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METHODOLOGICAL APPROACHES TO ASSESSMENT OF FINANCIAL STABILITY OF INSURANCE COMPANIES

The article analyzes the methodological approaches to assessment of financial stability of domestic insurance companies used in contemporary science and practice. Their advantages and disadvantages are studied. Conclusions concerning their objectivity for assessment of financial stability of insurance companies are made on the basis of corresponding calculations.

Keywords: assessment of financial stability of an insurance company; comprehensive methodology; early prevention test; discriminant analysis.

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МЕТОДИЧНІ ПІДХОДИ ДО ОЦІНЮВАННЯ ФІНАНСОВОЇ СТІЙКОСТІ СТРАХОВИХ КОМПАНІЙ

У статті проведено аналіз методичних підходів до оцінювання фінансової стійкості вітчизняних страхових компаній, що використовуються у сучасній науці та практиці. Досліджено їхні переваги та недоліки. На основі відповідних розрахунків зроблено висновки щодо їх об'єктивності для оцінювання фінансової стійкості страхових компаній.

Ключові слова: оцінка фінансової стійкості страхової компанії, комплексна методика, тести раннього попередження, дискримінантний аналіз.

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МЕТОДИЧЕСКИЕ ПОДХОДЫ К ОЦЕНКЕ ФИНАНСОВОЙ УСТОЙЧИВОСТИ СТРАХОВЫХ КОМПАНИЙ

В статье произведен анализ методик оценки финансовой устойчивости отечественных страховых компаний, которые используются в современной науке и практике. Исследованы их преимущества и недостатки. На основании соответствующих расчетов сделаны выводы об их объективности для оценки финансовой устойчивости страховых компаний.

Ключевые слова: оценка финансовой устойчивости страховой компании, комплексная методика, тесты раннего реагирования, дискриминантный анализ.

Problem statement. Under the current conditions of development of the insurance market, which is characterized by uncertainty and instability of the environment, the guarantee of financial stability of domestic insurance companies holds a prominent place. By means of effective management of financial stability, an insurance company is able to adapt to destabilizing external and internal factors, and fulfill its obligations under any conditions. Therefore, objective assessment of financial stability of insurance companies is the basis for management decisions and is a topical issue.

Analysis of recent research and publications. Methodological aspects of assessment of financial stability of insurance companies were investigated in works by V.Z. Burchevskyi (2011), O.D. Vovchak (2006), K.S. Hrozava (2009), O.I. Kovtun, M.P. Denysenko and V.G. Kabanov (2008), V.S. Len (2009), H.M. Malynych (2009), A. Seliverstov (2003), A.A. Hvozdenko (2000) and others.

Unsolved aspects of the problem. The papers mentioned above present the methods of assessment of financial stability of insurance companies, which consider only certain aspects of insurers' activities. A comprehensive and objective methodological approach, which would fully consider the peculiarities of insurers' activities, is not yet developed.

The aim of the article is the statement of reasons for applying the systematic approach to assessment of financial stability of insurance companies based on the discriminant analysis, which will allow predicting the level of financial stability.

Main results of the research. Theoretical generalization of the existing methodological approaches of assessment of financial stability of insurance companies allows noting that some of them cannot be applied to insurance companies because they contain only general indicators which do not consider specific activities and characteristics of capital structure of insurance companies.

Thus, A.D. Vovchak (2006: 320) suggests using a generalized indicator of financial stability of insurance companies. This indicator is calculated as:

$$GIF_{st} = \frac{[1 + Clfb_1 + (1 + Ccbef_1) + Crvp_1 + Cfa_1]}{[1 + Clfb_0 + Csc_0 + (1 + Ccbef_0) + Crvp_0 + Cfa_0]}, \quad (1)$$

where GIF_{st} – the indicator of change in financial stability in the reporting period; $Clfb_0$ and $Clfb_1$ – the coefficients of long-term borrowings in the base and reporting periods accordingly; Csc_0 and Csc_1 – the coefficients of stock cover with own working capital in the base and reporting periods accordingly; $Ccbef_0$ and $Ccbef_1$ – the coefficients of correlation of borrowed and equity funds in the base and reporting periods accordingly; $Crvp_0$ and $Crvp_1$ – the coefficients of real value of property in the base and reporting periods accordingly; Cfa_0 and Cfa_1 – the coefficients of fixed assets in the base and reporting periods accordingly.

