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**INSOLVENCY OF INSURANCE COMPANIES
IN UKRAINE: DETECTION AND PROGNOSTICATION**

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The paper demonstrates the results of research on the problems of insurance company insolvency. The outcomes describe the basic principles of detection and using the early warning system in Ukraine. The paper shows the necessity to reorganize the basic principles of the detection of local insolvent insurers. The study also determines the groups of persons who are directly or indirectly interested in the insurer's solvency assessment. This work presents the system of insurance companies' insolvency indicators, which help to identify insolvency at the early stages. The paper distinguishes precautionary, delayed, internal, and external insolvency indicators of insurers. The study divides the values of insurer's insolvency indicators into "yellow" and "red" zones to increase the flexibility of using various instruments for influencing by the regulator depending on the level of danger of the insurance company. This work argues for taking timely measures to the threat of insolvency of the insurance companies by the insurance supervisor.

Key words: insolvency, instability of the insurers, solvency, early warning system, insurance market.

Introduction. The current state of development of the world economy is characterized by a high degree of variability and uncertainty of market environment factors. High exposure to numerous risks of natural, man-made, economic, political instability leads to increased risk in all areas of

business. The level of riskiness of entrepreneurial activity in Ukraine is also intensified by the protracted socio-economic crisis. One of the effective methods of risk management in the modern market environment is insurance, without the stable development of which it is impossible to build effective insurance protection at both macro and micro levels.

At the current stage of market transformation in Ukraine, insurance is not an effective tool for stabilizing and developing Ukraine's economy, as there is no confidence in insurance, the capitalization of insurance companies remains low, there is no effective state policy in insurance, the current regulatory framework remains imperfect, as well as the disclosure of information on the current state of insurance companies is not open to public scrutiny. Overcoming many of these problems lies in ensuring the solvency level of insurance companies, which, ultimately, will provide the stable development of the insurance market in the country.

The problem of theoretical aspects of the insolvency research and methodological of bankruptcy diagnosis of insurance companies observed by domestic scientists such as V. Bazylevych [4], N. Vnukova, O. Gamankova [5], O. Klepikova, L. Orlanyuk - Malytska [6], N. Tkachenko, L. Shirinyan, as well as foreign scholars: J. Lamm-Tennant [2], B. Petrevska [1], P. Sharma [2] and others.

Nowadays, the most significant issue of the development of the insurance sector in Ukraine is the low level of confidence, even the absence of it. There are many inhabitants who give no credence to insurance at all. This situation was formed by the post-soviet insurance market entities, which provided mock insurance, plenty of pyramid schemes, as well as high inflation rates, and huge problems in depreciating people's savings. Generally, this problem is widespread and applies not only to insurance companies but also to other financial institutions, such as commercial

banks, private pension funds, investment companies, and the state. It's extremely significant, that there is a strong tendency of decreasing the number of insurance companies (in 1994 there were chartered about 700 insurers and in 2019 there are 233). So, the problem of a high level of insurers bankruptcies keeps on affect the insurance market via a mechanism of not meeting insurance companies' obligations before the consumers. This also leads to problems of faithless in the insurance industry in Ukraine.

For future exclusion in this situation, the supervisory authority must specify the early warning system of the instability (or insolvency) of the insurance companies to protect the interests of the interested parties. However, the inability of insurers to meet their obligations may adversely affect the financial performance of other interested in solvency parties.

There are different groups of those, who are interested in assessing the solvency of the insurance organization and the non-admission of insurance companies' failure. Largely, they could divide into individuals and legal entities, which directly or indirectly interested in assessing the solvency of the insurer.

Entities that are directly interested in assessing the solvency level of an insurance company include investors (owners), managers, staff, policyholders, creditors, insurance supervisors, tax authorities, and so on. Among the indirectly interested in assessing the solvency of the insurer can be identified by audit firms, rating agencies, etc. (Table 1).

Table 1

ENTITIES OF THE INSURANCE MARKET INTERESTED IN THE SOLVENCY LEVEL OF THE INSURER

Interest in solvency level	Directly	Indirectly
<ul style="list-style-type: none"> - ensuring prudential supervision; - identifying financial difficulties faced by insurers; - defining the degree of consumers 	Regulator	x

protection rights of insurance services; - preventing the negative manifestations of their insolvency.		
- providing full payment of insurance cover for consumers and policyholders; - they cannot constantly and accurately assess the solvency level of particular insurer due to various information asymmetries; - determining the ability of the insurance company to fulfill its obligations under insurance contracts. The higher the guarantee, the more they are willing to pay for the insurance product.	Consumers and policyholders	Consumers and policyholders
- controlling the solvency level of insurer to ensure financial stability in the long run; - obtaining information of liabilities, the optimal capital structure to attract new investors, policyholders and maximize profits; - job preservation; - good insurer`s solvency guaranteeing good salary	Top management	Employees
- constantly get payment dividend	Shareholders	x
- verifying the ability of the insurance company to repay the loan and interests. The lower the risk of insolvency, the lower the price of the loan the lender is willing to offer.	x	Creditors
- maintain a competitive position and run an effective insurance business; - the consequences of insolvency directly affect the business reputation of the insurance company	Insurance company	Insurance company
- guaranteeing tax payments on time and in full	Tax authorities	x

