European Proceedings of
Social and Behavioural Sciences
EpSBS

www.europeanproceedings.com

e-ISSN: 2357-1330

DOI: 10.15405/epsbs.2021.04.02.153

# GCPMED 2020
# Global Challenges and Prospects of the Modern Economic Development

# IMPACT OF RISK MANAGEMENT ON ACTIVITIES OF INSURANCE COMPANIES

G. Kh. Ustinova (a)*, A. V. Bolshov (b), T. V. Nikonova (c)
*Corresponding author

(a) Samara State University of Economics, Soviet Army Str., 141, Samara, Russia, guliya_r@mail.ru
(b) Kazan Federal University, Butlerova Str., 4, Kazan, Russia, bigman_59@mail.ru
(c) Volga Region State Academy of Physical Culture, Sport and Tourism, Universiade Village, 35, Kazan, Russia
Kazan Federal University, Butlerova Str., 4, Kazan, Russia, viktta@mail.ru

## Abstract

This article discusses the problems of risk management analysis for insurance companies. The analysis of existing methods of risk assessment of companies' management is carried out. Since the insurance industry in our country appeared quite recently, there are many white spots in the issue of conducting this business. There is no clear and unified risk management system for insurance companies. Within the framework of this topic, risk management indicators' analysis of the insurance company was carried out. Based on this analysis, the author calculated indicators that determine the effectiveness of the company's activities. The purpose of this article is to identify problem areas in the risk management system of insurance companies. The current conditions of existence of any company are associated in one way or another with risks in all sectors and spheres of the economy. In the course of the study, the need for conducting risk management with the calculation of certain indicators that determine the effectiveness of insurance companies was identified. When conducting a business, it is necessary to constantly monitor risks in the insurance sector. However, you should choose those indicators that reflect not only the current state, but also take into account changes in risks in the future.



*Keywords:* Credit risks, insurance company, insurance risks, risk management, value added

https://doi.org/10.15405/epsbs.2021.04.02.153
Corresponding Author: G. Kh. Ustinova
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

## 1. Introduction

Today, insurance is one of the strategically important parts of the economy. Almost all economic entities use insurance services due to the instability of the market economy. Insurance has a special function in the economy. Due to the insurance system, the economy is stabilizing finances by providing compensation for losses incurred by economic entities. Losses incurred as a result of economic, natural, technological, and social disasters are covered without using state resources.

Insurance companies, along with other participants in economic relations, also have risk losses. In other words, these companies are prone to losses that have a very negative impact on their financial stability. Another important point is that insurance companies are both the object and subject of risk management. Therefore, we can safely say that maintaining a competent risk management contributes to ensuring the financial stability of the company.

Thus, effectively organized risk management is an integral part of insurance activity and implies identification of risks that are related to the insured, it is also necessary to monitor them and establish clear boundaries for each type of risk. And the most important thing is to prevent exceeding the established extents, limiting losses to acceptable amounts.

## 2. Problem Statement

Unfortunately, it should be noted that at the moment in Russia this problem in the field of insurance does not have proper development. Small companies (in all sectors of the economy), as a rule, do not have the financial capacity to create a special structural division of risk management. Basically, all decisions of any nature and complexity are made by management without special inclusion in the problem of risk, that is, without a special, thorough analysis of the situation. Only large insurance companies are interested in creating full-fledged risk management systems.

There is an organization created to develop the global insurance market based on common principles and promotion to the financial stability. The International Association of Insurance Supervisors (2019) has developed principles and standards) in the field of insurance.

Nowadays, the IAIS has identified a number of risks that insurance companies are exposed to:

- liquidity risk, it has a smaller share in the volume of all presented risks. This risk is associated with the ability to meet payment requirements;

- operational risks are those risks associated with the internal control system that can lead to financial losses of the company;

3- credit risks are risks caused by the non-fulfillment of obligations by the counter party;

- insurance risks are risks that arise when the strategy for accepting and evaluating insurance risks is incorrect;

5- market risks are risks that have the greatest impact in the risk system associated with changes in the consumer market. These risks negatively affect the value of the company's liabilities and assets (International Association of Insurance Supervisors, 2019).

https://doi.org/10.15405/epsbs.2021.04.02.153
Corresponding Author: G. Kh. Ustinova
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