The above formula does not use the indicators being characteristic of insurance activities, which does not allow considering the specifics of the insurance sector.

In exploration of the scientific research results of O.I. Kovtun, M.P. Denysenko, V.G. Kabanov (2008: 175–178), it has been found that to assess the reliability of insurance companies they offer calculating an integral indicator. It characterizes the aggregate level of liquidity, solvency and profitability:

$$Cr = \sqrt{LR \times SR \times PR}, \quad (2)$$

where Cr – the coefficient of reliability of insurance companies; LR – the liquidity ratio; SR – the solvency ratio; PR – the profitability ratio.

$$LR = \frac{CA}{CL}, \quad (3)$$

where CA – current assets; CL – current liabilities of an insurance company.

$$SR = \frac{ASM}{NSM}, \quad (4)$$

where ASN – actual solvency margin of an insurance company; NSM – normative solvency margin of an insurance company.

$$PR = \frac{NP}{AI}, \quad (5)$$

where NP – annual net profit of an insurance company; A – annual income of an insurance company.

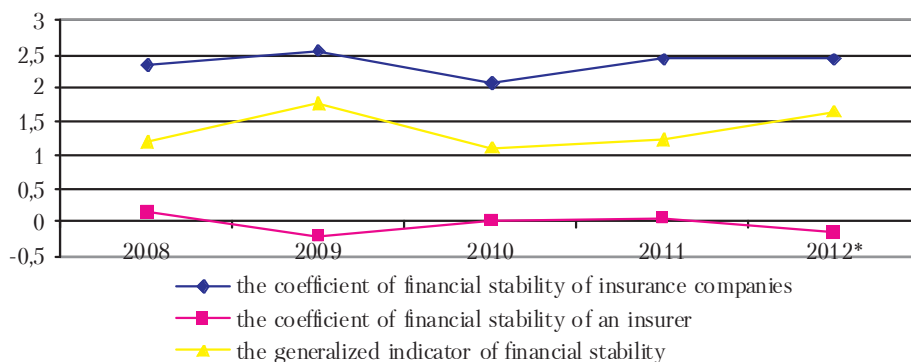
The higher the value of this indicator compared to the average within a homogeneous group of insurance companies, the better the financial stability of an insurance company is. The coefficient is enlarged enough, but its advantage lies in clarity and quick assessment of financial stability of an insurance company in practice. This indicator is proposed to be considered in dynamics.

Russian scientist A.A. Hvozdenko (2000: 79) suggests defining the coefficient of financial stability of an insurer:

$$F_{st} = \frac{\sum(\text{sum}) \text{ of income} + \text{guarantee fund}}{\sum(\text{sum}) \text{ of expenses}}. \quad (6)$$

This indicator shows how many times the revenue together with guarantee fund covers the expenses of an insurer. But its optimal value is not given.

To assess the financial stability of insurance companies by means of the above methods, we have selected 10 insurance companies operating at Ukrainian insurance market with varying amount of insurance premiums (large, medium and small). The averaged results are graphically presented in Figure 1.



* According to preliminary estimates of the author

Source: Author's calculations.

Figure 1. Dynamics of coefficients of financial stability, 2008–2012

The averaged values of the coefficient of financial stability of insurance companies and the coefficient of financial stability of an insurer have similar dynamics, which gives evidence of the uniformity of the results obtained by these methods. But the generalized indicator of financial stability in dynamics quite opposite follows the dynamics of the first 2 coefficients. Its value indicates low financial stability of the analyzed insurance companies.

