Financial Management of Insurance Companies

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Abstract. The relevance of this topic is due to the fact that the insurance industry employs millions of citizens, ensuring the distribution of multimillion insurance funds of private companies to people affected by a particular situation. Good management of the insurance industry is the key to the financial stability of one of the largest sectors of the world economy. The aim of this scientific work is to identify the key problems in the insurance industry, to find effective solutions to overcome possible mistakes and problems, analysis of each proposed solution, describing a clear and consistent methodology for subsequent application in private and public insurance companies. This work uses several key methods that allow an objective analysis of the current situation in the insurance sector of the economy, as well as to identify key problems and propose methods of their solution. The main method of analysis is modelling with horizontal and vertical analysis of data related to financial sustainability and insurance management. The result of this work is the ready structure of solutions and methodologies to improve and maintain the sustainable financial management model of insurance companies. In addition, the work includes current data that reflect the current situation in the field of financial management of insurance companies. These materials are useful to all managers and employees of insurance and financial companies, as well as government employees who monitor and monitor the activities of insurance companies, as well as researchers and analysts.

Keywords: Insurance Business; Financial Management of Insurance Industry; Analysis of Insurance Business; Financial Management of Insurance; Economics of Insurance.
JEL Classification: G20, G22

1. INTRODUCTION

In the modern economy, insurance of individuals, property and commercial activities is a key element. The failure of insurance companies to meet their insurance payment obligations entails not only the risk of bankruptcy of such companies, but also a chain of problems throughout the economic sector in a given country (Khudyakov, 2015). This is also understood in public administration, where there are very high standards of financial stability of such companies. Even in a favorable economic environment, the public authorities constantly monitor and control all cash flows of insurance companies. The same rules apply in this area as in the banking system. Insurance companies have a minimum authorized capital. For legal activities it is necessary to have an appropriate license obtained by the national regulator (Insurance 2.0: Will the big insurers…, 2016).

In the insurance industry, the key service is the insurance protection of the client, who acquires the right to receive monetary compensation at the occurrence of a specific insurance event. Insurance companies in this case protect the property and material interests of the client, providing him with monetary compensation in an amount that is many times higher than the cost of the insurance package for the given period. In such an economic model, it is difficult to predict how much insurance will be required in the future. Because it is affected more by random factors, including weather conditions, accidents, coincidences. In such a case, insurance companies must have a certain amount of funds in order to provide insurance benefits under the terms of a client's contract. Incorrect distribution of working capital, lack of net profit and other financial problems in the activities of insurance companies threaten the well-being of citizens (Filatov, 2017). Since the regulator in this case is a public authority, the final responsibility may be borne by the state. Such cases have already occurred (for example, the 2008 mortgage crisis led to the bankruptcy of hundreds of insurance companies around the world and the State became the guarantor of insurance payments in certain situations) (Information on the state and development…, 2016).

Against this background, it is very important to ensure stable and sound financial management of insurance companies, in which such companies would have a stable net profit and working capital stock capable of covering even non-standard situations and force majeures associated with a sharp increase in insurance payments to customers (for example, economic crisis, cataclysms, hostilities, global fires, etc.) (Insurance functions, 2016). The study focuses on macroeconomic indicators of insurance companies and the insurance

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industry as a whole, as well as microeconomic indicators of the insurance sector of the economy. The aim of the research is to find key problems and methods of their solution. The data obtained from this material allow almost immediately to implement the proposed solutions in the structure of the financial management of the insurance company, regardless of the region in which the services are provided. The study was extensive and all data were interpreted over different time periods and from different countries. This allowed to develop several knowingly effective solutions to optimize the financial management of insurance companies of different categories, ranging from regional divisions to international insurance corporations.

Research on the topic has already been carried out several times, but has been partially limited and focused on studying the financial management structure of insurance companies in a given country, or some methodology. The authors tried to apply more methods and flexible approaches to provide a broader analysis of financial indicators, offering more data-driven solutions that may be suitable for the insurance industry of not one country, but entire regions and groups of countries.

2. MATERIALS AND METHODS

Theoretical and empirical methods were used in the research, as well as in the construction of the solution of the set goals. These types of research methods include several subspecies of the work carried out in carrying out this scientific work. In the first phase of the study, the focus was on theoretical scientific methods, including analysis, synthesis, concretization of the above facts and statistical data, communication, modelling and forecasting on the basis of theoretical information. Empirical methods were applied on the basis of data obtained from theoretical research methods. They include real-world experience of companies, analysis of regulatory documentation, monitoring, surveys.

