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RISKS AND PROFITABILITY OF BUSINESS MODELS OF INSURANCE COMPANIES

Ukrainian insurance companies are steadily moving towards the European development framework, facilitated by the adoption of a series of radical regulatory documents by the National Bank of Ukraine (NBU) concerning the supervision of their activities based on a risk-oriented approach. This, in turn, requires insurance companies to make fundamental changes to their risk management processes and substantiate their choice of a viable business model capable of ensuring their long-term. The aim of the article is to determine the level of risks and the related profitability of business models of insurance companies of Ukraine, as well as to develop recommendations for their transformation based on proactive risk management. The research is based on the use of a set of such methods as analysis, comparison, grouping, correlation. Various methodical approaches to distinguishing the business models of insurers are revealed and their brief description is given. An analysis of risks for business models of life and non-life insurance was carried out based on

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РИЗИКИ ТА ПРИБУТКОВІСТЬ БІЗНЕС-МОДЕЛЕЙ СТРАХОВИХ КОМПАНІЙ

Страхові компанії України невпинно рухаються в напрямі європейського контуру розвитку, чому сприяє прийняття НБУ низки радикальних нормативних документів щодо регулювання та нагляду за їх діяльністю на основі ризик-орієнтованого підходу. Своєю чергою, це потребує від страхових компаній внесення принципових змін у процес ризик-менеджменту й обґрунтування вибору ними бізнес-моделі, здатної забезпечити довготривале та стабільне їх функціонування на ринку. Метою статті є визначення рівня ризиків і пов'язаної з ними прибутковості бізнес-моделей страхових компаній України, а також розробка рекомендацій щодо їх трансформації на основі проактивного ризик-менеджменту. Дослідження ґрунтується на використанні сукупності таких методів, як аналіз, порівняння, групування, кореляції. Розкрито різні методичні підходи до виокремлення бізнес-моделей страховиків та надано їх коротку характеристику. Проведено аналіз ризиків за бізнес-моделями страхування life та

the system of selected indicators. An analysis of the correlation relationship between the ratio of insurance payments to insurance premiums (dependent variable) and independent variables was carried out. Proposals aimed at implementing innovative business models based on proactive risk management have been developed. Formulated and empirically tested hypotheses regarding the reduction of the scale of the insurance business under the influence of the unfavorable economic situation, the war in Ukraine and the strengthening of regulatory requirements for insurers; different levels of risks are inherent in the business models of non-life and life insurers; the introduction of innovative business models for insurers should be based on the conceptual principles of proactive risk management.

Keywords: insurance companies, risk management, business model, European course.

non-life на основі системи обраних показників. Здійснено аналіз кореляційного взаємозв'язку між коефіцієнтом співвідношення страхових виплат до страхових премій (залежною змінною) та незалежними змінними. Розроблено пропозиції щодо впровадження інноваційних бізнес-моделей на основі проактивного ризик-менеджменту. Сформульовано й емпірично перевірено гіпотези щодо скорочення масштабів страхового бізнесу під впливом несприятливої економічної ситуації, війни в Україні та посилення регуляторних вимог до страховиків; для бізнес-моделей страховиків non-life та life притаманним є різний рівень ризиків; впровадження інноваційних бізнес-моделей для них має відбуватися на концептуальних засадах проактивного ризик-менеджменту.

Ключові слова: страхові компанії, ризик-менеджмент, бізнес-модель, європейський курс.

JEL Classification: G22, G32.

Introduction

The transition of Ukrainian insurance companies under the regulatory jurisdiction of the National Bank of Ukraine became a powerful impetus for the adoption of a number of important regulatory documents related to the identification of systemically important insurers, the formation of reserves, the regulation of capital adequacy to cover losses due to the occurrence of risks, the definition of business models, the creation of a risk management system on European regulatory principles based on the principles of the Solvency Directive II.