Since financial stability of insurance companies is a matter of national importance and requires careful control of government, by the Order No. 3755 as of March 17, 2005 the State Commission for Regulation of Financial Services Markets of Ukraine (SCRFSMU) approved the "Guidelines for analysis of the insurers' activities". The basis for these recommendations is "early prevention tests" which include the analysis of capital, assets, reinsurance, insurance of reserves, profitability and liquidity. The actual assessment of each indicator is determined by comparing its calcu-

lated value with the appropriate scale. The total assessment is defined as the sum of the actual assessments based on individual indicators, taking into account the relevant coefficients, and is interpreted as follows:

"1" (stable) – financial indicators are at high level;

"2" (satisfactory) – no serious problems, financial indicators are at middle level;

"3" (limit) – financial condition raises concerns, financial indicators are significantly below average;

"4" (unsatisfactory) is considered unacceptable, financial condition is very unstable.

Table 1 shows the averaged results of the early prevention tests calculated basing on the reports of the analyzed insurance companies.

Table 1. The results of early prevention tests, 2009–2012

Group	General assessment			
	2009	2010	2011	2012*
Large insurance companies	2 (satisfactory)	3 (limit)	3 (limit)	3 (limit)
Medium-size insurance companies	2 (satisfactory)	2 (satisfactory)	2 (satisfactory)	2 (satisfactory)
Small insurance companies	2 (satisfactory)	2 (satisfactory)	2 (satisfactory)	2 (satisfactory)

*According to the preliminary estimates of the author.

Source: Author's calculations.

Value "1" is not typical for any group. The financial stability of large insurance companies should be considered as limit. The obtained results show that this method is much stricter than the previous ones, but allows assessing the level of financial stability of domestic insurance companies most comprehensively and objectively.

Assessment of financial stability of insurance companies may be approached by defining an integral Z-indicator based on the discriminant analysis. This will facilitate the efficient and timely adoption of tactical and strategic decisions to ensure financial stability of insurance companies and assess the attractiveness of companies to insurers and investors, as well as the application of measures of financial recovery. Among domestic methods of the discriminant analysis the model by O.O. Tere-shchenko (2006) deserves attention. But it does not consider the features of insurance companies.

A certain contribution to the assessment of financial stability of insurance companies was made by K.S. Hrozava (2009). This researcher developed a discriminant model which is as follows:

$$Z_j = 29,646 + 7,404X_1 + 18,893X_2 + 4,084X_3 + 23,296X_4, \quad (7)$$

where X_1 – the coefficient of financial independence; X_2 – the coefficient of financial stability of an insurer; X_3 – Beaver's coefficient; X_4 – the share of fixed capital in assets.

According to this method, the interpretation of Z-indicator is as follows: $Z_j > 0$ characterizes insurance companies which are likely to work stably; $Z_j < 0$ characterizes the insurance companies which are approaching a critical condition; $Z_j = 0$ means the equal likelihood of belonging of an insurance company to a particular group.

Table 2 shows the average value of an integral Z indicator for the analyzed insurance companies calculated on the basis of this model.

Table 2. The average value of the integral Z indicator, 2009–2012

	2008	2009	2010	2011	2012*
Z-indicator	85,80	99,20	85,90	78,35	80,83

* According to the preliminary estimates of the author.

Source: Author's calculations.

So, according to the above method, all the insurance companies under study can be attributed to working stably. But due to the lack of deep differentiation of the value of Z-indicator, it is impossible to determine the degree of financial stability under this method.

Conclusions and recommendations for further researches:

1. Based on the comparative analysis of the methodological approaches to assessment of financial stability of insurance companies and the calculations performed, it can be noted that not all of them consider the peculiarities of the insurers' activities. But the method based on "early prediction tests", allows assessing the level of financial stability of domestic insurance companies most comprehensively. This method has high requirements to financial stability of insurers. It is applied by state regulator in order to monitor the financial stability of domestic insurance companies. But its disadvantage is the use of the data of not only financial statements, but also the forms of special insurance statements which are available to a wide range of users.

2. For qualitative diagnostics of the level of financial stability of domestic insurance companies, it is urgent to develop a systematic methodological approach to assessments of financial stability of domestic insurance companies, which would be based on the discriminant analysis and make it possible to predict the level of stability.

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