Source: author's own

The purpose of the entities that involve in assessing the solvency of insurer is different, but they are all in the main – to obtain sufficient and accurate information for concentrating the necessary efforts on a particular insurance company. The key role of controlling the solvency lays on regulation by state supervisory authority that responsible for the protection of insurance services consumers. The problem of detecting insolvent

insurers should also attract the regulator's attention, especially the real reason of it for exclusion of such cases in the future. There are many difficulties concerning the post-bankruptcy and winding-up of an insurance company: responsibility on insurance payments and covering losses, reorganization of a potential bankrupt enterprise and the procedure of closing down, liabilities of guilty the persons in charge and so on. On the one hand, it is normal for the development of the market to get about one or two bankruptcies that are not harmful to the insurance industry. But, on the other hand, the failure of a systemically important insurer that causes lots of problems, such as failure of trust in insurance, depreciation of investment attractiveness, redistribution of risks within the insurance sector, etc. Thus, during the years 2015-2019, there are 161 bankruptcies of insurance companies, which was withdrawn from the market by the regulator [7].

In Ukraine, the supervisory authorities should constantly monitor the current state of insurers for predicting insolvencies. For the moment, the early warning system of insolvency (was introduced in 2005) based on 11 indicators. The early warning system should anticipate the probability of a crisis in the insurance market based on the current situation in it, determine the risk profile, and study the macroeconomic conditions. It also allows you to detect the accumulation of quantitative and qualitative changes that can lead to negative consequences in the insurance market and individual insurers.

An important issue remains the process of data systematization and interpretation of information. In particular, the effectiveness of the prudential regulation system will depend mainly on the quality and reliability of the analysis, as well as on the information underlying the assessment of the solvency of insurers.

According to the recommendations, the analysis contains the assessment of capital, assets, reinsurance, insurance reserves, profitability,

liquidity [8]. The main weakness of the current early warning system is that the parameters of some indicators may indicate a satisfactory financial position of the insurer, and others - the opposite. Such a discrepancy of results objectively does not make it possible to predict the probability of insolvency and the failure of a particular insurer.

For example, during 2010-2013 the solvency level of PJSC "Garant-Auto" was good and the rating in gross premiums shows a positive dynamic. Also, the assessment of the bankruptcy probability of this insurer by early warning tests shows that there are no serious problems and the financial indicators are at the average level. But in 2016, the condition of the solvency level of this insurer characterized as unstable and is on the verge of bankruptcy [8].

However, the use of the above method does not meet today's needs. Obviously, this approach requires a methodologically new reconsideration.

The emergence of financial difficulties can lead to the insolvency of the insurer. Taking into account that the insurance company is a complex system that has different internal and external relationships, and that fact it is a part of an even larger system - the economy, the insolvency mechanism is proposed to be considered not as a one-time phenomenon, but as a process within the system.

So, the insolvency of insurance companies is the result of both objective financial difficulties (caused by the realization of risks) and subjective financial difficulties (caused by intentional actions by management or owners). Therefore, it is necessary to separate the intentional and unintentional bankruptcies of insurance companies. Intentional bankruptcy is the result of the malicious intent of the owners or top managers of the insurance company, intending to affectedly the insolvency and bankruptcy of the insurer. As an external analyst or regulator, it could seem that these actions are the form of risks and financial

difficulties. But it is not in reality. However, the internal mechanism of artificial bankruptcy will be significantly different from the mechanism of risk realization in case of unintentional bankruptcy (Fig. 1).