Recently, there has been a decrease in the number of insurers in Ukraine. In our opinion, the introduction of new, stricter regulatory norms by the NBU, in particular the establishment of requirements for solvency, liquidity, formation of capital and technical reserves of insurers, construction of a risk management system, compliance and internal audit in accordance with the three lines of protection, may become the reason for the preservation of the above-mentioned trend. This situation is explained by the desire of the NBU to introduce a regulatory toolkit, using which insurance companies of Ukraine would be able to form a viable business model and gradually integrate into the European insurance market, which will open up new horizons for business development for them and contribute to ensuring their long-term and stable functioning on the market. In the context of the above, the question of what risks each business model generates for the insurer and under what conditions it can remain viable is considered important.

The issue of business models of insurance companies became the subject of a scientific discussion by foreign scientists, which adopted the format of multi-vector consideration. Instead, the business model of insurers,

which is based on modern financial technologies, is considered most often in the scientific publications of foreign researchers. A clear example is the article by VanderLinden (2024, April, 6), which argues that current insurance business models are not suitable for managing the risks of innovation support, operational risk and the risk of the transition to green energy. In the author's view, the insurance industry needs to transform, and insurers need to implement successful digital business models based on the size and niche of insurance companies, focus on direct customer relationships and interactions, and integration with technology innovators.

In the context of the digitalization of the insurance industry, Oletskyi (2024) analyzes the factors that influence the choice of an InsurTech business model when making a decision, which include: local market conditions and regulation of insurers' activities, as well as the possibility of their access to venture capital. The scientist notes that the most important factors affecting the choice of the InsurTech business model are: access to capital and its cost; regulatory mechanism and measures implemented by the regulator of the respective country; insurer startup speed and startup ecosystem.

More extensive research on key business models in the InsurTech industry; the advantages and new opportunities that this technology opens up for insurance companies through the introduction of a digital business model can also be found in the publications of Colmant (2023, July 18); Zinchenko (n. d.) etc.

The scientific publication Thomas (2024) is devoted to the study of the dynamic nature of the insurance sector, macroeconomic factors influencing business practices, new business models with an emphasis on the key proactive role of risk management and the use of the ERM tool to support the insurance industry. The author believes that insurers have several reasons to develop new business models, products and practices: analytics of large databases, new partnerships with InsurTech companies.

Separate scientific works are devoted to the study of the relationship between the business model of an insurance company and its financial efficiency. In particular, Lament & Bukowski (2021) identified the impact of the business model on the financial performance of insurance companies, based on the return on equity as a dependent variable, and concluded that the variability of ROE depends on the insurer's business model when dividing life and non-life insurance companies -life.

It seems important to conclude that the risk of investing in new business models, new products and their new sales channels can, at least, make it possible to maintain the competitiveness of insurers (Gart, 2018, January 18).

The above provides a basis for the statement that the main attention in foreign literature is focused on the need, advantages, opportunities, types and procedures of implementing new technological business models in insurance companies, as well as identifying the dependence between the business model and its financial efficiency.

In the domestic scientific field, the issues of formation, content, effectiveness and maturity of insurers' business models are considered only

in individual publications. In particular, the question of the maturity of analytical business models in insurance became the subject of scientific research by Paruschke (2023, 27 February). According to the author, predictive analytics is driving the insurance industry, as tools for analyzing large volumes of data to transform them into business analytics help make more accurate risk calculations and increase insurers' profitability; it also highlights that the maturity of analytical business models in the insurance industry varies across regions and companies. The publication notes the factors influencing the maturity of analytical business models in the insurance industry, to which the researcher includes: investment in analytics, availability and quality of data, regulatory environment, business culture and leadership.

Among the scientific works on the business models of insurers, the most thorough is the article by Tarnavskyi & Kolomiits (2021), which examines the activities of insurance companies other than life insurance. To characterize the retail, corporate, universal (represented by two clusters) and reinsurance business models, a set of clustering methods was used – the classic k-means algorithm and Kohonen's self-organizing maps. The clustering results were validated using classical indicators and the migration indicator, which ensures the stability of clusters over time. The migration of companies between the selected clusters (change of the business model) during the studied period was analyzed and a significant migration within the universal model and between the reinsurance and corporate models was revealed. The authors concluded that companies that adhere to a universal business model are the most financially stable compared to their counterparts united in the reinsurance cluster.

On the other hand, we are not aware of scientific developments of domestic scientists that would touch on this problem, which caused the need for this study and established its purpose.