## 3. Research Questions

According to the International Association of Insurance Supervisions (IAIS) (2019), presented in the diagram, it can be argued that insurance companies have the greatest exposure to market risks. Also, relatively high exposure can be observed in relation to insurance, operational and credit risks. But liquidity risk is not typical for insurance companies. Thus, taking into account the above features of insurance companies, it is necessary to strive to develop measures that will contribute to obtaining maximum profit, provided that the existing risks in the field of insurance are correctly assessed, that is, to use effective risk management. However, despite the fact that Russia participates in the international association IAIS, many problematic issues in our country still do not have proper study and consideration. It is possible to affirm that there is no up-to-date information on many types of risks, this leads to the fact that rates are inflated, and insurance participants do not pay attention to insurance products.

Main provisions in the framework of the study:

1.Identification of risk management problems in insurance companies.

2.Analysis of insurance companies' risk management indicators.

3.Development of a risk management system in insurance companies.

## 4. Purpose of the Study

The purpose of this article is to identify problem areas in the risk management system of insurance companies. The current conditions of existence of any company are associated in one way or another with risks in all sectors and spheres of the economy. The tense financial situation in the world caused by the pandemic and the crisis in the oil sector requires a more detailed study of risks not only in the industrial sector, but also in the insurance sector. Insurance companies, as well as industrial companies, experience risks. Thus a systematic approach to the study of this issue is necessary.

## 5. Research Methods

Various methods are used to define the risk. The most frequently used and easily applicable method is scenario analysis (Jurgens, 2017). It allows to quickly determine the degree of risk impact on the company's activities if losses would occur. We also use a simple method for assessing a specific risk factor – a sensitivity analysis. But since this method is more visual in nature, it is more often used for regular monitoring. But this method does not give a complete picture of the crisis situation, since it does not consider the impact of factors complex. This analysis is often referred to the stress testing. However, it is often used abroad due to its simplicity, but accurate analysis requires good management reporting and special skills.

This method is relevant in cases where it is necessary to determine the financial condition of the insurance company. This method has certain advantages when identifying risk factors. Using this method, you can identify weaknesses, define a strategy of warning risk, and monitor existing reserves in case of a risky situation.

In Russian practice, risk management of insurance companies most often uses such methods as decision tree. The Monte Carlo method is also popular. This method is widely used not only in management,

https://doi.org/10.15405/epsbs.2021.04.02.153
Corresponding Author: G. Kh. Ustinova
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

but also in other areas of the economy. The advantages of this method are that it can be used to take into account various scenarios, and it is well combined with other economic and statistical methods.

In modern practice, risk management is more often used for modeling future behavior, that is, predicting probability, trends and correlations (Hopkin, 2018). Another modern method that show the analyzed picture of events quite fully is risk forecasting models. These models are based on calculating the amount of insurance capital. One of these methods is considered to be the Kramer-Lundberg model. This method is based on the calculation of reserve capital minus liabilities and share capital from the company's assets.

## 6. Findings

In order to determine the effectiveness of the risk management system in insurance companies, let's consider the activities of the company "Alfa Insurance". JSC "Alfa Insurance" is one of the largest insurance companies in Russia in terms of insurance premiums. The portfolio of insurance services includes a large set of insurance products for individuals and legal entities. "Alfa Insurance" has established itself on the insurance services market as a reliable and stable company. Nowadays, the company meets its obligations with its own funds — 31.7 billion rubles. The company's authorized capital is 15 billion rubles. According to experts, "Alfa Insurance" is in the TOP 10 insurance companies on financial strength over an extended period of time. At the moment the company holds eighth place in the ranking of 2019, it also ranked third in the list of the largest insurance companies. According to experts, the company has a high level of reliability (ruAA+) (Expert, 2020; International Association of Insurance Supervisors, 2019).

The main activities of "Alfa Insurance" are providing insurance services to the Russian Federation. This services are property insurance, aviation insurance, auto insurance, medical insurance, personal insurance, life insurance, and liability insurance. Let's calculate the amount of reserve capital of JSC "Alfa Insurance" using the Kramer-Lundberg model

Based on the obtained data, it can be concluded that the calculation of the reserve capital indicator for the last three years has positive values. Figure 1 shows that the company's assets exceed its liabilities during the period under review, meaning that the company maintains a positive balance. Based on the calculation of this indicator using the Kramer-Lundberg model, it can be concluded that the insurance company has a sufficient level of capital, which reflects a good risk management system.