The research and analysis were based on materials and data that are publicly available or are part of a commercial secret. Were used other authors' studies, open source financial metrics, respondents' surveys, and financial indicators of several insurance companies, which could be provided to the author of the scientific work without violating the rules of commercial secrecy. The analyzed data include all key indicators for the insurance industry of the country and individual regions, as well as indicators of activity of the largest domestic and foreign insurance companies. This scientific work was carried out in several stages:

1. At the first stage of the study, theoretical analysis of data was carried out, including financial indicators of growth and individual insurance companies, key problems, facts about bankruptcies, non-performance of insurance companies, and others. Also, at this stage of the study, the results of the conducted surveys and interviews with employees of insurance companies were taken into account, which will also be reflected in the next section of the scientific work.

2. In the second phase, work was carried out to analyze the data obtained and to compare specific solutions to resolve the problems identified. Also, at this stage there was refinement of data and construction of graphs, modeling of various situations and development of sequential instructions, proposals and innovations, which fully reveal the goal indicated at the beginning of the work.

3. In the third stage, all the results obtained and the proposed solutions were optimized, structured and systematized. This allowed a clear and specific description of the solution, which can be implemented as quickly as possible and applicable in different insurance companies, regulators and other bodies, in one way or another related to the financial activities of insurance companies.

The peculiarity of this article is the use of different sources of information, as well as in-depth analysis of scientific works by Ukrainian and foreign experts, researchers. In the course of studying the works on this topic, the authors compared the facts, checked their relevance and accuracy, corrected them if they lost their relevance at the moment. This made it possible to cover more aspects related to the methodology of financial management of insurance companies. And also compare the management strategies used in Ukraine and foreign countries.

3. RESULTS

During the research of materials on this topic, some features of the financial model of insurance company management were revealed. Among them:

1. Insurance companies provide insurance services after receiving insurance bonuses from the client.

2. Absence of the production cycle and the costs associated with receiving/manufacturing the goods, as well as logistics of goods between the offices of the company.

3. Ability to manage risks by reducing or increasing insurance ratios and tariffs.

4. Absolute control by regulators, which eliminates excess of the insurance reserve, as well as its insufficient amount.

Thus, a successful financial model in the activities of any insurance company is based on the correct distribution of insurance premiums, taking into account all risks, liquidity and profitability for each potential transaction (Bland, 2018). In such a model, the key aspect is the consideration of the structure "profitability – risk – liquidity". This is evidenced the data of experts in this field, as well as the actual experience and results of economic analyses conducted earlier. The current financial model of some insurance companies is based on profit maximization, which is derived directly from the insurance fund. Under this model, private companies operate more often, which have not become a joint stock company. This is typical of regional and smaller insurance companies in terms of money turnover and number of insurance contracts. With this financial model, even development of the company and increase in turnover is almost impossible, as the insurance reserve will always be used irrationally. To ensure the absolute stability of the financial structure of the insurance company, it is necessary to maintain an even distribution of funds received from customers. In this case, any expenditure of such funds should be compared with the legislative requirements of Ukraine or other countries in which the company operates. Insurance premiums and premiums from clients, which are the only income-generating part of insurance companies, should be distributed for the following types of expenses:

formation of an insurance reserve;

wages;

maintenance costs of the central office and all branches (rent, utilities, office equipment, etc.);

marketing costs;

investments (upgrading of computer equipment, opening of new branches, repair work);

net profit of owners/shareholders;

current assets.

In order to increase the amount of the insurance reserve, it is rational to increase the number of risks for which the company provides insurance services (Osadets, 2018). This approach does not require a significant amount of investment, but allows for an expansion of the insurance fund. With a competent approach, this does not create an increased load on the financial reserve of the company, as the simultaneous occurrence of insurance cases is negligible. In order to reduce the risks of crisis situations, in which companies need to pay large amounts of money at the same time for insurance cases, it is necessary to keep the balance of the insurance fund at a certain level calculated by mathematical formula. On the basis of calculations, solvency, profitability and liquidity are calculated. These indicators should be at a level that allows not only to keep the stock of funds available for payments to customers, but also to invest part of the profit in upgrading the facilities, as well as in marketing, staff development and the like (Negashev, 2017).