The aim of the research is to determine the level of risks and the related profitability of business models of insurance companies of Ukraine, as well as to develop recommendations for their transformation based on proactive risk management.

Several hypotheses were put forward in the research process:

the first is the dynamics of changes in the number of insurers in Ukraine are affected by numerous risk factors, among which the most significant are the deterioration of the macroeconomic conditions of their operation and the increase in regulatory risk. Under the influence of the unfavorable macroeconomic situation, the scale of the insurance business in the country, especially its individual types, is narrowing, and the level of risks is increasing. Destructive economic phenomena caused by COVID-19 and martial law, as well as the establishment of stricter requirements for regulating the activities of insurance companies in general and the risk management system in particular, led to a reduction in their number in Ukraine;

the second is a certain level of risks is inherent in each business model; and their choice will depend on the degree of development of the insurance market in the country, the strategy of the insurance company, the level of its risk appetite and other factors;

the third is the formation of the business model of insurers should be based on a proactive approach to risk management, which involves taking into account not only the current level of risks and profitability, but also the emergence of new risk factors and the development of hypothetically possible scenarios for their response in the long term.

When writing the article, the authors participated in the use of the following research methods: analysis as the characterization of changes in the number and scope of insurers' activities; comparison, when studying the level of risks of different models of insurers; grouping, when analyzing insurers' risks by type (life and non-life insurance); correlations, when identifying the relationship between the selected risk indicator and independent variables.

The main part of the article consists of three sections that are logically interconnected. The first describes the impact of macroeconomic and regulatory changes on the activities of insurance companies in Ukraine, which led to a significant reduction in the number, balance currency and gross income of insurers, as well as an increase in the amount of insurance indemnities; in the second, the risks of insurers' business models are analyzed, in the third, the key provisions of proactive risk management of insurers are formulated, in view of which they should choose a business model.

1. Macroeconomic conditions of insurers' functioning and increase in regulatory requirements for them

Adoption of the new version of the Law of Ukraine "On Insurance" (2021) and its expanded interpretation in NBU documents regarding various aspects of insurers' activities, as well as the unfavorable economic situation in the country, caused a slowdown in the pace of development of the insurance business, which was manifested in a decrease in the growth rate of gross insurance premiums on 14.7% in 2020, 20.3% in 2022 compared to the previous year. Insurance reimbursements increased, because the level of net insurance payments for 2023 was 36.4%, while for 2022 it was 33.2%, respectively. In addition, insurers began to accumulate insurance reserves, which increased 1.6 times over the past 4 years, from UAH 29.558.8 million at the end of 2019 to UAH 46.781.2 million in 2023 (NBU, 2024).

Under the influence of negative economic and geopolitical factors, the level of risks of insurers in Ukraine increased, which made it necessary for the NBU to adopt stricter requirements for the regulation of their activities.

In particular, regulatory documents were put into effect that establish clear requirements for: identification and functioning of systemically important insurers, new requirements for the formation of capital adequacy, the insurer's risk management system, which is based on a risk-oriented approach; transition of insurance companies to the new financial reporting standard IFRS 17 "Insurance Contracts".

The unfavorable economic environment due to the pandemic and martial law in Ukraine, as well as new regulatory innovations, became the reasons for the decrease in the number of insurance companies (*Figure 1*).

