

FINANCIAL CAPACITY OF INSURANCE COMPANIES AS A FACTOR OF STABLE DEVELOPMENT OF THE UKRAINIAN INSURANCE MARKET

Tetyana Kryvoshlyk

Faculty of Finance, Department of Banking and Insurance, Kyiv National Economic University named after Vadym Hetman, Kyiv, Ukraine;
E-mail: tatiana.dk@ukr.net

Olha Dymnich

Faculty of Finance, Department of Banking and Insurance, Kyiv National Economic University named after Vadym Hetman, Kyiv, Ukraine;
E-mail: dymnichov@kneu.edu.ua

Tetyana Stetsyuk

Faculty of Finance, Department of Banking and Insurance, Kyiv National Economic University named after Vadym Hetman, Kyiv, Ukraine;
E-mail: stetsiukti@gmail.com

Andriy Baranov

Faculty of Finance, Department of Banking and Insurance, Kyiv National Economic University named after Vadym Hetman, Kyiv, Ukraine;
E-mail: andriy.baranov@ukr.net

Igor Britchenko*

Faculty of Technical and Economic Sciences, State Higher Vocational School Memorial of Prof. Stanislaw Tarnowski, Tarnobrzeg, Poland;
E-mail: igor_britchenko@pltch-sci.com

Viktor Trynchuk

Institute of Economics and Business, Department of Finance, Accounting and Banking, Luhansk Taras Shevchenko National University, Poltava, Ukraine;
E-mail: wiktortrynchuk@gmail.com

(Received: June 2023; Accepted: September 2023; Published: April 2024)

* Corresponding author: Igor Britchenko. E-mail: igor_britchenko@pltch-sci.com

Copyright © 2024 The Author(s). Published by VGWU Press

This is an Open Access article distributed under the terms of the Creative Commons BY 4.0 license (Creative Commons — Attribution 4.0 International — CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

Abstract: The relevance of the article is based on an in-depth study of the financial potential of insurers and its impact on the insurance market, which provides valuable information for the stakeholders of the insurance industry. Therefore, this study aims to determine approaches to revealing the essence of the financial capacity of insurers, based on the scientific tools of financial science. The leading approach to the study of this problem is the analysis of the dynamics of liabilities (raised and borrowed funds) and equity capital of insurers and the relationship between them, which enables a comprehensive look at the impact of these indicators on the development of insurance market and internal and external factors that have both an objective and subjective impact on the financial capacity of insurers and the insurance market. The article defines the stages and methodology of assessing the financial condition of insurers. In particular, the normative method, the comparative method, the static method, the formal-logical method, the economic-mathematical method, the method of analysis and synthesis became the leading research methods. These assessment methods are crucial for the timely determination of the current state of financial capacity and its potential. Using a multivariate correlation-regression model, the authors demonstrate the importance of various components of financial capacity. The presented results will be useful to various stakeholders in the insurance industry as they provide a deeper understanding of their financial strength, including the dynamics of liabilities, equity and leveraged funds. First of all, it was established that financial resources are the basis of financial capacity. Secondly, the definition of the insurance company's financial resources as a source and component of the company's functioning is formulated. Thirdly, it is shown that the insurer's financial capacity is logically dependent on its investment capacity, which is determined by the amount of financial resources. It was also determined that financial capacity is a dynamic quantity and is manifested only in the process of its use and ideally should be accompanied by its growth. Among them, it was proved that the main components that significantly affect the formation of the financial potential of insurers and the growth of the insurance market of Ukraine are insurance reserves and authorized capital. These conclusions can easily become the basis for the formation of further state insurance policy, which will be followed through legislative reforms, increased competition in the insurance market and will result in an increase in the level of trust among the population.

Keywords: financial capacity; insurance company; insurance market; financial resources; share; funds raised.

JEL Codes: G22; L10; O16.

1. Introduction

In the economy of Ukraine, insurance occupies a strong position as one of the important financial instruments that provides effective protection of property interests of business entities, individuals and the state from economic, natural, technogenic and other risks. In the process of insurance, insurance companies mobilize significant monetary resources for their further investment, which allows them to meet the needs of the economy in scarce capital not only for short-term but

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

also long-term investments. Accordingly, the high importance of the insurance market for the national economy is confirmed by the possibility of saving budget funds and the rational use of financial resources of the state and insurance companies.

Stable and effective development of the insurance market directly depends on the financial capacity of insurance companies (Glonti et al., 2023), which, carrying out insurance protection of policyholders, play the role of financial stability and security of the country's economy. The higher their financial capacity, the more opportunities there will be for them to fulfill their obligations to insurers, shareholders, the state, the more competitive and investment-attractive an insurance business will be.

The study of the problems of insurance companies' financial capacity formation is important and relevant. Since under modern conditions, the financial capacity will determine the state's economy in the near future, it will hold one of the prominent places among state priorities and will influence the financial policy of the state. Accordingly, ensuring sustainable socio-economic development in the country requires the fullest possible realization of the insurance market's capacity (Khovrak, 2020; Činčalová, 2021; Płonka et al., 2022a; Vnukova et al., 2022; Britchenko et al., 2023) and in particular, the financial capacity of insurance companies, as an important component of the financial market.

Currently, the insurance market of Ukraine is the most developed sector of the non-banking services market (Tsymbaliuk et al., 2021; Yavorska et al., 2022). However, in terms of assets and the level of insurance services consumption, it is insignificant (as of April 2020, the Insurance Penetration Ratio reached 1.4%). It is considerably behind the European Union's insurance market, where the Penetration Rate is 5.0%. This is due to the fact that a high insurance culture has formed in Europe (Horyslavets et al., 2018), the share of voluntary property and liability insurance is high (Szymańska, 2017), types of personal insurance are developed, in particular, health (Klapkiv et al., 2020; Płonka, 2022; Płonka et al., 2022b), life and accident insurance (Bednarczyk et al., 2021).

Compared to European countries, the insurance market of Ukraine is characterized by insufficient capitalization and financial stability of insurance companies, misbalance in the development of certain types of insurance, low interest of the population in insurance services (Dymnich et al., 2021; Jedynak, 2022). In addition, the COVID-19 pandemic (Dankiewicz et al., 2020; Polinkevych & Kamiński, 2020; Shevchuk et al., 2020; Polinkevych et al., 2021; Volosovych et al., 2021), as well as military actions have affected the development of entire insurance market so the insurers' activity. In particular, the volume of insurance services sales has significantly decreased, especially through retail channels, there were requests from policyholders for deferral of regular payments and early termination of insurance contracts. In this context, the importance of the financial capacity of insurance

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

companies is increasing, thus the issues of effective management of their financial flows, increasing financial capabilities and the efficiency of the use of available resources are of particular importance. Furthermore, the need for a deep and comprehensive financial capacity study is due to the industry specifics of the structure of insurance organization's financial resources, the objective need for investment activity, the integration of insurance organizations into the state financial system. Consequently, the relevance of the study is conditioned by the need to investigate the peculiarities of the formation of insurance companies' financial capacity. Besides, determining the structure of financial resources, trends in the direction of strengthening the insurers' financial capacity and its impact on the development of the insurance market are of particular importance.

The paper aims to summarize the theoretical approaches to the essence, formation and assessment of the financial capacity of an insurance company; estimate the ongoing financial capacity of the insurance market of Ukraine, identify factors of its influence on the development of the insurance market and to determine the directions for more actively increasing the financial capacity of insurers.

2. Materials and Methods

2.1. Literature Review

Financial capacity is one of the important factors that determines the success of an insurance company's activity in modern conditions. Before substantiating the scientific problem of forming and assessing the financial capacity of an insurance company, it is advisable to determine the content of the concept of "financial capacity of the insurance company" since it is key in our study.

For an insurance company as a business entity, capacity is an important element of activity. It is a set of company resources for its transformation to achieve its goals and combines the driving forces and sources of the company. The capacity of an insurance company has a dynamic nature and shows itself only during its activity. Its use and building are continuous and complement each other. Moreover, the use of the insurer's capacity should be accompanied by its growth.

Theoretical aspects of determining the nature, formation, and use of the companies' financial capacity are neglected in the works of many domestic and foreign authors. At the same time, in the scientific community, there is not much attention to the economic nature of the financial capacity of insurance companies in Ukraine. There is no unambiguous definition of this concept in the economic literature. Insufficiently defined conceptual approaches to the principles of formation and functioning of the financial capacity of insurance companies, its role, and place in the insurance market and the state economy.