At the moment, the most progressive system for assessing the financial sustainability of insurance companies is the rating system. It operates in all developing and developed countries, including Ukraine. The authors analyzed the data of the Motor Insurance Bureau of Ukraine, which is engaged in monitoring the insurance sphere in the country on the direction of compulsory insurance liability to third parties car owners. This regulator assesses insurance companies on the following criteria:

1. Existence of a direct settlement of damages.

2. Number of customer complaints (average value per number of policies issued).

3. Average payout speed calculated in days.

4. Quality of damages settlement.

5. Evaluation of activities.

These criteria also include the assessment of financial stability, which affects the quality of the resolution of losses, as well as the average rate of repayment. It is worth noting that the rating does not include insurance companies that do not have a national regulatory license, or that have been excluded from the rating for violations of consumer rights or found non-compliance with regulatory requirements. Accordingly, the consumer may rely on such rating data from the national regulator when selecting a potential insurer (Agarkova *et al.*, 2016). Insurance companies use different approaches to improve performance and stability. The most effective financial stability accounting system is based on 11 parameters:

1. Level of coverage of insurance reserves by equity (required at least 20%).

2. Level of debt load (required no more than 35%).

3. Equity base in the balance sheet currency (required at least 15%).

4. Indicator of unprofitability (required at least 20% and not more than 75%).

5. Expenditure level indicator (no more than 60 % required).

6. Return on equity (requires at least 1%).

7. Profitability of insurance activities (required at least 1%).

8. Share of reinsurers in insurance reserves (except life insurance), (required at least 4% and not more than 50%).

9. Current capacity to pay (required at least 65 %).

10. Quality of assets and capital (not more than 100%).

11. Day-to-day liquidity (required at least 100%).

Accordingly, economic indicators and their requirements, which are generally accepted in the financial management of insurance companies, are presented here. These standards are calculated so that an insurance company with such a financial structure model can provide stable insurance payments even in unforeseen situations. At the same time, so that the insurance company has the opportunity to reinvest part of the funds in marketing, updating of the material base, training of employees, as well as the opening of new offices. To effectively manage the financial model of insurance companies, each of the 11 parameters must be calculated on the basis of a specific formula, given below. Error checking must be made every quarter. These indicators are analyzed by regulators. Accordingly, the effectiveness and financial sustainability of insurance companies are assessed every quarter (four times a year). Data may be publicly available (Slinko, 2015).

The basis for ensuring the financial stability of the insurance company is the so-called insurance reserve, which constitutes the majority of the company's cash assets. In Ukraine, as well as in most developed and developing countries, the amount of insurance reserve relative to the total income of the insurance company is regulated by the regulator. The insurance reserve is the insurer's guarantee of fulfilment of its obligations (Sokyrynska and Zhuravlyova, 2016; European Insurance in Figures, 2018; Risk management ISO 31000, 2018; Lavruk and Rusul, 2018; Verezubova, 2015). It is its size that determines the sustainability of the company in daily operation, as well as in unforeseen conditions and external factors. The insurance reserve is determined as a percentage of all insurance premiums paid to the company from customers for all insurance programs and services provided. The amount of the insurance reserve is calculated on the basis of a mathematical calculation, taking into account the standard values, the formulas of which are indicated above. According to Ukrainian legislation, the amount of the minimum insurance reserve is calculated for the first day of the reporting period (quarter and year). Data shall be submitted to the regulatory body (Pshyk *et al.*, 2015). In doing so, insurance reserves may be used by the company for additional benefit.

4. DISCUSSION

The results of the research of this scientific work are based on economic methodologies, models, as well as data of authoritative resources, experts and economists. However, the authors have analyzed several major studies on the construction of a financial management model for insurance companies in the West and the territory of the post-Soviet space. In most of the published scientific works there are no detailed formulas that would allow to achieve stable financial management of insurance companies, taking into account the economic realities of Ukraine and the post-Soviet countries. The scientific works that we will mention in this section contain only selective recommendations without specific formulas and descriptions of methodologies for assessing the financial situation of companies (Sokyrynska and Zhuravlyova, 2016). In particular, during the analysis of the topic of financial management of insurance companies, the authors primarily focused on foreign scientific data and analysis of authoritative scientific groups. One of the most important works in this field is the work "Financial management of insurance companies in the context of the new regime Solvency II", which describes the new principles of financial management of insurance companies in the European Union (Sokyrynska and Zhuravlyova, 2016).

As is known, in the European Union a new regime of assessment of the financial stability of insurance companies called Solvency II has started. It was introduced as an updated structure of the Solvency II methodology, which has been unchanged for many years (European Insurance in Figures, 2018). This methodology is applied in the financial management of insurance companies in the European Union member countries. For Ukraine, this is a very important methodology, as the country is gradually integrating with European legislation. Therefore, in the future Solvency II standards can be adapted in Ukraine. The above-mentioned work clearly describes the model of financial management of insurance companies based on Solvency II standards. The study describes a similar model, which is applicable in Ukraine and in the countries of the former USSR. It is important to note that for the time being it is impossible to integrate Solvency II into the Ukrainian insurance market due to different legislative requirements and regulations. Therefore, the work we are analyzing does not have many relevant methodologies that would be applicable precisely in Ukraine.