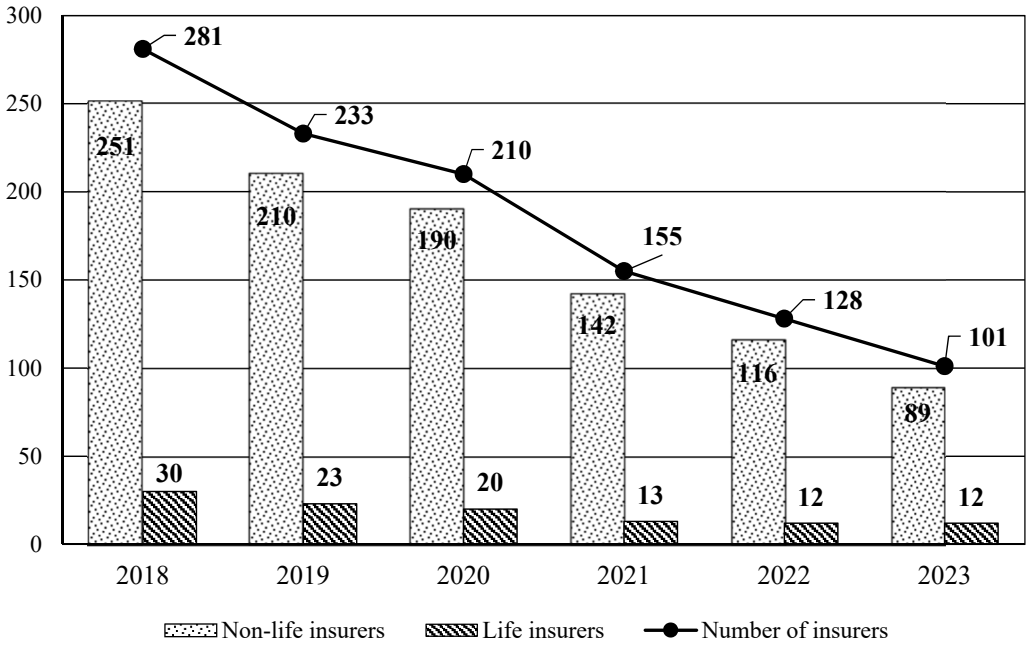

Figure 1. Dynamics of the number of insurance companies in Ukraine in 2018–2023

Source: compiled by the authors based on the NBU Supervisory Statistics (2024).

The data of *Figure 1* illustrate a clear trend towards a decrease in the number of insurers in Ukraine, especially in recent years. The largest quantitative changes occurred in 2019, 2021 and 2023, when the rate of decline in the number was 17%, 26.2% and 21%, respectively, which is connected, firstly, with different phases of development of the insurance market of Ukraine, taking into account the course towards European integration, secondly, with the increased impact of risks on the activities of insurance companies: in 2019–2021, the COVID-19 pandemic and military risks in 2022–2023.

According to the NBU, the main reasons for the exit of insurance companies from the domestic insurance market were failure to submit reports, failure to meet solvency requirements and individual insurers' own initiative due to the impossibility of functioning in the new regulatory field.

2. Research of business model risks of insurance companies in Ukraine

Methodical approaches to the definition of business models in the field of insurance are focused on the business processes of companies or are focused on the client. Models focused on the internal processes of the functioning of insurance companies ensure high efficiency, cost reduction and risk management, in turn, focused on customers, contribute to the growth of insurers' income due to repeated sales of insurance poles and recommendations of satisfied customers. When determining the business models of insurers in Ukraine, scientists Tarnavskyi & Kolomiits (2021) took into account indicators characterizing types of customers, types of insurance and sales channels. The business models identified by them on the basis of key quantitative indicators have the following characteristics: the "retail" company insures individuals, concentrating on a certain group of insurance; "corporate" focused on legal entities, insurance of expensive risks; "universal" large insurers focus on selling a significant number of cheap poles; small ones tend to insure mandatory species; "reinsurance" focuses mainly on voluntary types of insurance.

In turn, foreign researchers Lament & Bukowski (2021), analyzing the impact of business models of insurance companies on their financial efficiency; prove that the main factor differentiating the business model of an insurance company is insurance activity and the object related to it insurance. It seems to us that both approaches are balanced. The difference between them is only in the degree of detail: according to the first approach, the authors distinguish business models within one type of insurance, and according to the second, business models are considered from the perspective of two types of insurance.

The methodology of this research is based on the postulate of distinguishing two business models depending on the type of insurance: the first model – life insurers – *life*; the second – *non-life* insurers (other than life insurance). This approach seems more acceptable to us from the point of view of risk analysis and related indicators of the financial performance of insurers.

The diagnosis of the selected business models was based on public information about the main indicators of insurers' activity, published on the NBU website. It should be noted that the only company in Ukraine (PJSC Export Credit Society) has a state form of ownership and a special status. In the specified reporting, the performance indicators of the insurer with a special status are not reflected. As of January 1, 2024, 97 insurers, including 12 life insurers, provided insurance reporting (*Table 1*).