The capacity in the insurance sector can be viewed from the perspective of an insurance company and the insurance market. The structure of the insurer's capacity

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

is characterized by a significant number of components that cover financial, investment, marketing, information, competitive, and other capacities. They interact closely with each other, but the maximum possible identification and use of reserves in each of the areas is a boost for the company's development.

In the tutorial "Financial Investment" the financial capacity of the insurance company is defined as "financial resources that are in economic circulation and are used for insurance operations and investment activity" (Oparin, 2006; Peresada, Kovalenko, 2006; Fedosov, 2008).

The position of other scientists is almost similar. Thus, Nyenno believes that the financial capacity of the insurer's development is a set of the insurer's obligations-free financial resources, which are directed to the expansion of activity. The purpose of financial capacity is the financial basis for its development (Nyenno, 2009).

Baranova, Nyenno believe that the set of the insurer's financial resources forms its financial capacity (Baranova & Nyenno, 2012). However, this definition does not detail which financial resources determine the insurer's capacity as well as their purpose.

Additionally, there is the concept of "financial capacity of insurance entrepreneurship" in the financial literature. Since the insurer is an entrepreneur and insurance is a type of entrepreneurial activity, the subject of the insurance business is an insurance company (insurance organization, insurer), in our opinion, the concepts of "financial capacity of the insurance company" and "financial capacity of the insurance business" are almost identical or even completely coincide. Thus, Plysa, Vorobiova consider the financial capacity of insurance entrepreneurship as a set of available and potential financial resources that the insurance system can mobilize and implement under certain conditions to ensure its sustainable economic growth in a clearly defined period (Plysa & Vorobyova, 2022).

In these scientific views, several fundamental points attract attention: first, according to scientists, financial resources are the basis of financial capacity; secondly, financial resources are free from obligations; thirdly, as a rule, scientists emphasize that financial resources are directed to the activity expansion to ensure further development.

As noted above, the concept of "financial capacity of an insurance company" is in a logical relationship with other financial concepts, and in particular such as "investment capacity of an insurance company". Thus, Havryliak considers the financial capacity of the investment activity of the insurance company as "all financial capabilities of the insurer, determined by a sufficient amount of financial resources, are characterized by the ability to effectively use it in investment activity and ensure its sustainable development" (Havryliak, 2017).

Pobocho et al. believe that the investment capacity of the insurance company is "the availability of financial resources at the disposal of the insurance company, which

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

are relatively temporarily free from obligations and can be used to invest in order to generate income" (Pobocho et al. 2017). According to Tkachenko, "the investment capacity of the insurer is a set of funds that are temporarily and relatively free from obligations and are used to generate investment income" (Tkachenko, 2004).

In these definitions, the authors focus on the fact that the investment capacity of an insurance company is determined by the amount of financial resources. Factors of direct influence on the volume of investment capacity of the company are the size of the formed insurance reserves and equity, which form the basis of financial capacity. Therefore, this indicates that the investment capacity of the insurer depends on the financial capacity level. Accordingly, the attraction of financial resources by the insurer occurs in carrying out insurance, financial, and investment activities. Financial resources in these areas of activities are dynamically interrelated and their movement is the circulation of the company's funds.

Thus, based on the above-mentioned analysis of approaches, we propose to consider it as a set of available and potential financial resources that can be mobilized and implemented by the insurer under certain conditions to ensure its effective functioning and achieve strategic objectives, considering the factorial influence of the environment.

A number of generally accepted scientific methods were used in this study. With the help of the normative method, the essence and forms of insurance, the insurance market, and financial resources were summarized. The peculiarities of the specified categories, their constituent parts, and characteristic features were investigated with the help of this method. The formal-logical method served as a tool for additional research into the nature of insurance activity in Ukraine, and the reasons for its low level of spread compared to European countries, where the level of voluntary insurance is much more relevant. For this, a comparative method was also used. The statistical method was used for a visual presentation of the level of insurance of companies in Ukraine, a schematic representation of insurance indicators, and an analysis of the financial capacity of Ukrainian insurance companies. The economic-mathematical method helped to determine the effectiveness of insurance services with the help of various mathematical tools.

The method of analysis and synthesis helped to summarize the necessary statistical information on the basis of the collected data by applying the above-mentioned methods and, based on it, formulate the conclusions necessary according to the research goal. In particular, a detailed analysis of the dynamics of liabilities (raised and borrowed funds) and equity capital of insurers and the relationship between them was carried out, which allows a comprehensive look at the impact of these indicators on the development of the insurance market and internal and external factors that have both objective and subjective impact on the financial capacity of insurers and the insurance market.

2.2. Generalization of Main Statements

The financial capacity is realized through the ability of the insurance company to form the necessary amount of financial resources from various sources, effectively distribute and use them in order to ensure tactical and strategic tasks of financing future development.

Financial resources are the material implementation of insurance relationships provided by insurers. Scientists ambiguously interpret the concept of "financial resources of an insurance company." Thus, Bland defines the financial resources of an insurance company as "a set of temporarily free funds of the insurer, which are in economic circulation and are used for insurance operations and investment activity" (Bland, 1993).

Scientists Svitlychna, Stashkevych define the financial resources of the insurance company as "a set of funds that are formed in the process of insurance activity and are intended to fulfill insurance protection obligations, maintenance of solvency and financial stability of the insurer" (Svitlychna & Stashkevych, 2015). We partially share the position of these scientists and believe that the financial resources of the insurance company are mainly in monetary form.

Some researchers emphasize the constituent elements of the insurer's financial resources when defining the concept of "financial resources". Thus, a number of scientists believe that the financial resources of the insurance company consist of two main parts: equity and capital raised, while the capital raised significantly prevails over equity. As to them, the capital raised includes insurance reserves, credits, payables and reinsurance credit (Halasyuk, 2009; Shevchuk & Fastunova, 2010).

According to Hamankova, Nesterova, the sources of financial resources of the insurance organization are their share, raised and borrowed capital (Hamankova, 2007; Nesterova, 2013).

In this way, there is a discussion in the scientific community whether it is advisable to devote the raised and borrowed financial resources, or whether the latter are the part of the raised. At the same time, Tkachenko determines that for the convenience of the study, compared to the amount of insurance reserves, the share of borrowed capital of the insurer is rather modest. It is advisable to divide the capital into shares and raised, considering that it includes borrowed (Tkachenko, 2009).

However, the financial resources of the insurance company in accordance with the Conceptual Foundations of International Financial Reporting Standards approved by the Council on International Financial Reporting Standards (IFRS, 2012) and in accordance with the requirements of Solvency II are divided into 2 groups: equity and liabilities, which in its turn divided into debt and loan by sources of their formation (Eur-lex, 2009).

3. Results

3.1. Development of the insurance market in Ukraine

Bearing into mind that Ukraine has chosen the path of developing national Accounting Regulations (STANDARDS), which are based on the basic concepts of International Financial Reporting Standards (IFRS, 2012), as well as the fact that insurers make up a balance sheet in accordance with IFRS, that is appropriate to consider the insurer's financial resources as share capital and liabilities. According to the sources of origin, they are divided into attracted funds (external debts to policyholders and reinsurers in the amount of formed insurance reserves) and borrowed funds (debt to other creditors, in particular, banks, the other budget and financial institutions, not related to insurance activity), which are intended to fulfill obligations for insurance protection, maintaining solvency and financial stability of the insurer.

The financial resources of the insurance company are considered by us as a source and component of the company's functioning, which is a necessary condition for the implementation of its insurance, financial and investment activities and reflects the set of financial and economic relations as to formation, use and growth of financial capacity.

As we mentioned before, the capacity of the entire insurance market makes up the cumulative capacity of the present insurers. The key components of the insurance market's financial capacity are the possibility of forming financial resources by insurers and a sufficient volume of them; the functioning of the system of stable economic relations between the subjects of the insurance market; the model of effective management of financial capacity. That is why the financial capacity of the insurance market is the basis for increasing the level of security and stability within the country.

As of 30.06.22, the development of the insurance market of Ukraine was provided by 142 insurance companies, including 129 general and 13 life insurers (see Figure 1, Source: completed by authors according to NBU). From 2014 to 2021 the total number of insurers in Ukraine decreased by 62.8%: by 77.2% in general insurance and by 60.3% in life ("White paper. Future regulation of insurance market in Ukraine", 2020). This reduction is the largest among all structures of the non-banking financial sector of Ukraine, which is illustrated below.

