00	0.50	1.00	3.00	0.415
V	0.33	2.00	2.00	0.33	1.00	0.114

Source: Authors' own calculations.

Note: Alternatives: I – Assessment of the impact of stress factors, II – The individual models of risk assessment, III – Capital adequacy assessment to cover the risk, IV – Rating assessment, V – Evaluation by means of indicators of sustainability. Ratio of consistency: 0.1.

Based on the results of Table 3, the authors argue that the most significant criterion to justify the selection of priority methodology for assessing the default risk reinsurance in an insurance company is that of „Accuracy of calculation" (ratio weight 0.415), second place is ranked by the criterion "Simplicity of calculation and interpretation of assessment results" - 0.307 - the third criterion "Calculation based on public data" - 0.125, the fourth criterion "No need to use special software for evaluation" - 0.114 and the fifth criterion "No need to involve additional experts for evaluation" - 0.039.

The vector of priorities and coordination matrix selection criterion "Calculation based on public data" are given in Table 3. The results suggest that the greatest significance for the selection criterion "Calculation based on public data" belongs to the methodology for capital adequacy assessment to cover the risk that is first in rank (its priority is 0.561).

Table 3. Vector of priorities and consistency of matrix by selection criterion "Calculation based on public data"

Alternative	I	II	III	IV	V	Priority of the weight ratio	Rank
I	1.00	0.33	0.33	0.20	7.00	0.071	5
II	3.00	1.00	0.33	3.00	0.50	0.150	3
III	3.00	3.00	1.00	3.00	3.00	0.561	1
IV	5.00	0.33	0.33	1.00	5.00	0.183	2
V	0.14	2.00	0.33	0.20	1.00	0.035	4

Source: Authors' own calculations.
Note: Alternatives: I – Assessment of the impact of stress factors, II – The individual models of risk assessment, III – Capital adequacy assessment to cover the risk, IV – Rating assessment, V – Evaluation by means of indicators of sustainability. Ratio of consistency: 0.024.

Evaluation outcomes for the second priority selection criteria methodology for assessing the reinsurer default risk are shown in Table 4. The results show that the greatest significance for the selection criterion "No need to involve additional experts for evaluation" is also a method of estimating capital adequacy with the level of risk that is first in rank (its priority is 0.611).

Table 4. Vector of priorities and consistency of matrix by selection criterion "No need to involve additional experts for evaluation"

Alternative	I	II	III	IV	V	Priority of the weight ratio	Rank
I	1.00	0.50	0.33	0.14	7.00	0.066	5
II	2.00	1.00	0.20	3.00	0.50	0.102	3
III	3.00	5.00	1.00	3.00	3.00	0.611	1
IV	7.00	0.33	0.33	1.00	5.00	0.188	2
V	0.14	2.00	0.33	0.20	1.00	0.032	4

Source: Authors' own calculations.
Note: Alternatives: I – Assessment of the impact of stress factors, II – The individual models of risk assessment, III – Capital adequacy assessment to cover the risk, IV – Rating assessment, V – Evaluation by means of indicators of sustainability. Ratio of consistency: 0.007.

Evaluation outcomes for the third priority selection criteria methodology for assessing the reinsurer default risk are shown in Table 5. The results show that the greatest significance for the selection criterion „Simplicity of calculation and interpretation of assessment results" is also a method of estimating capital adequacy with the level of risk that is first in rank (its priority is 0.417).

Table 5. Vector of priorities and consistency of matrix by selection criterion "Simplicity of calculation and interpretation of assessment results"

Alternative	I	II	III	IV	V	Priority of the weight ratio	Rank
I	1.00	0.33	0.20	0.14	4.00	0.049	5
II	3.00	1.00	0.50	3.00	0.50	0.188	3
III	5.00	2.00	1.00	0.50	5.00	0.417	1
IV	3.00	0.33	2.00	1.00	5.00	0.307	2
V	0.25	2.00	0.20	0.20	1.00	0.040	4

Source: Authors' own calculations.
Note: Alternatives: I – Assessment of the impact of stress factors, II – The individual models of risk assessment, III – Capital adequacy assessment to cover the risk, IV – Rating assessment, V – Evaluation by means of indicators of sustainability. Ratio of consistency: 0.096.

Evaluation outcomes for the fourth priority selection criteria methodology for assessing the reinsurer default risk are provided in Table 6. The results show that the greatest significance for the selection criterion „Accuracy of calculation" which is the top priority when choosing method also has the methodology for Capital adequacy assessment to cover the risk that is first in rank (its priority is 0.653).