Table 1

Distribution of Ukrainian insurance companies by business models of life and non-life insurance as of 01.01.2024

Sample		Insurance business model	
		life	*non-life*
Amount	97	85	12
Structure , %	100	87.6	12.4

Source: compiled by the authors based on the NBU Supervisory Statistics (2024).

The statistical basis for the study of the level of risks under the two business models was the data of a sample of selected indicators for the last 4 years in a quarterly cut. The dependent variable reflecting the riskiness of insurers' operations is the ratio of insurance claims to insurance premiums (Loss Ratio), which allows to assess risks and is influenced by many independent variables. The choice of the latter is based on the following considerations: in the economic domestic and foreign literature, a number of indicators of insurers' performance are given, namely Solvency Ratio, Reinsurance Ratio, Reserves Ratio, Liquidity Ratio, Equity to Liability Ratio, Loss Ratio, Expense Ratio, Reserves Dynamics, etc. (Faster Capital, 2024). The study suggests that the risk indicators of insurance companies are closely related to the profitability of their activities, since the desire of companies to increase profits and achieve a higher level of return on capital leads to the acceptance of higher levels of risk. Based on the above, in the course of the study, the indicators of financial performance (profitability) of insurance companies were added to the risk indicators defined as independent variables. The algorithm for calculating the independent variables is shown in *Table 2*.

Table 2

Algorithm for calculating independent variables of insurers

Variable	Designation	Method of variable calculation
Net financial result	RN	Gross financial result – Income tax
Provisioning ratio	Reserve Ratio (ResR)	$\frac{\text{Insurance reserves}}{Insurance\ premiums} \cdot 100$
Reinsurance ratio	Reinsurance Ratio (RR)	$\frac{Reinsured\ premiums}{Total\ premiums} \cdot 100$
Solvency ratio	SR	$\frac{Equity}{Total\ assets} \cdot 100$
Dynamics of provisions	RD	$\frac{Provisions\ at\ the\ end\ of\ the\ period - Provisions\ at\ the\ beginning\ of\ the\ period}{Provisions\ at\ the\ beginning\ of\ the\ period} \cdot 100$
Return on assets	ROA	$\frac{Net\ income \cdot 100}{Assets}$
Return on equity	ROE	$\frac{Net\ profit \cdot 100}{Shareholders'\ equity}$

Source: compiled by the authors based on data from (Faster Capital, 2024; Lament & Bukowski, 2021).

The results of the analysis of variable indicators by insurers' business models are shown in *Table 3*.

Table 3

Main statistical indicators of variable parameters
by Ukrainian business models of insurers

Variables	Mean	Median	Minimum	Maximum	Variance	Standard deviation
Model 1: life insurers						
RN	395 887.6	338 186.3	77 270.0	845 697.3	49520303672	232426.6539
ResR	106.5	94.3	93.8	170.9	755.1125086	28.70120381
RR	7.7	3.0	2.5	23.0	53.03472222	7.606317151
SR	13.0	12.9	11.7	14.5	0.594420979	0.805269675
RD	–0.1	3.7	–43.4	9.9	192.7596631	14.56144324
ROA	1.9	1.9	0.5	3.5	0.800037637	0.934220708
ROE	15.1	14.4	3.3	28.1	51.82407454	7.518999537
Model 2: non-life insurers						
RN	1 405 422.1	1 227 427.9	261 056.5	2 717 495.1	5.96398E+11	806607.7028
ResR	105.2	82.9	82.2	218.6	2503.121924	52.25589405
RR	15.5	15.5	10.9	20.2	8.800763889	3.098521153
SR	35.8	35.7	34.7	37.5	0.705954805	0.877571943
RD	–2.2	3.5	–60.9	10.5	356.7091345	19.80858521
ROA	3.4	3.0	0.8	6.4	2.958956727	1.796650437
ROE	9.4	8.6	2.2	17.9	22.39818813	4.943115116

Source: Authors' own calculations.