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

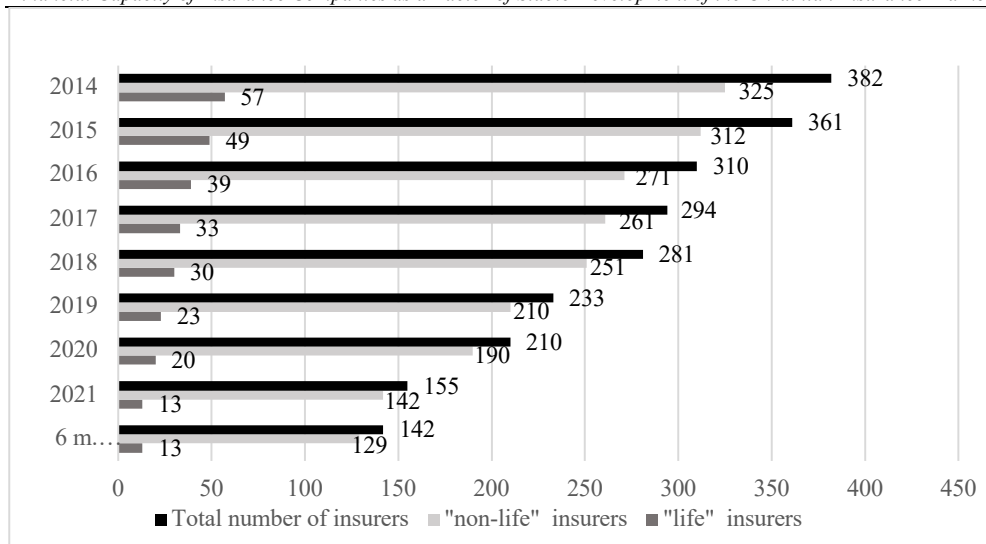


Figure 1. The number of insurance companies during 2014-2021 in Ukraine

Source: Own processing

This is due to the fact that the market was left by insurers who were not active, did not comply with the Regulator's standards on solvency and voluntarily withdrew the licenses. Unlike developed countries, the insurance market of Ukraine is characterized by a high share of general insurance companies. At the same time, if we consider the concentration of the insurance market, it turns out that only 50 insurers out of 142 general insurance companies accumulate 71.0% of all collected insurance premiums, and 10 life insurance insurers, respectively, 96.6% ("Results of Ukrainian insurance market of 2021", 2021).

That is, we can talk about the presence of "pseudo-insurance" on the insurance market since some insurers have minor insurance activity.

The reduction of the insurers' number was quite significantly reflected in the development indicators of the insurance market (see Figure 2, Source: figured out according to NBU). In particular, the volume of insurers' share capital during 2014-2021 decreased by 41.7 %, the volume of assets decreased by 9.5 %, the volume of gross premiums tended to grow, but after 2019 decreased by 7.7 %.

Solely the volume of insurance reserves increased by 125.3 %.

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynychuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

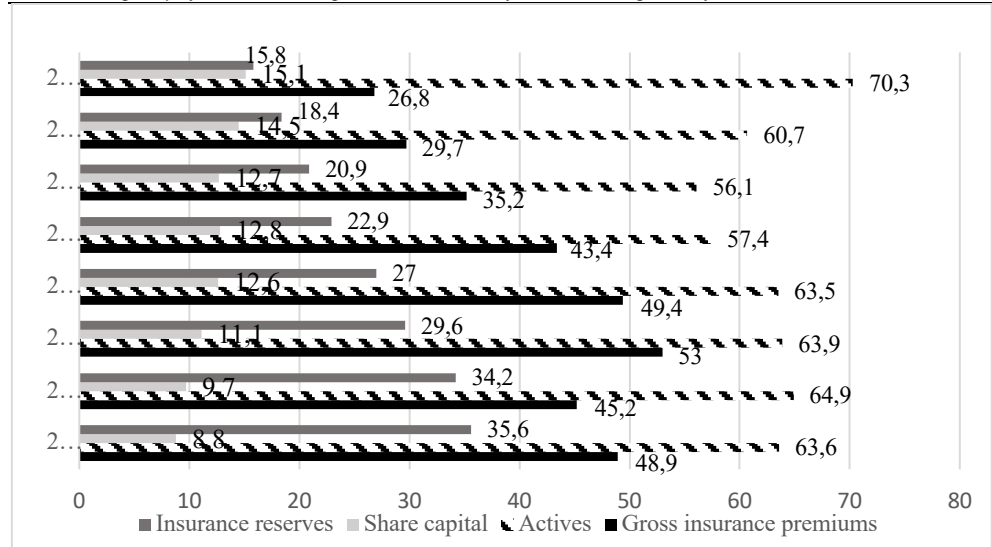


Figure 2. Indicators of Ukraine insurance market development during 2014-2021 (UAH, billion)

Source: Own processing

Despite that reduction, their total financial capacity has increased due to the growth of the total amount of financial resources, from UAH 53 536.3 million in 2017 to UAH 64 209.2 million in 2022 (see Figure 3, Source: formed by the authors according to NBU), which is largely due to an increase the volume of insurance reserves formed.

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

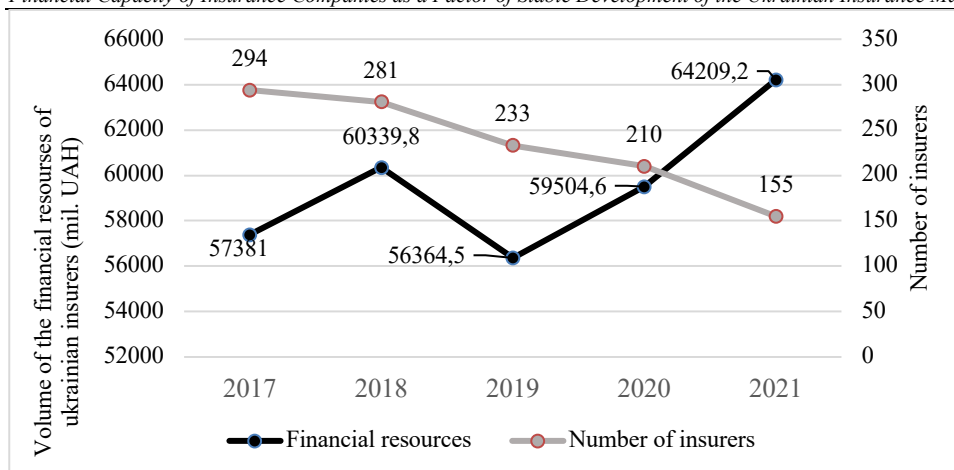


Figure 3. Numbers of Ukrainian insurance companies and their financial capacity volume during 2017-2022

Source: Own processing

It is worth noting that the rate of change in the insurers' financial capacity did not have constant positive dynamics. Thus, in 2018 it amounted to 105.2%, in 2019 – 93.4%, in 2020 – 105.6%, and 2021 – 107.9%, which is evidence of insignificant growth of financial capacity rates of insurers and moderate growth of the insurance market. The trend analysis of the financial capacity of insurers does not give grounds to affirm that the situation will improve in the near future, considering the unstable economic situation, COVID-19 pandemic, and military actions.

3.2. Calculation of financial capacity as a basis for further research

In addition, Nyenno offers a comprehensive indicator of financial capacity, which "is defined as the distinction between the created financial provision and the ongoing financial needs costs. Forming of financial provisions for the insurer's development occurs: due to proceeds of insurance premiums, which aim is to form insurance reserves; due to proceeds of investment income ..., shared capital, other resources, retained earnings ..." according to the following formula:

$$FDP = FE - MFN = (Ocap + IR) - (Ipay + TC) \tag{1}$$

where

FDP - Financial Development Potential of the insurer;

FE - Financial Enrichment of the insurer;

MFN - Moment Financial Needs;

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

Ocap - Own Capital;

IR - Insurance Reserves;

Ipay - Insurance Payments;

TC - Total Costs" (Nyeno, 2009).

In our opinion, such a complex indicator of the financial capacity estimation of an insurer is a subject to discussion. The formula above, except for the indicator *Ocap* is rather repetitive to revenue assumption and does not count the potential possibility (reserves) of the insurer's financial capacity which can be used under certain conditions. Moreover, the calculation of the distinction between equity & reserves and payments & costs makes it possible to conclude only about the effectiveness of the use of financial resources, which is not equivalent to the financial capacity of the company.