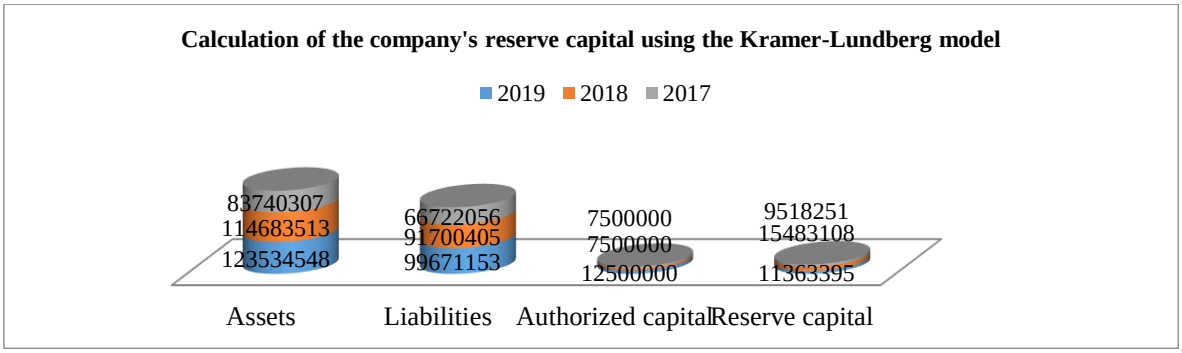


**Figure 1.** Calculation of the reserve capital of JSC "Alfa Insurance"

Source: authors based on Alfa Insurance (2019).

https://doi.org/10.15405/epsbs.2021.04.02.153
Corresponding Author: G. Kh. Ustinova
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

Let's consider another method for calculating reserve capital as the difference between the value of assets and liabilities. To avoid bankruptcy, it is necessary to ensure that this indicator is always positive. This method makes it possible to estimate the required amount of capital. However, we should remember that the calculation is based only on current indicators, and that any changes in the future are not taken into account (Vyatkin et al., 2016). Figure 2 below shows the results of the analysis of the reserve capital of JSC "Alfa Insurance".

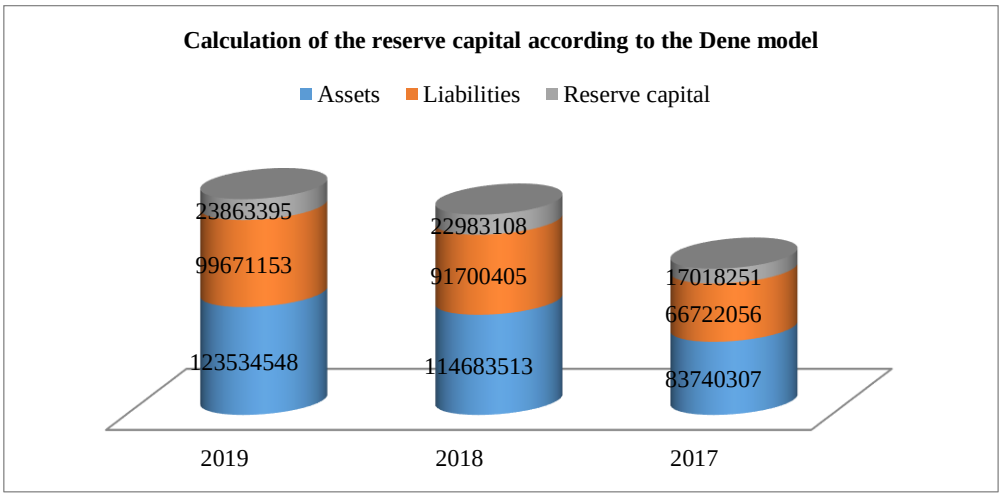


**Figure 2**. Calculation of the reserve capital of the company JSC "Alfa Insurance" according to the Dene model (thousand rubles)

Source: authors based on Alfa Insurance (2019).

When analyzing data using the Dene model, you can see a gradual increase in reserve capital, which means that the company has a loss settlement. As well as a positive value of this indicator shows a low probability of bankruptcy. However, we should not forget that in practice the excess of assets over liabilities is not an absolute guarantee of the assurer's solvency due to the different probability of income and losses obtaining.