Table 6. Vector of priorities and consistency of matrix by selection criterion "Accuracy of calculation"

Alternative	I	II	III	IV	V	Priority of the weight ratio	Rank
I	1.00	0.33	0.20	0.14	5.00	0.045	5
II	3.00	1.00	0.20	3.00	0.33	0.105	2
III	5.00	5.00	1.00	2.00	3.00	0.653	1
IV	7.00	0.33	0.50	1.00	0.33	0.091	3
V	0.20	3.00	0.33	3.00	1.00	0.105	4

Source: Authors' own calculations.
Note: Alternatives: I – Assessment of the impact of stress factors, II – The individual models of risk assessment, III – Capital adequacy assessment to cover the risk, IV – Rating assessment, V – Evaluation by means of indicators of sustainability. Ratio of consistency: 0.014

Evaluation outcomes for the fifth priority selection criteria are shown in Table 7. The results show that the greatest significance for the selection criterion „No need to use special software for evaluation" is also a method of estimating capital adequacy with the level of risk that is first in rank (its priority is 0.429), because it does not require it be used. For this test, too, the priority is given to individual models of risk assessment methodologies and rating assessment; their priorities are 0.216 and 0.195 respectively.

Table 7. Calculation of the vector of priorities and consistency of matrix by selection criterion "No need to use special software for evaluation"

Alternative	I	II	III	IV	V	Priority of the weight ratio	Rank
I	1.00	0.33	0.33	0.20	3.00	0.056	5
II	3.00	1.00	0.33	3.00	0.50	0.158	3
III	3.00	3.00	1.00	2.00	3.00	0.516	1
IV	5.00	0.33	0.50	1.00	5.00	0.221	2
V	0.33	2.00	0.33	0.20	1.00	0.049	4

Source: Authors' own calculations.
Note: Alternatives: I – Assessment of the impact of stress factors, II – The individual models of risk assessment, III – Capital adequacy assessment to cover the risk, IV – Rating assessment, V – Evaluation by means of indicators of sustainability. Ratio of consistency: 0.014.

Identifying the priority methodology for reinsurer default risk assessment is shown in Table 8. According to the determined priority for assessing reinsurer default risk,

it is appropriate to apply the methodology for assessing capital adequacy with the level of risk, which includes determining the required capital to cover this risk and the adequacy of insurance to cover the risk of reinsurer's default.

Table 8. Identifying the priority methodology for reinsurer default risk assessment

Alternative	Criteria for selection of methodology for assessing the reinsurer default risk and their priority of the weight ratio					Priority of the weight ratio	Rank
	Calculation based on public data	No need to involve additional experts for evaluation	Simplicity of calculation and interpretation of assessment results	Accuracy of calculation	No need to use special software for evaluation		
	0.125	0.039	0.307	0.415	0.114		
I	0.071	0.066	0.049	0.045	0.056	0.052	5
II	0.150	0.102	0.188	0.105	0.158	0.142	3
III	0.561	0.611	0.417	0.653	0.516	0.552	1
IV	0.183	0.188	0.307	0.091	0.221	0.187	2
V	0.035	0.032	0.04	0.105	0.049	0.067	4

Source: Authors' own calculations.
Note: Alternatives: I – Assessment of the impact of stress factors, II – The individual models of risk assessment, III – Capital adequacy assessment to cover the risk, IV – Rating assessment, V – Evaluation by means of indicators of sustainability.

The criterion of the consistency judgments of experts is the consistency ratio, calculated as the ratio of the index value of the random consistency and the consistency depending on the dimension of the matrix. Expert opinions were in agreement, because the ratio of consistency is at least 10%. Thus, it was determined that for assessing reinsurer default risk it is appropriate to apply the methodology for assessing capital adequacy with the level of risk, which includes determining the required capital to cover this risk and the adequacy of insurance to cover the risk of reinsurer default risk. This is appropriate for such criteria as the possibility of payments for public data, no need to raise additional experts to assess, ease of calculation and interpretation of assessment results, the accuracy of calculations by the method, no need for special software for evaluation. Under the proposed choice criteria, this methodology has the highest priority. So, urgent questions arose regarding testing the methodology for assessment of the capital adequacy to cover the reinsurer default risk on the solvency of insurance companies (with the example of Ukraine).

4. Assessment of the effect of the reinsurer default risk on the solvency of the insurance companies (with the example of Ukraine)

For the assessment the solvency of insurance companies, a standard methodology for calculating the required solvency capital was developed by the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS, now - the European Insurance and Occupational Pensions Authority EIOPA) and presented at QIS5 Technical Specifications [CEIOPS 2010]. The methodology provided for widespread use of standard values in calculating the required solvency capital. In particular, the correlation coefficients and the mean square deviations are found in all formulas for calculating the individual components of the SCR. The values of these assets are calculated at the European level and are also provided in QIS5 Technical Specifications. On the one hand, the availability of a large database and methodological support enable the European authorities to make such calculations. But on the other hand, such standard values have taken into account the peculiarities of each country. According to the QIS5 Technical Specifications [CEIOPS 2010]:

– SCR_{nl} – Capital requirement for non-life underwriting risk;
– SCR_{h} – Capital requirement for health underwriting risk;
– SCR_{mkt} – Capital requirement for market risk;
– SCR_{def} – Capital requirement for counterparty default risk;
– SCR_{op} – Capital requirement for operational risk.