3.3. Structure of financial resources of insurance companies

The analysis of the structure of financial resources of insurers in Ukraine shows that the main elements of the formation of their financial capacity are the funds raised (their share in 2017 amounted to 39.8%, in 2021 – 57.5%) and equity (respectively, in 2017 – 47.6%, in 2021 – 34.6%). Since 2018 the raised funds prevailed over equity due to the specifics of insurance activities (see Table 1, *Source: formed by the authors according to NBU*).

In the structure of raised funds, which had constant growth dynamics, the largest amount had insurance reserves, the share of which increased from 39.0% in 2017 to 56.1% in 2021.

The prevailing amount of insurance reserves in the amount of raised funds among other elements of financial resources is common in insurance companies' activity. This is due to the specifics of the insurance business, which consists of mobilizing raised funds, and in particular, insurance premiums to insurance reserves intended to provide insurance protection. The funds of insurance reserves do not belong to insurers, they are temporarily involved in its disposal for the period of validity of insurance contracts and are used to make insurance payments or as an investment source.

Table 1. Structure of financial resources of insurance companies of Ukraine in 2017-2021 (%)

Indicators	2017	2018	2019	2020	2021
Financial resources	100,0	100,0	100,0	100,0	100,0
1. Liability	52,4	58,9	61,3	64,5	65,4
1.1 Funds raised	39,8	44,1	51,3	56,3	57,5
<i>Incl. Insurance reserves</i>	<i>39,0</i>	<i>43,2</i>	<i>50,0</i>	<i>54,9</i>	<i>56,1</i>
1.2 Borrowed costs	12,6	14,8	10,1	12,8	7,9

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

<i>Incl. accounts payable</i>	9,4	11,5	7,7	6,8	6,7
2. Share capital	47,6	41,1	38,7	35,5	34,6
<i>Incl. equity</i>	22,6	18,1	17,3	13,2	12,3

Source: Own processing

The total amount of insurance reserves in Ukraine during 2017-2021 increased by 38.3% and at the end of 2021 amounted to UAH 36 021.4 million. Out of them, technical reserves accounted for UAH 21 849.8 million, or 60.7%; life insurance reserves, respectively, UAH 14 171.6 million, or 39.3% (National Bank of Ukraine, 2020; 2021). Moreover, during the study period, the technical reserves volume increased by 56.3 %, the volume of life insurance reserves - by 68.9 %. Therefore, such factors as an increase in the volume of insurance reserves, a significant increase in technical reserves, and a proactive growth of mathematical reserves should be considered as those that significantly affect the strengthening of insurers' financial capacity and the growth of the insurance market of Ukraine.

Since the source of formation of insurance reserves are insurance and reinsurance premiums, the latter significantly affect the financial capacity of both insurance companies and the development of the entire insurance market. The growth of insurance premiums leads to an increase in the volume of insurance activity, and, accordingly, to an increase in the volume of insurance reserves. The total amount of gross insurance premiums received for all types of insurance in Ukraine in 2021 amounted to UAH 49 708.0 million, up to 14.5% compared to 2017.

This is to mention, that the most dynamic insurance reserves were formed due to auto - and health insurance premiums. The volume of premiums for these types of insurance increased annually, in particular, premiums for auto insurance increased by 81.9%, health insurance - respectively, by 122.1% (see Table 2, Source: compiled by authors according to NBU data). Instead, for other types of general insurance there is a tendency to reduce the volume of insurance premiums (for example, property insurance from UAH 5 098.9 million in 2017 to UAH 3 595.50 million in 2021 or by 29.5 %; cargo insurance from UAH 4 686.7 million in 2017 to UAH 1 545.5 million in 2021 or by 67.0%), although their absolute values are quite significant in the structure of insurance reserves and financial capacity of insurers.

Table 2. Growth rates of gross insurance premiums by type of insurance in Ukraine, 2017-2021 (%)

Indicators	Growth Rate 2018/2017	Growth Rate 2019/2018	Growth Rate 2020/2019	Growth Rate 2021/2020	Growth Rate 2021/2017
Auto insurance (CASCO, MTPL, "Green Card")	122.3	116.5	105.7	120.9	181.9

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

Property insurance	126.3	102.6	64.9	83.8	70.5
Fire and NatCat insurance	125.0	105.5	55.9	71.2	52.6
Financial risks insurance	91.8	85.6	68.2	81.2	43.5
Cargo and baggage insurance	61.9	97.8	59.6	91.4	33.0
General Liability (GTPL) insurance	87.8	87.2	57.2	96.3	42.2
Credit insurance	305.1	99.0	31.7	31.5	30.2
Life insurance	134.1	118.4	108.5	117.2	201.9
Health insurance (incl. continuous health insurance)	121.0	128.2	118.6	120.7	222.1
Accident insurance	134.1	106.7	85.2	99.9	121.9
Other types of general insurance	133.2	108.9	80.5	141.9	165.7
Total (all types of insurance)	113.7	107.4	85.2	110.0	114.5

Source: Own processing

In 2020-2021 insurers failed to achieve the amount of premiums of 2017-2018, including those associated with the COVID-19 pandemic and military actions in Ukraine. Accordingly, the future premium growth of these types of insurance is a reserve for increasing the level of financial capacity of the insurance market and more dynamic development of the insurance market of Ukraine.

In the structure of gross insurance premiums in Ukraine, the largest share (averagely about 90%) have types of general insurance, the share of life insurance premiums, although it tends to increase, is insignificant, respectively 6.7% - in 2017 and 11.8% - in 2021.

The analysis in Table 3 confirms our above-mentioned thesis that the largest amount of insurance reserves are formed by auto insurance premiums (share in 2017 was 24.4% and by 2021 increased to 38.8%) and health insurance, and in particular, continuous health insurance (share increased from 6.6% in 2017 to 12.9% in 2021). This is due to the fact that these types of insurance belong to the classical, mass types, in which business entities and the population of the country are involved. Quite significant in the amount of insurance reserves are the shares of premiums for property insurance (from 11.7 in 2017 to 7.2% in 2021), financial risks insurance (from 12.9% in 2017 to 4.9% in 2021), fire and NatCat insurance (from 8.3% in 2017 to 3.8% in 2021), cargo and baggage insurance (from 10.8% in 2017 to 3.1% in 2021).

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynychuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

The development of the financial capacity of the insurance market of Ukraine is provided by life insurance companies. During the study period, life insurance developed at a fairly high rate. The growth rate of life insurance premiums (from 34.1% in 2018 to 101.9% in 2021) significantly exceeded the growth rate of non-life premiums (from 12.2% in 2018 to 9.1% in 2021) and in the entire market (from 13.7% in 2018 to 14.5% in 2021) (see Table 2). Accordingly, the share of life insurance premiums in insurance reserves increased from 6.7% in 2017 to 11.8% in 2021 (see Table 3, Source: compiled by authors according to NBU data). Despite its small size, we can assume that the influence of life insurance premiums on the formation of insurance reserves and the financial capacity of insurers is increasing and the market is developing actively. However, life insurance remains insufficiently widespread in Ukraine now, its penetration rate averages 0.11%. Instead, the penetration rate of non-life insurance is more significant, although it tends to decrease (from 1.36% in 2017 to 0.8 in 2021). This is due, in a certain way, to the fact that the development of the insurance market restrains a number of problems, among them: unfavorable economic situation in the country; imperfect insurance regulation; "insufficient level of consumer solvency and quality of services" (Kryvoshlyk, 2018); "lack of consumer and legal entities confidence to insurance service" (Tatarina, 2010); high inflation rate and others. To overcome the above-mentioned problems and increase the financial capacity of insurers and the effective functioning of the insurance market, Ukraine should take the following measures: determine a reliable and effective strategy for the development of the insurance market of Ukraine; improve legislative and regulatory framework; implement international standards for conducting insurance activity; applicate up-date and Insur-tech technologies, implement further innovations in the insurance business, etc.