From the considered models, it is clear that the calculation of the same indicator gave us different results. Accordingly, we cannot rely solely on these risk assessment methods. In the modern risk management system, innovative methods are used to improve the effectiveness of risk analysis. The innovation lies in the fact that complex risk indicators EVA (Economic value added) and RAROC (Risk-adjusted return on capital) are used for risk calculation (Njegomir & Ćirić, 2012). Both of these indicators characterize the company's economic value added. These indicators have long been used by foreign companies to calculate risks.

In order to understand how effective this indicator is in analyzing the company's risks, we will use the example of an insurance company. The EVA indicator is used to assess the effectiveness of a company's long-term operations. We can use this indicator to create an insurance company's risk management system. One of the positive facts of this indicator is that we only need to use accounting records to calculate it.

Economic value added is calculated using the formula:

$$EVA=NOPAT–CC\times CE, \quad (1)$$

https://doi.org/10.15405/epsbs.2021.04.02.153
Corresponding Author: G. Kh. Ustinova
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

where

*NOPAT* - net operating profit adjusted taxes;

*CC* - cost of capital;

*CE* - capital employed (Insurance today, 2009).

You can clearly see the following trend: if the EVA indicator has a positive value, it will affect the growth of the business market value.

It will have a positive impact on further investments in the company.

Let's calculate the EVA indicator of the company JSC "Alfa Insurance" Table 1.

To calculate the capital, we need to sum up the assets and deduct the company's short-term liabilities from them.

**Table 1.** Calculation of the EVA company indicator of JSC "Alfa Insurance" (thousand rubles)

| | 2019 | 2018 | 2017 |
|---|---|---|---|
| NOPAT | 1 380 997 | 10 656 532 | 4 849 784 |
| CC | 10% | 9,9% | 9,8% |
| CE | 123 534 548 | 114 683 513 | 83 740 307 |
| EVA | -10 972 457,8 | - 811 819,3 | - 3 524 246,7 |

Source: authors based on Alfa Insurance (2019)

The obtained data characterize negative values of the EVA indicator. This indicates that there is a certain destruction of the company's value. Although previous indicators gave us a positive result. Table 1 shows that this indicator had the lowest value in 2019. Thus, we can conclude that there is an inefficient use of capital in comparison with alternative investment options.

## 7. Conclusion

From our calculations, we can conclude that in practice it is not necessary to focus only on one indicator or one method of calculation. According to the methods, we got positive indicators, but they do not fully disclose all possible risks in the company's activities. In our opinion, the calculation based on the economic value added indicator EVA reflects more reliable information about the company. This indicator allows studying the company's capabilities more thoroughly, relying only on the balance sheet data.

It is worth noting that for this company, it is necessary to calculate the EVA indicator for all types of insurance. This will help to analyze how the cost is created. To create an effective management risk, it is necessary to achieve a positive value of the EVA indicator. It can be affirmed that to achieve the strategic goal of any company, it is necessary to optimize the ratio of risks and results, as well as a constant increase in the value of the company, and this reflects the indicator of economic value added (EVA). The value of this indicator should always be positive. Thus, the company's strategic goal is to optimize the ratio of risk and results, increase the business value, that is, an increasing positive value of the EVA indicator.

## References

Alfa Insurance (2019). Financial statements. https://www.alfastrah.ru/company/investors/ajax.php

Expert (2020). Ratings of financial reliability of insurance companies. https://www.raexpert.ru/ratings/insurance/?sort=rating&type=asc

Hopkin, P. (2018). *Fundamentals of risk management: Understanding, evaluating and implementing effective risk management*. Kogan Page Publishers.

Insurance today (2009). Innovative methods of financial risk management in an insurance company. http://www.insur-info.ru/press/31358/

International Association of Insurance Supervisors (2019). Insurance core principles and ComFrame. https://www.iaisweb.org/page/supervisory-material/insurance-core-principles-and-comframe

Jurgens, I. Y. (2017). Risk management in insurance organizations: Situation, problems and tasks. *Modern Insurance Technologies*, *1*, 21-26.

Njegomir, V., & Ćirić, J. (2012). Risk modeling in the insurance industry. *Strategic Management, 17*(1), 53-60.

Vyatkin, V. N., Gamza, V. A., & Mayevskiy F. V. (2016). *Risk-management*. Yurayt.