The analysis of statistical indicators for the studied business models of Ukrainian insurers has led to the following conclusions:

• non-life insurers have significantly higher average net profit and variability, which proves that they operate in a more heterogeneous and risky environment with fluctuations in profit;

• the standardized value of the provisioning ratio in both models is similar, but higher for non-life companies, which indicates fluctuations in the amount of provisions, which is confirmed by their more volatile dynamics. The reinsurance ratio also varies. Additional volumes of reinsurance in the non-life model are higher because of its higher risks compared to the life model;

• Solvency ratios indicate different approaches to asset and liability management of insurers operating under the chosen business models;

• return on assets is higher for non-life insurers, which is evidence of more efficient asset management, although life insurers have a higher return on equity. Instead, ROE values are more variable and indicate higher risks associated with capital management for life insurers.

The correlation between the selected risk indicator and independent variables has been calculated in *Table 4*.

Table 4

Indicators of correlation dependence according to insurers' business models of Ukraine

Reporting date	The ratio of insurance payments to insurance premiums		Dependent variables	Correlation coefficient	
	life	*non-life*		Model 1 *life*	Model 2 *non-life*
01.04.2021	18.5	61.5	*RN*	0.63848981	–0.569867639
01.07.2021	19.6	59.3	*ResR*	–0.320117665	0.599412563
01.10.2021	19.2	59.8	*RR*	–0.510488774	0.669301032
01.01.2022	18.7	60.0	*SR*	–0.162999285	–0.839235655
01.04.2022	16.0	39.9	*LD*	–0.001037531	–0.08269526
01.07.2022	19.3	40.1	*RD*	0.204627692	–0.46095677
01.10.2022	21.5	42.3	*ROA*	0.553473977	–0.565620255
01.01.2023	21.4	42.9	*ROE*	0.542378204	–0.538218736
01.04.2023	27.0	48.6	–	*0.7 – 1 або –0.7 – –1*	Strong connection
01.07.2023	27.0	49.1		*0.5 – 0.7 або –0.5 – –0.7*	Moderate connection
01.10.2023	26.4	47.9		*0.3 – 0.5 або –0.3 – –0.5*	Weak connection
01.01.2024	25.8	48.3		*0 – 0.3 або 0 – –0.3*	No connection at all

Source: authors' own research.

The analysis of correlation dependences gives reason to claim that life insurers (model 1) are more risky due to the positive correlation between the indicators of RN, ROA, ROE and payments, which confirms the thesis that the risk of payments increases with an increase in their profitability. At the same time, the negative correlation with the coefficients of reserves and reinsurance indicates the need for them to have significant reserves and carry out reinsurance to reduce the level of risks. Non-life insurers of the second model are less risky due to the negative correlation between key profitability indicators and payouts. It can be hypothetically assumed that insurers using the non-life model achieve higher profitability at a lower level of risks due to mandatory types of insurance. However, this issue requires additional special research. The positive correlation with the coefficients of reserves and reinsurance is a vivid illustration of the feasibility of providing high volumes of reserves and reinsurance to cover losses when risks occur.

3. Formation of the insurer's business model based on proactive risk management

According to foreign sources, the top 10 current risks for insurers include: cyberattack and data leakage, inability to attract or retain the best specialists, weather and climate disasters, regulatory or legislative changes, economic downturn or slow recovery, brand or reputation damage, technical or system failure, upward competition, climate change, inability to innovate or meet customer needs (GRMS Aon, 2023). Currently, the list of these risks is far from complete, which necessitates their constant identification and

implementation of a new risk management platform that will allow insurers to anticipate possible risk factors in advance, develop preventive response measures, and ensure stability and continuity of operations.

Given the European integration vector of changes in domestic legislation, Ukrainian insurance companies in the near future should not only achieve positive financial results and obtain an acceptable level of return on capital, but also adhere to a risk-oriented philosophy of conducting insurance business based on a proactive approach. This will require them to transform existing and introduce innovative business models based on:

First, the use of new technologies (artificial intelligence and machine learning), modern software products to ensure digital operational resilience; a single standardized risk taxonomy, methodology and risk management culture;

secondly, the formation of a centralized database on risk factors of the external and internal environment, as well as a balanced system of risk indicators, financial performance, market position, customer interest, optimization of business processes, insurance company value;

thirdly, implementation of modern tools for measuring risks and predicting the emergence of new drivers of threats, both economic and climatic, social, epidemiological, technological, geopolitical, and man-made, as well as procedures for transforming risk data into business analytics;

fourthly, taking into account both European directives and guidelines on determining capital adequacy, ensuring solvency, liquidity and creating reserves, as well as national trends in the development of the insurance market and the peculiarities of the functioning of insurers in the conditions of martial law in Ukraine;

fifthly, the development of a risk matrix that would reflect the most significant risks for the insurer in the current situation and in the long term. This will enable the insurance company to focus on proactivity with the ability to take into account future risk factors and, in the event of their occurrence, to quickly adapt, which will contribute to its competitive advantage, sustainability and growth;

sixth one is conducting constant monitoring of risk appetites for all key risk positions and analysis of their consistency with the insurance company’s potential opportunities to comply with established parameters, as well as current market trends;

seventh one is to create a chain of interrelated determinants of the insurance business "client – business process – profitability and value, weighted by risk – added value for consumers of insurance services" considering not only the actual situation, but also the forecast of the future;

eighthly, the orientation of insurers towards a possible increase in regulatory risk due to the adoption of stricter requirements of regulators, which is currently observed both in the countries of the European Union and in Ukraine. Obviously, this will lead to an increase in costs, a decrease in

profitability and a decrease in the competitiveness of insurance companies in the local segments of the insurance market, and at the same time to an increase in insurance premiums for consumers;

ninth, shifting the emphasis from current analytics to prognostic, based on the application of innovative stress testing tools of actual and hypothetically possible risk-event development scenarios, which should be developed for different types of business models;

tenth, the use of the system of motivation of the personnel of insurance companies to achieve not only the current, but also the long-term financial result, taking into account the accepted risks;

twelfth, providing relevant, reliable, transparent information to owners of insurance services in an accessible form, which will enable them to simplify and speed up decision-making, as well as eliminate information asymmetry;

twelfthly, attracting highly qualified specialists who have new knowledge, skills and experience in the use of the wide possibilities of digital platforms in the insurance business and risk management. Today, more than ever, insurers and reinsurers need to involve talented and strategically thinking specialists in the process of managing a diverse range of risks.

The practical implementation of the above and other provisions of proactive risk management in insurance companies of Ukraine will enable them to form inclusive business models that will ensure the reliability and longevity of their operation in a high-risk market environment. Instead, this process will take place in stages, as the national economy recovers and its insurance sector develops.

Conclusions

Based on the results of determining the level of risks and the profitability associated with them, the business models of insurance companies of Ukraine proved the need for their transformation on the basis of proactive risk management. As a result of the unfavorable macroeconomic situation caused first by the pandemic and then by the state of war in Ukraine, the scale of the insurance business is shrinking, the number of insurance companies is decreasing, and the level of their risks is increasing. In the research process, two business models were distinguished depending on the type of insurance – life and non-life, for each of which the risk and profitability indicators were analyzed. Insurers based on the life model are more risky due to the positive correlation between RN, ROA, ROE and payouts, which confirms the thesis that the payout risk increases when profitability increases. At the same time, the negative correlation with the coefficients of reserves and reinsurance indicates the need for significant reserves and reinsurance to reduce the level of risks. Non-life insurers are less risky due to the negative correlation between key profitability indicators and payouts. Analysis of the causes of such dependence requires special scientific research. A positive correlation with the coefficients

of reserves and reinsurance indicates the expediency of providing high volumes of reserves and reinsurance to cover losses from risks.

It is proposed to form a business model for insurers, which should be based on proactive risk management, according to which it is assumed to take into account not only the current level of profitability and risks, but also the appearance of their new types, as well as the definition of hypothetically possible scenarios of the occurrence of risk events in the long term and their sizes potential losses. The implementation of proactive risk management in insurance companies will provide them with strengthening their competitiveness on the market, stable operations and sustainable development both in the current and future periods.

The main areas of future research include: development of the latest tools for measuring insurers' risks; forecasting the emergence of new types of risks in life and non-life insurance based on statistical and expert methods; development of methodical approaches to identification of business models of insurers.

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