Table 3. The structure of gross insurance premiums by type of insurance in Ukraine, 2017-2021 (%)

Type of Insurance	2017	2018	2019	2020	2021
Auto insurance (CASCO, MTPL, "Green Card")	24.4	26.3	28.5	35.4	38.8
Property insurance	11.7	13.0	12.5	9,5	7.2
Fire and NatCat insurance	8.3	9.1	9.0	5.9	3.8
Financial risks insurance	12.9	10.4	8.3	6.6	4.9
Cargo and baggage insurance	10.8	5.9	5.3	3.7	3.1
General Liability (GTPL) insurance	6.7	5.2	4.2	2.8	2.5
Credit insurance	0.8	2.3	2.1	0.8	0.2
Life insurance	6.7	7.9	8.7	11.1	11.8
Health insurance (incl. continuous health insurance)	6.6	7.1	8.4	11.7	12.9
Accident insurance	3.0	3.6	3.5	3.5	3.2

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

Total (all types of insurance)	7.9	9.3	9.4	8.9	11.5
Insurance penetration ratio (premiums to GDP)	1.5	1.4	1.3	1.1	0.9

Source: Own processing

In addition, a large number of insurers and tangible competition between them activates the processes of consolidation of insurance companies and banks. The formation of bankassurance in Europe is successfully developing both in highly developed countries and countries with untapped potential in the financial market (Kucherenko et al., 2018). The aim of such consolidation is to increase the resulting cost of capital through such synergy (Prymostka et al., 2020). Consolidation process is time-consuming, complex and requires considerable effort (Krasnova et al., 2021). Thus, strengthening of consolidation process of insurers and banks in Ukraine will ensure the territorial expansion of insurers in the market, increase the number of policies concluded and accordingly the amount of insurance premiums, reduce administration costs, which will ultimately contribute to increasing the financial capacity of insurers and effective development of the insurance market.

Note that the basis of insurance activity is the raised capital of insurers in the form of insurance reserves, but sometimes they receive loans (borrowed funds) in order to create additional opportunities for expanding the scope of activity, ensuring the effective use of equity and increasing the market share of the company. Borrowed funds include financial resources in the form of long-term and short-term bank loans, accounts payable and income for future periods. In the structure of insurers' financial resources during 2017-2021 borrowed funds share had decreased from 12.6 % to 7.9 %. The largest share of borrowed funds of insurers is accounts payable, which decreased from 9.4% in 2017 to 6.7% in 2021. This is a positive factor as it indicates the coverage of debt, which inevitably arises because of the redistribution of financial resources. The share of long-term and short-term loans is insignificant, tends to decrease and in 2021 amounted to 0.02%.

In the structure of financial resources for the study period, the share of equity of insurers in Ukraine decreased from 47.6% in 2017 to 34.6%. This is due to a decrease in the volume of their equity from UAH 27 300.8 million to UAH 22 222 million or 18.6% and a simultaneous increase in the rate of raised funds in particular by 61.5%. The decrease in the amount of equity, on the one hand, is a consequence of a decrease in the number of insurers during this period, and on the other hand, may indicate a decrease in the guarantee of ensuring the fulfillment of their obligations under insurance policies.

In the structure of equity for the analyzed period, the largest share has registered capital, although it tends to decrease, in particular, in 2017 it amounted to 22.6 % and in 2021, respectively, 12.3 %. It is typical for most insurers that their volume exceeds the legally established (Table 1) minimum size by about 1.1 to 1.5 times,

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

which is a positive aspect of the development of insurance companies and indicates their stable and efficient operation. Setting legislative and regulatory requirements due to the amount of insurers' share capital is one of the main parameters of governmental control over their solvency. The availability of the required and sufficient share capital increases the financial ability of companies to fulfill insurance obligations. Accordingly, the larger the size of share capital, the larger may be insurer's retention regarding accepted risks, which will significantly affect the growth of its financial capacity. Therefore, decreasing volumes of share capital in recent years indicate that the majority of insurers have already reached the established standards for their size, and some insurers have stopped their activity.

All insurers form reserves and additional capital, as well as have retained earnings. The shares of every one of them in the structure of financial resources range from 5 to 7%. In absolute terms, their volumes are quite significant (in particular, in 2021, the volume of reserves amounted to UAH 3 479.0 million, additional capital, respectively, UAH 2 959.5 million, retained earnings, respectively, UAH 4 037.9 million). This additionally ensures the financial stability of companies, strengthens their material and financial security, and therefore significantly affects the financial capacity of insurers and the insurance market.

Therefore, the main elements of the formation of insurers' financial capacity are insurance reserves and share capital. The relation between them is quite flexible but is constantly in favor of insurance reserves (see Figure 4, *Source: compiled by authors according to NBU data*).

Moreover, during 2020-2021 insurance reserves remained more than four times higher than the shared capital of insurers. Accordingly, it can be concluded that insurance reserves are the main element in forming the financial capacity of insurers and the financial capacity of the entire insurance market.

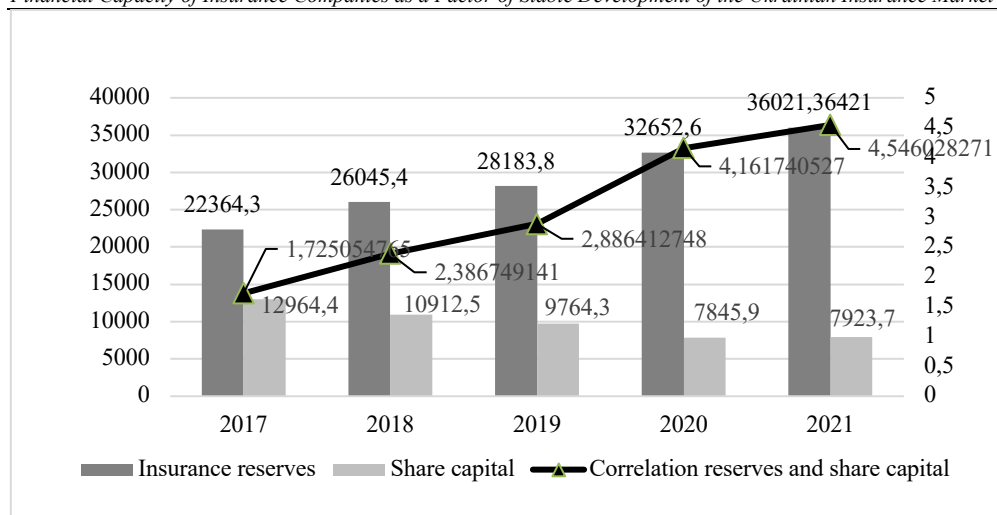


Figure 4. Relation between the reserves and share capital of insurers, million UAH, 2017- 2021

Source: Own processing

The ability to accumulate significant cash flows and direct them to the development of the economy makes insurers powerful institutional investors giving way to banks and financial companies among financial institutions (in particular, as of September 2021, the volume of assets of banks amounted to UAH 1 931.9 billion, financial companies – UAH 190.7 billion, insurers – UAH 65.6 billion).

Thus, raised funds in the form of insurance reserves are the main source not only of financial capacity formation but also of the investment capacity of insurers.

Formed insurance reserves, which are the basis of solvency and financial liability of insurers, are designed to ensure future payments. During 2017-2021 the total amount of insurance payments for all types of insurance increased from UAH 10 536.8 million to UAH 17 958.3 million, or by 70.4%. Thus, the financial capacity of all insurers, the main element of which is insurance reserves, allows the insurance market to ensure safety, stability, and social guarantees in society due to the mechanism of insurance protection.

The scale reliability analysis, which determined the initial value of 2017 and the final value of 2021, checked that the relative height of the amount of insurance payments is relatively stable and confirms the reliability of the scale of data. According to the stationarity test, they are partially statistically significant, which in turn indicates fluctuations in seasonality or favorable proposals. At the same time, thanks to the test for cointegration, we can conclude that the data available indicate the beginning of long-term dependence, which indicates a cointegration.

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

It is advisable to analyze the results of the impact of equity and raised funds on the financial capacity of insurers as well as to predict its future size, using statistical methods, in particular, correlation-regression analysis.

3.4. The multivariate correlation-regression model

To build a multivariate correlation-regression model, the following indicators are analyzed: financial capacity of insurers (Y); factor values: funds raised (x_1), equity (x_2), borrowed capital (x_3).

Analysis of the correlation matrix, which is used to measure the strength of the relationship between the selected factors and the effective indicator, allows us to conclude that there is a significant relationship between the effective indicator (Y) and the factors x_2 and x_3 , except for the pair (Y and x_3 , the value of which equals -0.07129). Therefore, in the future, we will conduct a regression analysis between the effective indicator and the factors x_1 , and x_2 .

Analysis of the correlation matrix revealed that all the analyzed factors are associated with the effective indicator (financial capacity). However, the greatest relationship of the impact on the dependent variable has an indicator x_1 (funds raised).