The most essential part SCR_{def} is the risk of default on the reinsurance share in insurance payments. The complexity of its calculation consists in the limited information on counteragents and the nature of collaboration with them to external users.

In EU Directive Solvency II, the solvency ratio helps to assess the capital adequacy of the insurance company. Capital adequacy characterises the solvency of the insurance company and testifies to its ability to cover losses and fulfill obligations towards counteragents and policyholders at its own expense [Pukała et al. 2017]. Using the calculated values of SCR_{nl}, SCR_{h}, SCR_{def}, SCR_{mkt}, SCR_{op}, a further analysis of the factors' impact on the solvency of 40 non-life insurance companies in 2016 [Insurance TOP 2016] (with the example of Ukraine) was made.

Factor analysis is a statistical method of analysing the influence of individual elements on the performance indicator. So, using factor analysis will help to determine the effect of the risk of default of the reinsurer on the solvency of insurance companies. The feature of factor analysis is that the amount of data for analysis should exceed the number of selected indicators at least three times.

Calculation and processing of indicators is carried out in the STATGRAPHICS Centurion 5.0 software environment. The calculations are carried out in the aggregate for all non-life insurance companies for the investigated period. By means of successive iterations, the indicators with the lowest load (less than 0.65) were removed, and the rest were combined into factors. The feature of factor analysis is that the amount of data for analysis should exceed the number of selected indicators at least three times. The results of the study are presented in Table 9.

Table 9. Assessment the impact of the risks on the solvency of non-life insurance companies in 2016 (factor analysis)

Influence of the factor (share of variation of data, %)	Factor	Indicator load	Indicator included in the factor
36.612	First	-0.2237	SCR_{nl}
		0.6386	SCR_h
		0.0281	SCR_{mkt}
		0.9355	***SCR_{def}***
		0.4152	SCR_{op}
26.698	Second	***0.9351***	***SCR_{nl}***
		-0.2063	SCR_h
		0.0319	SCR_{mkt}
		0.1402	SCR_{def}
		0.8335	***SCR_{op}***
21.080	Third	-0.0516	SCR_{nl}
		-0.4201	SCR_h
		0.9354	***SCR_{mkt}***
		0.1753	SCR_{def}
		0.2170	SCR_{op}
84.39	Variations in data are due to the three factors that have been obtained		

Source: Authors' own calculations.

Based on Table 9, it can be concluded that an insurance company's solvency level is more affected by the first factor (SCR_{def}), since it has the highest load for this factor (0.9355). Other indicators have the lowest load (less than 0.65). The first factor received the highest percentage of data variation, namely 36.612%. The second factors include SCR_{nl} and SCR_{op}. Other indicators have the lowest load (less than 0.65). This factor had a percentage variation of 26.698%. The third factor is $SCR_{mkt.}$ The load of this indicator is 0.9354. Other indicators have the lowest load (less than 0.65). The third factor received a percentage variation of 21.080%.

Attention was also paid to the proportion of dispersion due to selected factors, the minimum value of this indicator should be more than 75%, which indicates the statistical significance of the developed model and the results obtained. The greater the values of the variation of data, due to the selected factors, the more qualitative results were obtained. The received model of the influence of factors on the level of solvency of insurance companies explains 84.39% of the variation of data, as evidenced by the quality of the analysis and the statistical significance of the model.

5. Conclusions

Based on the research presented in the article, the following conclusions can be drawn:

1. An overview of methodologies for reinsurer default risk assessment is presented in the article. These methodologies include a methodology for assessment of the impact of stress factors, individual models of risk assessment, capital adequacy assessment to cover the risk, rating assessment, an evaluation by means of indicators of sustainability. According to the authors, priority of the methodology for assessing the capital adequacy to cover the reinsurer default risk should be identified by the following criteria: calculation based on public data, no need to involve additional experts for evaluation, simplicity of calculation and interpretation of assessment results, accuracy of calculation, and no need to use special software for evaluation. These criteria should influence decision making when choosing the methodology for assessment. Furthermore, using this methodology, it became possible to improve the methodology for assessing reinsurer default risk of the insurance company to cover the reinsurer default risk.

2. It was determined that for evaluating reinsurer default risk, it is appropriate to apply the methodology for assessing capital adequacy with the level of risk, which includes determining the required capital to cover this risk and the relevance of insurance to cover the risk of reinsurer default risk.

3. Using the international approaches to solvency assessment, in particular the Solvency II EU requirements, the impact of a reinsurer's default risk on the solvency of insurance companies (with the example of Ukraine) was determined. It was found that SCR_{def} has the most burden on solvency and forms the most significant factor (36.612%) for the aggregate of insurance companies; its load was 0.9355. The results obtained are of practical value and can be used by insurance companies to monitor the reinsurer default risk.

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