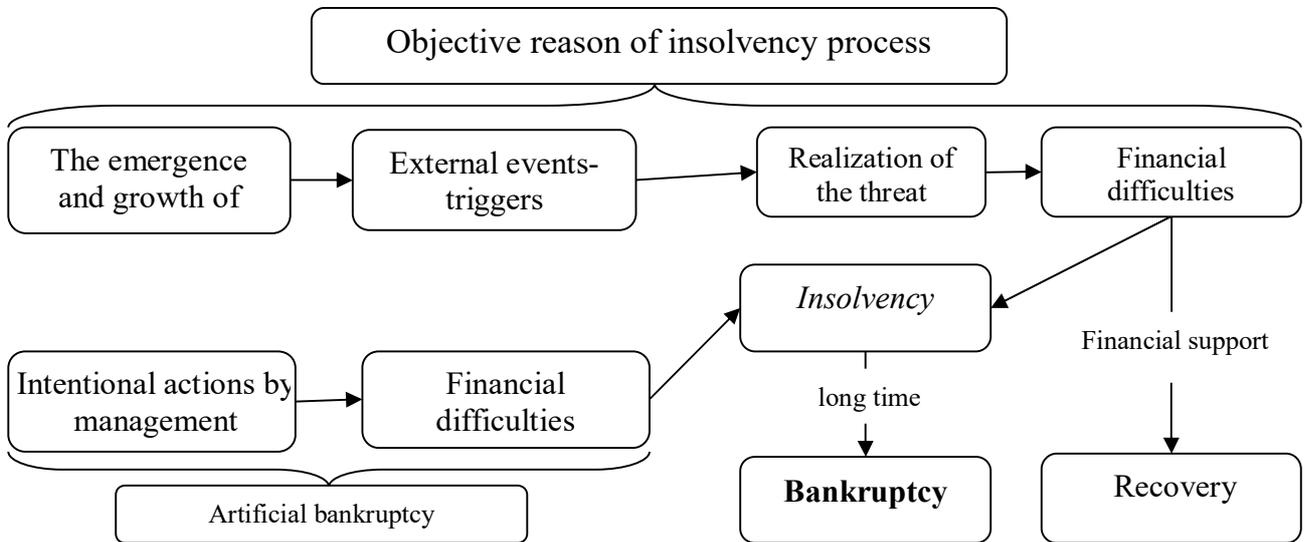


Fig. 1. The mechanism of insolvency of insurance company

As noted above, the early warning system of insurance companies has its drawbacks. Therefore, the model of forecasting an insurer's insolvency should include such components as precautionary and delayed indicators, external and internal indicators, and should be applied by the regulator.

The primary reason for insurers' insolvencies is financial difficulties, which, in turn, are a consequence of the implementation of threats. Threats are realized under the influence of external events, and appear as a result of incorrect strategic internal decisions. Therefore, an effective system of predicting the insolvency of insurers should include each stage of this process, as these stages are separated in time (Fig. 2).