In the process of identifying correlation-regression relationships between the effective indicator and factors, apart from economic - mathematical model, the coefficient of multiple regression, the coefficient of determination, the standard error, and the Student's t-criterion (see Tables 4-6) were calculated.

The value of the coefficient of multiple correlation R characterizes the quality of the model obtained (see Table 4, *Source: figured out by the authors regarding NBU data*). According to the results of regression statistics, its value equals 0.99825. This allows us to conclude that there is a high correlation in the analyzed model. The value of R^2 is as close as possible to 1, which indicates that the analyzed model is adequate. Almost 99% are factors of financial capacity (x_1 , x_2) and about 1% accounts for unmeasured factors.

Table 4. Indicators of Regression Statistics

<i>Regression Statistics</i>	
Multiple R	0,998252125
R ²	0,996507305
Adjusted R ²	0,989521914
Standard Error	330,3810694
Observations	4

Source: Own processing

Indicators of dispersion, significance of F and F-statistics indicate a sufficient level of reliability of the evaluation results (see Table 5).

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynychuk, V., (2024)
Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

Table 5. Indicators of the reliability of the regression model

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	31142256,54	15571128,27	142,6559115	0,059099031
Residual	1	109151,651	109151,651		
Total	3	31251408,19			

Source: Own processing

The analysis of pair correlation coefficients for significance according to Student's t-criterion is 0.05 and shows the statistical relationship between the variables (see Table 6).

Considering the high value of the coefficients of multiple regression and determination, this dependence is quite logical.

Table 6. Correlation coefficients

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-9681,32794	4569,634848	-2,118621785	0,280750479	-67744,04389	48381,39
22841,3	0,867346834	0,052236043	16,60437471	0,038294231	0,203624975	1,531069
27300,8	1,890050217	0,150035452	12,59735745	0,050430227	-0,016330952	3,796431

Source: Own processing

Using the linear multivariate regression equation, we can describe the complex interaction of all factors (x_1, x_2, \dots, x_n) with an effective indicator (Y):

$$Y = a_0 + a_1x_1 + a_2x_2 + \dots + a_nx_n, \tag{2}$$

So, the data in Table 6 allows us to get the following regression equation:

$$Y = -9681,3 + 0,867 * x_1 + 1,890 * x_2 \tag{3}$$

Equation (3) states that equity and funds raised have an impact on the financial capacity of insurers. Moreover, the most significant source of preserving the financial capacity of the insurance market is the share capital of insurers: increasing it by UAH 1 million can lead to an increase in the result by UAH 1 890 million. An increase in the volume of raised funds of insurers by UAH 1 million, respectively, by UAH 0.867 million.

As the study result, the value of the coefficient of multiple correlation $R = 0.99825$ was established. It indicates a tight relationship between indicators of equity and funds raised with the financial capacity of insurers. The multiple coefficient of determination ($R^2 = 0.99651$) indicates, however, that the variation in the financial

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

result of the studied indicators of insurers by almost 99% is caused by such factors as funds raised and equity.

Notice that the financial capacity is variable, influenced by a number of internal and external factors, which are both objective and subjective and must be taken into account when determining its volume. Among the internal factors on which depends the financial capacity of insurers, we distinguish the following: the general strategy of the company and corporate decisions, the level and priorities of financial management, the amount of equity and insurance reserves, company performance (insurance premiums, claims, assets, net investment return, adequacy and return of equity), stability of the policyholders' base, insurance portfolio balance, rates, investment and reinsurance company policy. Indirect influence has such internal factors as a total number of written policies, the total sum insured, branch network. All these factors are conducted by the insurers. Obviously, effective management of all internal factors allows provide an efficient level of solvency and financial capacity of an insurer.

Among the external factors which affect the formation of the financial capacity of insurers, we should mention the following: insurance activity regulation, taxation rate of insurance, competition rate in the insurance market, inflation rate, global insurance market conditions, the rate of return on the financial market, the efficiency of economy sectors, the standard of living of the population etc. These factors are not conducted by an insurer, but their impact must also be taken into account and evaluated to ensure competitiveness and form financial capacity.

4. Discussions

In modern conditions, the assessment of financial capacity is extremely relevant for the management of the insurer, its financial partners and policyholders. At the same time, we note that there is no single methodology for assessing and analyzing the financial capacity of insurance companies. So, arises the question of the choice of indicators and methods for assessing the level of financial capacity of insurers.

The study of scientific sources on recognizing the financial capacity of insurance companies and methodological approaches to its assessment indicates limited and insufficient development of them. The analysis of papers made it possible to identify two approaches to assessing the financial capacity of insurers: the first is based on the use of a comprehensive indicator of financial capacity; the second is based on the calculation and evaluation of indicators characterizing the company's financial condition.

A peculiar position of the financial capacity study expressed by Nyenno, who considers financial capacity as "a set of financial resources of the insurer", emphasizing that "it is the result of the surplus of the insurer's revenues over expenses, on the one hand, and the result of a certain level of capitalization, on the

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

other" (Nyenno, 2008). This approach, in our opinion, is not entirely successful, as the result of the surplus of the insurer's revenues over expenses makes income. Thus, there is a partial identification of the income with the financial capacity of the insurer.

Scientists Baranova and Nyenno propose to figure out the financial capacity in a way "the calculations by indicator groups as follows: profitability; own funds provisions; financial stability, reliability and solvency" (Baranova, Nyenno, 2012). As the authors themselves note, their use is carried out in the "study of the functioning of insurance companies in terms of identifying the financial condition and development level. We consider the concept of "financial condition" as a balance of the elements of the insurer's capital, and we interpret the concept of "financial development" as a process of natural change and transition from one financial condition to another". However, scientists have no explanation of how these indicators characterize the financial capacity of an insurance company.

In general, we have a supportive position concerned with the use of individual indicators to assess the financial capacity of insurers "in terms of identifying the financial condition and development level", but we propose to supplement this assessment with a group of indicators of the effectiveness of the financial capacity of insurers, in particular, such as the ratio of companies' capitalization to GDP and the Penetration Rate. These indicators will make it possible to identify potential opportunities (reserves) for insurers' financial capacity and the development of the insurance market.

Evaluation of the financial capacity and its components make it possible to promptly identify the ongoing status, internal potential possibilities, shortcomings, hidden reserves of the insurance company's financial capacity to improve the efficiency of the company and should be carried out using different approaches, methods and analysis.

To assess the financial capacity of the insurance company, in our opinion, it is advisable to use an approach based on a rating assessment of the economic dynamics of the insurer's performance, using the method of the regulatory system of indicators, which involves the formation of "best practice" of the company's financial condition and its comparison with the actual one.

Also suitable for assessing the financial capacity of an insurance company could be methods of strategic analysis, in particular, the following:

- BCG matrix, developed by Bruce Henderson, makes it possible to settle the optimal allocation of financial resources, finance capital, as well as possibilities and reserves of a company among different activities in the future;
- Directional Policy Matrix, DPM, was created as a continuation/development of the BCG model. It is used to assess cash flow and return on investment. This model can also evaluate the types of businesses that are at different stages of the life cycle;

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

- SWOT- analysis by Porter, makes it possible to identify the internal strengths and weaknesses of the insurer, as well as its external capabilities and threats, helps to see strengths, weaknesses, opportunities, and threats related to business competition or project planning. This type of analysis can easily be adapted to a qualitative assessment of financial capacity, but it shows the company's status at the moment and remains static, so it must be carried out at least once a year; is a fairly subjective analysis and depends on who carries it out; qualitative analysis requires a large amount of information from all areas of activity (insurance, financial, investment, marketing etc.), which can be costly.

In addition, it is possible to assess the factors that affect the financial capacity of the insurance company, as well as to predict the interdependent behavior of indicators in the future through the use of modern methods of economic and mathematical modeling, economic and statistical analysis, which are based on the construction and analysis of the corresponding mathematical matrix. To determine how well multiple factors are related to each other, it is advisable to use the methods of multiple correlation regression analysis. Correlation analysis makes it possible to assess the relationship between the studied issue and indicators. Regression analysis aimed at establishing the form of communication between performance indicators and the factors that affect it.