According to the principles of Solvency II, the financial models of insurance management in Europe should be based not only on economic indicators, but also on stress tests. Based on the analysis of the above-mentioned scientific work, it is possible to draw conclusions about the possibility of implementation of Solvency II standards in Ukraine. To do this, you need to perform several tasks:

1. Determination of quantitative requirements. Assumes an accurate risk assessment of the adequacy of the insurance organization's personal funds to cover the liabilities incurred, based on the identification of risks as well as the relationships between them.

2. Supervision. This component of the innovations is aimed at establishing a company management system at such a level that it can be concluded that there are transparent risk assessment and management systems, control systems within the organization. These processes require a large number of methodological, technological, regulatory and organizational decisions.

3. Change in reporting rules. Includes reporting requirements (public and confidential) on risk management and regulation of transactions.

4. Many of the processes and indicators in the current model of financial management of insurance companies in Ukraine are based on specific numerical values. At this time, the European approach includes other factors. For example, probabilities of events, stress tests, risk management evaluation systems and much more.

However, it is obvious that such norms cannot be introduced into the financial model of management of insurance companies in Ukraine without a corresponding change of legislation. Otherwise, this will not work properly and will be taken into account in the construction of the financial model. In addition, we analyzed the study "Financial stability of European Insurance Companies during the COVID-19 Pandemic", prepared in 2021 in Poland and tested by academician P. Murro (Risk management ISO 31000, 2018). This paper analyses the macroeconomic performance of insurance companies during the COVID-19 pandemic, which continues to this day. Much of this work focuses on assessing the risk of the pandemic itself and analyzing evidence of how these risks have affected the financial position of insurance companies in Europe. The obtained data in the form of formulas, theses and methodologies are really very useful in the calculation of risks and in the construction of an effective model of financial management by insurance companies in Ukraine. However, these data cannot be the basis of the entire financial model, as the pandemic and similar risks are already taken into account in the classical model, which the authors described above. In addition, according to current official data, the insurance industry has not suffered significantly from restrictions and events related to the spread of the coronavirus. This was probably less negative in Ukraine than in Europe. And the reason for this lies in a different system of health insurance in Europe, where you can insure your health in almost any insurance company.

In contrast to European research, we paid a lot of attention is paid to studies from Ukraine and post-Soviet countries. As the models of financial management described in them are more focused on macroeconomics and microeconomics of Ukraine, as well as on its legislative norms. Useful for study were the materials of scientific research on the topic "Research of financial results of insurance organizations", which was published by the candidate of scientific works O.N. Lavruk and L.V. Rusul (2018). This paper described the methodology of financial management of insurance companies, which is most close to the Ukrainian legislative realities. It also referred to the formation of an insurance fund not only from its own reserve, but also from borrowed funds through loans or investments). However, the work pays more attention to current figures and statistics in the field of insurance in Ukraine and the world. This is important, but this scientific work also analyzes the indicators that form the very model of stable financial management of insurance companies.

Based on the data of this scientific work it is possible to create a balanced financial structure in the insurance company at the national or regional level almost immediately. Moreover, with specific figures. And this balance already includes some risks associated with unforeseen circumstances. According to the analysis of the financial structure of insurers for 2015-2021, it is possible to give a sequence of incomes, which are substantial parts in the total income of insurers. In the first place are the insurance payments, which are income from the operating (main) activities of insurers. This is followed by returns from technical reserves other than the reserves of unprocessed premiums, as well as the income from the operating (main) activities of the insurers. Overall, operating income averages 80 % over this period. Second place can be given to other income of insurers, including additional sales, rental income and advertising integration. Insurers' expenses are the money they spend in the course of their activities. As well as the insurer's income, expenses come from operating activities, and from financial and investment activities from other activities. More than 73% of the total costs of the insurance company are, of course, insurance costs. These costs are very heterogeneous. The total can be divided by economic content into two large groups: the payment of insurance amounts and insurance compensation under insurance and reinsurance contracts; the costs of doing business.

Expenses from operating activities include insurance payments, acquisition costs, contract renewal, business management. And the largest share of operating expenses are insurance payments, that is, the funds that the insurer pays to the insured person in the event of an insured event in accordance with the terms of the insurance agreement (Verezubova, 2015). The study of all the above works, as well as other materials studied on this topic, allow to draw several conclusions about the role of effective financial management in the insurance company (Margasova *et al*., 2015). The following are the main factors that determine the importance of effective cash flow management in insurance:

1. Cash flows through insurance organizations are the result of economic and financial relations and are redistributive, are determined by the state of the monetary system of the State and can have a direct impact on it through the implementation of the cumulative function of insurance and the investment of temporarily free funds of the insurer in the productive sector of the economy through the use of financial market instruments (Ostrowska-Dankiewicz and Simionescu, 2020).