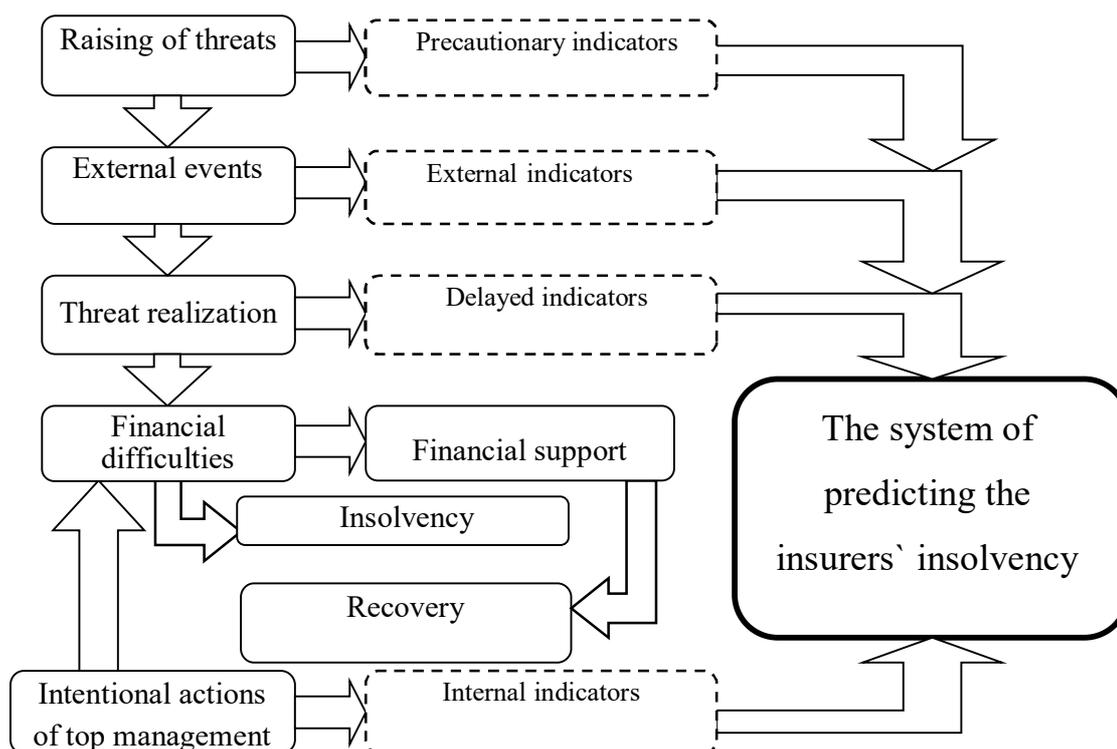


Fig. 2. The system of predicting the insurers' insolvency

Precautionary indicators of insolvency should identify potential threats. The main reason for the emergence and growth of other risks of insurance companies are strategic risks: insufficiently organization of business processes, lack of top management experience, dumping, entering new little-studied markets, unreasoned M&A deals. So, all of these processes often are the primary sources of further financial difficulties.

External insolvency indicators should detect events that lead to the realization of accumulated threats. Thus, the report of Paul Sharma [3] states that the causes of financial difficulties of insurance companies are often internal, but their catalysts are external changes - triggers. Such external triggers should include macroeconomic risks, systemic risks (accumulation of which is a sign of a possible crisis in the industry in the near future), regulatory risks, and individual risks.

Delayed indicators point out the fulfillment of threats and its structure. On the one hand, they must take into account certain risks of insurance

companies, and on the other hand to assess the consequences of insurance risks, credit risks, market risks, operational risks, liquidity risks, accumulation risks, compliance with regulations, etc.

Internal insolvency indicators should show signs of intentional bankruptcy, related to intentional actions of top management of the insurer, withdrawal of money, reluctance to pay obligations, and so on. The importance of analyzing the activities of insurance companies for the presence of insolvency causes stems from the incidence of a large number of such precedents in the Ukrainian insurance market.

The system of predicting the insurers' insolvency must be sensitive to the risk accumulation. For example, if indicators show signs of realizing a single risk, supervisors may limit themselves to requesting additional information on how insurer planning to solve this issue. If the indicators reveal signs of two risks, the actions of supervisory authorities should be more serious (request for a financial recovery plan, restrict certain types of operations). If the indicators show signs of three or more types of risks, the regulator considers limiting the license. Therefore, in order to increase the flexibility insolvency prevention system of insurers, it is proposed to divide the indicators into "yellow" and "red" zones. The "yellow zone" should reflect an increased probability of risk accumulation, and the "red zone" - a high probability. At the same time, if the insurer does not have the ability to neutralize financial difficulties, it can automatically move from the "yellow zone" to the "red".

Table 2

**LEVERS OF INFLUENCE TO THE INSURANCE COMPANY,
DEPENDING ON THE "YELLOW" OR "RED" ZONE**

Type of indicator	Yellow zone	Red zone
Precautionary indicators	Request additional information; Conduct field inspection; Recommendations for changing the strategy / system of risk management / motivation, etc.	Ban opening new branches; Ban M & A deals; Prohibition the licenses to providing new lines of business etc.
External indicators	Strengthening the monitoring of insurers; Request additional information	Request additional information; Conduct field inspection;
Delayed indicators	Request additional information; Conduct field inspection; Request financial recovery plan; Ban opening new branches; Ban M & A deals; Prohibition the licenses to providing new lines of business etc.	Initiate a temporary administration; Temporary suspension (restriction) of the license; License revocation, etc.
Internal indicators	Conduct field inspection; Request financial recovery plan; Initiate a temporary administration; Temporary suspension (restriction) of the license, etc.	Initiate a temporary administration; License revocation, etc.

The above-described system of insolvency prognostication of insurance companies takes into account the needs of the insurance regulator. However, it can be reoriented to meet the needs of risk

managers, analysts of rating agencies, and top managers of insurance companies. Precautionary and external indicators will be of the greatest interest to the top management of insurance companies, as their purpose is to manage threats. All sections of the model will be important for rating agencies, but with a different procedure for working with the system of indicators.

Conclusions. The consumers of the suggested system of preventing insurer`s insolvency and bankruptcy can be used by insurance regulators, rating agencies, risk managers, and representatives of the insurance companies (top management and owners), etc. Particular this proposed model is applicable to the regulator of the insurance sector in Ukraine. For this purpose, it covers all components (precautionary, delayed indicators, external and internal indicators). Other users can use this model partially in their own way. The proposed system of prognostication the insolvency of insurers takes into account the experience in science, rating agencies, and insurance regulators.

Depending on the consumer needs, the system may change with different variations of the goals and the availability of information.

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