In our opinion, a comprehensive assessment of the financial capacity level of an insurance company can be carried out in a certain sequence, let us highlight the main stages:

- justification of the sample size of insurance companies;
- data collection and analysis due to insurance, reinsurance, financial, investment activities of the studied insurers to determine the amount of financial resources of the company and possible reserves for increasing their volume;
- choice of method or combination of methods for assessing financial capacity;
- determination of indicators by which the assessment of financial capacity will go;
- rating estimation of the financial capacity of the studied insurers and concluding the quality of financial capacity management based on the selected indicators;
- assessment of financial security and the bankruptcy threats of the insurance company;
- making management decisions to ensure the effectiveness of the use of financial capacity and ways to increase it.

Furthermore, the assessment of the existing financial capacity of the insurance company should be based on the analysis of indicators of its financial stability, profitability, availability of own funds, solvency. The criteria for the effective use of the financial capacity of insurers may be the growing dynamics of their market share (capitalization). This approach will allow us to consider the conditions of activity of both an insurer and the insurance market. A specific list of indicators should be

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

determined using systematic, comprehensive, and strategic approaches, depending on the method chosen to assess the company's potential. But at the same time, there may be a lack of a sufficient information base, so the number of indicators for evaluation should be limited and contain a minimum of subjective information related to the peculiarities of the insurance company. A detailed analysis of the calculated indicators will allow to obtain a comprehensive description of the insurance company's activities, its competitiveness, reliability, as well as to identify trends in financial capacity changes, prevent risks of unbalanced development of the insurance market and develop mechanisms to support the company's financial capacity.

5. Conclusions

Investigating the nature of financial capacity, it is advisable to be guided by the interpretation of the concept of "capacity" and consider it from such positions, firstly, it is a set of available funds, resources and opportunities, as well as their reserves. From this, we can also conclude that the term "capacity" is broader than the term "resources", since it not only includes the latter but also takes into account their reserves. Secondly, it covers a system of material and labor factors that ensure the achievement of an activity's goal. Thirdly, capacity includes the capabilities possessed by the business entity, the ability to develop, improve and efficiently use resources. In our opinion, these three approaches determine the essence of the concept of "financial capacity".

It is revealed that the basis of financial capacity is financial resources that are temporarily free from obligations but are intended to fulfill their liability, maintain the solvency and financial stability of the insurer, and are aimed at expanding activities to ensure further development. This made it possible to determine the essence of the concept of financial capacity of an insurance company as a set of available and potential financial resources that can be mobilized and implemented by the insurer under certain conditions to ensure its effective functioning and achieve strategic objectives, taking into account the factorial influence of the environment. Bearing in mind that financial resources are the material embodiment of insurance relations, the definition of financial resources of an insurance company as a source and component of the company's functioning is formulated, which is a necessary condition for the implementation of its insurance, financial and investment activities and reflects the totality of financial and economic relations for the formation, use, and increase of financial capacity.

Accordingly, it is shown that the financial capacity of the insurer is in a logical relationship with its investment capacity, which is determined by the amount of financial resources. The direct and main impact on the volume of an insurer's investment capacity has formed insurance reserves and equity, which in turn form

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

the basis of financial capacity. Consequently, the investment capacity of the insurer depends on the level of financial capacity.

It is justified that the financial capacity is the dynamic value and manifests itself only in the process of its use and ideally should be accompanied by its growth. At the same time, the processes of using and increasing financial capacity are continuous and complement each other. Analysis of the level of financial capacity of insurance companies in Ukraine during 2017-2020 made it possible to conclude that despite the decrease in the number of insurers, there is a slight growth rate of their financial capacity and moderate growth in the insurance market, which occur under the influence of a number of internal and external factors that can be objective and subjective.

It is proved that the main components that significantly affect the formation of the financial capacity of insurers and the growth of the insurance market of Ukraine are insurance reserves and share capital. Moreover, in recent years, insurance reserves have been more than 4 times higher than the share capital of insurers. Therefore, the further development of the insurance market will be accompanied by its indispensable capitalization with the prevailing growth rate of insurance reserves. Since the source of the formation of insurance reserves is insurance premiums, they were most dynamically formed at the expense of premiums by auto and health insurance. Accordingly, the growth in the future of premiums for these types of insurance, as well as for life insurance and other types of risk insurance will be reserved for increasing the level of financial capacity of insurers and the active development of the insurance market of Ukraine.

Through the analysis of insurance premiums, it is proved that the financial capacity of all insurance companies allows the insurance market to ensure security, stability, and social guarantees in society through the mechanism of insurance protection of society. In turn, the financial capacity of the insurance market, which is formed at the expense of the financial capacity of each insurance company, ensures the sustainable development of business entities and the population and is the basis for the introduction of new insurance products and their implementation in the insurance market.

It is determined that in order to identify the state, internal potential opportunities and hidden reserves of the financial capacity of the insurer, it is necessary to evaluate it using various approaches, methods, analysis techniques and coefficients (indicators). Scientific substantiation of the mechanism of comprehensive assessment of the financial capacity of insurers and the search for effective directions for its implementation will be the object of our further research.

Our conclusions contribute to some shifts in state policy. Taking into account the financial capacity of both insurers and insurance companies as the basis of the

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

reliability of the insurance market, it is possible to make proposals for improving the insurance policy of Ukraine.

First of all, it is necessary to reform the insurance legislation to stimulate the development of the insurance market. For this, it will be advisable to involve the public and insurance experts to prevent the occurrence of collisions between the norms of the law or between the norms of the law and real insurance everyday life. Such changes in legislation encourage the development of competition because it will make it possible for insurance companies to improve the quality of the provided insurance services and, in turn, receive adequate payment. Moreover, it will contribute to increasing trust on the part of customers.

Acknowledgments

The authors thank the anonymous reviewers and editors for their valuable contributions.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Author Contributions

Tetyana Kryvoshlyk, Igor Britchenko, and Andriy Baranov the study and were responsible for the design and development of the data analysis. Olha Dymnich, Tetyana Stetsyuk, Andriy Baranov, Viktor Trynchuk were responsible for data collection and analysis and also for data interpretation. Tetyana Stetsyuk and Igor Britchenko were responsible for the literature review section.

Disclosure statement

The authors have not any competing financial, professional, or personal interests from other parties.

References

1. Baranova, V., Nyenno, I. (2012), Financial capacity of insurer, *Economist*, 8, 70-72. Retrieved from http://nbuv.gov.ua/UJRN/econ_2012_8_17.
2. Bednarczyk, T., Skibińska-Fabrowska, I., Szymańska, A. (2021), An Empirical Study on the Financial Preparation for Retirement of the Independent Workers for Profit in Poland, *Risks*, 9(9): 160 p. <https://doi.org/10.3390/risks9090160>.
3. Bland, D. (1993), *Insurance: Principles and Practice*. London: The Chartered Insurance Institute. 416 p.
4. Britchenko, I., Polinkevych, O., Trynchuk, V., Khovrak, I. (2023), The Impact of COVID-19 on the Philosophy of Doing Business in a Sustainable Environment, *Economic Studies (Ikonomicheski Izsledvania)*, 32(2), 100-116.

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

5. Činčalová, S. (2021), The impact of the level of corporate social responsibility on financial performance: Evidence from insurance firms in the Czech Republic. *Insurance Markets and Companies*, 12(1), 64–71. [https://doi.org/10.21511/ins.12\(1\).2021.06](https://doi.org/10.21511/ins.12(1).2021.06).

6. Dankiewicz, R., Tworzydło, D., Ostrowska-Dankiewicz, A. (2020), Distribution of Services Within the Call Center and COVID-19 – a Case Study, *WSEAS Transactions on Business and Economics*, 17, 921–932. <https://doi.org/10.37394/23207.2020.17.90>.

7. Dymnich, O., Stetsiyk, T.V., Gamankov, D., Parkheta, L. (2021), Participation of the population in private pension funds: problems and motivation. *Financial and Credit Activity Problems of Theory and Practice*, 1(36), 515–521. <https://doi.org/10.18371/fcaptp.v1i36.228116>.

8. Eur-lex, (2009, June 18), In Official Journal of the European Union. Directive 2009/138/EC (Solvency II). Retrieved June 18, 2009, from <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:32009L0138>.

9. Fedosov, V., Oparin, V., Lovochkin, S. (2008), The institutional financial infrastructure of Ukraine: modern state and problems of development, *Finance of Ukraine*, 12, 3-21.

10. Results of the Ukrainian insurance market of 2021, (2022, May 30), In *Forinsurer*, Retrieved May 30, 2022 from <https://forinsurer.com/news/22/05/30/41284>.

11. Glonti, V. (2023), Risk Management Problems and the Role of Insurance in Developing Countries, *Montenegrin Journal of Economics*, 19(2). <https://doi.org/10.14254/1800-5845/2023.19-2.13>.