2. Cash flows are interrelated and interdependent with material and information flows.

3. Cash flows serve the economic activity of the insurer in almost all its aspects: current, financial, investment. Figuratively money flow can be presented as a system of "financial and economic circulation" of economic organism of enterprise. Well-organized cash flows are a determining factor of its financial situation, a prerequisite for achieving high end results of economic activity in general.

4. The correct allocation of the insurance reserve allows achieving the financial equilibrium in achieving the strategic objectives of the insurance company. Such strategic goals may be certain indicators of efficiency of the company, the number of open representative offices, KPI marketing companies, the number of attracted customers, the quality of material and technical equipment of the branches, Number of insurance programmes offered and other (Margasova *et al*., 2015). The company's strategic goals can be defined in advance and stated publicly (on the site or in other open sources of information).

5. Competent financial management insurance company allows not only 100% to comply with all requirements of legislation and regulators, but also to gradually increase capital. In the event of late submission of insurance reserve and other financial data, the regulator may impose a penalty. This will lower the position of the insurance company in the overall rating, as well as damage the reputation.

6. Proper distribution of the cash ceiling contributes to the stability of the company, eliminating the risk of obtaining the status of insolvency. Note that even with a large insurance reserve it is very important to keep balance and other indicators, which we also mentioned in the section «Results». On several occasions, insurance companies with a sufficient amount of insurance reserve have been declared insolvent. This was due to the misallocation of available capital and the absence of a contingency strategy.

The authors of the study considered these conditions from the described scientific works, and also integrated them into the results of this article. If we generalize these data, we can say that for the most competent and efficient financial management of insurance companies it is necessary to take into account not only basic mathematical calculations by formulas. It is also necessary to competently manage the insurance reserve, to prevent its unprofitability, and if necessary, to put some of the funds into circulation to obtain additional income. It is also very important for companies to comply with clear regulations of regulators and to observe the legislative regulation (Koijen and Motohiro, 2015).

5. CONCLUSIONS

The stability of the insurance industry depends primarily on the correct financial model of insurance company management. On this depends the possibility of investment, the volume of net profit and shareholder share, the overall rating of the company and its compliance with international and national requirements. The most common problem with the financial model of small insurance companies is the lack of a clear structure of balance sheets, expenditures and revenues. Regional companies that do not participate in the national ranking have the most common problems.

To improve financial sustainability, insurance companies at all levels need to follow a clear model based on maintaining financial performance at the required level. The necessary values have been described above. They are based on economists' miscalculations and have been described in numerous scientific papers and publications on economic models and finance. In addition, this financial model has successfully proven its effectiveness in many large insurance companies in Ukraine and European countries where it is used. From an economic point of view, the methods described in the results of our scientific research correspond to the market economy.

With 9 to 11 indicators within the projected rate, the insurance company's financial management model will be able to withstand even contingencies, where a large amount of the insurance fund will be required to cover the clients' insurance claims at the same time. This can happen, for example, in the case of a massive outbreak of insurance cases in cataclysms, accidents and the like. These are not projected events, so their probability is already laid down in the described economic model of financial management of insurance companies.

Deviation from these values may negatively affect the performance of insurance companies on the territory of Ukraine and CIS countries. The fact is that in the Western economic model, as we have already mentioned, slightly different criteria are applied to build a financial model of insurance company management. This is due to differences in legislation and insurance policy in general. The Ukrainian insurance market has many obstacles to the integration of foreign models of financial management of insurance companies due to various legal requirements and regulations. Therefore, Ukrainian insurance companies cannot use the same financial management model as Western companies. Western insurance methodology is important for Ukraine, as the country is gradually integrating with European legislation. At this stage it is very important to ensure openness and transparency of formation of failures of key economic indicators in activity of insurance companies. In compliance with the above recommendations, it is possible to provide a stable model of financial management, which would allow stable development of the insurance business in Ukraine and the CIS countries.

The results of the research in practice can become the foundation of a balanced financial structure of an insurance company at the national or regional level. This should have a significant impact on legislation and insurance policy as a whole. A new model of the financial structure could ensure stable insurance payments even in unforeseen situations. Thus, financial models of insurance management should be based not only on economic indicators, but also on stress tests, which will significantly reduce the risks of obtaining the status of insolvency..

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