12. Halasyuk, O. (2009), Theoretical issues and structure of the forming of the financial resources of an insurance company, *Scientific Notes Journal, Ostroh*, 11, 219-224.

13. Havryliak, T. (2017), Financial capacity of the investment activity of insurers in the economy of Ukraine. Doctoral thesis. Lviv: Ivan Franko National University, 181 p.

14. Horyslavets, P., Plonka, M., Trynchuk, V. (2018), Experience marketing and its tools in promoting insurance services, *Innovative Marketing*, 14(1), 41–48. [https://doi.org/10.21511/im.14\(1\).2018.05](https://doi.org/10.21511/im.14(1).2018.05).

15. 2012 Annual Report, (2013, April 10), In *International Financial Reporting Standards*. Retrieved April 10, 2013, Retrieved from <https://www.ifrs.org/>.

16. Jedynek, T. (2022), Does the Formulation of the Decision Problem Affect Retirement?—Framing Effect and Planned Retirement Age, *International Journal of Environmental Research and Public Health*, 19(4), 1977. <https://doi.org/10.3390/ijerph19041977>.

17. Khovrak, I. (2020), ESG-driven approach to managing insurance companies' sustainable development, *Insurance Markets and Companies*, 11(1), 42–52. [https://doi.org/10.21511/ins.11\(1\).2020.05](https://doi.org/10.21511/ins.11(1).2020.05).

18. Klapkiv, Y., Vovk, V., Klapkiv, L. (2020), Comparative Analysis of the Health Care Institutions' Competitiveness Level, *Montenegrin Journal of Economics*, 16(3), 69–82. <https://doi.org/10.14254/1800-5845/2020.16-3.6>.

19. Krasnova, I. V., Nikitin, A. V., Shevaldina, V. (2021), Consolidation of the Banking Sector: Determinants and Consequences, *The Problems of Economy*, 1(47), 98–106. <https://doi.org/10.32983/2222-0712-2021-1-98-106>.

20. Kryvoshlyk, T. (2018), Insurance services quality is the strong tool of the insurance industry development. Kyiv: Kyiv National Economic University is named after Vadym Hetman.

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

21. Kucherenko, V., Trynchuk, V., Dankevich, R. (2018), Forms of integration of banking and insurance capital, Lviv: Galych-Press, 6-14.

22. White paper. Future regulation of insurance market in Ukraine. (2020, April), On the Official website of the National Bank of Ukraine. Retrieved April 16, 2020, from https://bank.gov.ua/admin_uploads/article/White_paper_insurance_2020.pdf?v=4.

23. Nesterova, D. (2013), Financial resources of insurance organizations and the ways of their allocating, Bulletin of Kyiv National Taras Shevchenko University, 12. 71-75.

24. Nyenno, I. (2008), Financial provision of the insurer's development, Problems of material culture, 151. 7-11.

25. Nyenno, I. (2009), Completeness of an insurer's financial capacity in terms of European integration. In Proceedings of the All-Ukrainian Scientific and Practical Conference, November 18-21, 2009 (pp. 245-247). Lviv: Lviv Polytechnic National University.

26. Oparin, V. (2006), The financial system of Ukraine. Monography. Kyiv: Kyiv National Economic University is named after Vadym Hetman. 240 p.

27. Peresada, A., Kovalenko, Y. (2006), Financial investment. Kyiv: Kyiv National Economic University is named after Vadym Hetman. 728 p.

28. Płonka, M. (2022), The Impact of the Coronavirus Pandemic on the Healthcare System in Poland, Post-COVID Economic Revival: Sectors, Institutions, and Policy, 2, 311–323.

29. Płonka, M., Rosiek, K., Jedynek, T. (2022a), The Impact of the Fourth Industrial Revolution and Contemporary Megatrends on the Production and Distribution of Public Goods and Services. – In: Mazur, S. (ed.). Industrial Revolution 4.0: Economic Foundations and Practical Implications (1st ed.). <https://doi.org/10.4324/9781003264170>.

30. Płonka, M., Niznik, J., Jedynek, T. (2022), Health security as a public good in the era of the fourth industrial revolution in Poland. In Public Goods and the Fourth Industrial Revolution: Inclusive Models of Finance, Distribution and Production. 109–142. London: Routledge.

31. Plysa, V., Vorobyova, V. (2022), Financial capacity of the insurance entrepreneurship in Ukraine. Economics and Society Journal, 37, 98-106. <https://doi.org/10.32782/2524-0072/2022-37-52>.

32. Pobocho, K., Vorobei, H. (2017), Capacity of the investment activity of the insurance companies in the financial market of Ukraine, Scientific Bulletin of the International Humanitarian University. Category: Economics and Management, 25(2), 116-119.

33. Polinkevych, O., Kamiński, R. (2020), Anti-crisis development strategies of insurance companies in Ukraine and Poland in the context of COVID-19, Insurance Markets and Companies, 11(1), 21–29. [https://doi.org/10.21511/ins.11\(1\).2020.03](https://doi.org/10.21511/ins.11(1).2020.03).

34. Polinkevych, O., Glonti, V., Baranova, V., Levchenko, V., Yermoshenko, A. (2022), Change of business models of Ukrainian insurance companies in the conditions of COVID-19, Insurance Markets and Companies, 12(1), 83–98. [https://doi.org/10.21511/ins.12\(1\).2021.08](https://doi.org/10.21511/ins.12(1).2021.08).

35. Prymostka, L., Krasnova, I. V., Lytvynenko, O. K. (2020), The Impact of Consolidation Forms on the Growth of Banks' Value, The Problems of Economy, 4(46), 334–341. <https://doi.org/10.32983/2222-0712-2020-4-334-341>.

Kryvoshlyk T., Dymnich, O., Stetsyuk, T., Baranov, A., Britchenko, I., Trynchuk, V., (2024)

Financial Capacity of Insurance Companies as a Factor of Stable Development of the Ukrainian Insurance Market

36. Shevchuk, O., Kondrat, I., Stanienda, J. (2020), Pandemic as an accelerator of digital transformation in the insurance industry: evidence from Ukraine, *Insurance Markets and Companies*, 11(1), 30-41.

37. Shevchuk, O., Shumska, S., Fastunova, V. (2010), Management of the financial resources of insurance companies, *Economic Bulletin of Donbas*, 2, 116-126.

38. Svitlychna, O., Stashkevych, N. (2015), Management of the insurance organizations' finances. Odesa: Atlant, 237 p.

39. Szymańska, A. (2017), The application of the Buhlmann-Traub model to the estimation of net premium rates depends on the age of the insured in the motor third liability insurance, *Statistics in Transition New Series*, 18(1), 151-165.

40. Tatarina, T. (2010), Life insurance market in Ukraine: problems and ways of development, *Science and Economics*, 2(18), 93-99.

41. Tkachenko, N. (2004), Investment activity of insurers. Doctoral thesis. Kyiv: Institute for Economy and Forecasting National Academy of Sciences of Ukraine, 250 p.

42. Tkachenko, N. (2009), Ensuring the financial stability of insurance companies: theory, methodology and practice. Monography. Cherkasy: Cherkaskiy CNTEI.

43. Tymbaliuk, I., Pavlikha, N., Zelinska, O., Ventsuryk, A., Radko, A. (2021), Assessing the level of competitiveness of the insurance sector during economic crises: The example of Ukraine, *Insurance Markets and Companies*, 12(1), 72-82.

44. Vnukova, N., Davydenko, D., Achkasova, S., Yagolnitskyi, O. (2022), Assessing the Activities of Insurance Companies Due to the Disease of Private Pension, *Economic Studies (Ikonomicheski Izsledvania)*, 31(5), 179-194.

45. Volosovych, S., Zelenitsa, I., Kondratenko, D. V., Szymła, W., Mamchur, R. (2021), Transformation of insurance technologies in the context of a pandemic, *Insurance Markets and Companies*, 12(1), 1–13. [https://doi.org/10.21511/ins.12\(1\).2021.01](https://doi.org/10.21511/ins.12(1).2021.01).

46. Yavorska, T., Voytovych, L., Voytovych, D. M. (2022), The impact of macroeconomic factors on the development of the insurance system in Ukraine, *Insurance Markets and Companies*, 13(1), 21–35. [https://doi.org/10.21511/ins.13\(1\).2022.03](https://doi.org/10.21511/ins.13(1).2022.03).