FINANCIAL STATE DIAGNOSIS AND FORECASTING IN THE ENTERPRISE'S PROVIDING ECONOMIC SECURITY SYSTEM

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H. Svinarova. In the article the mechanism of diagnostics and forecasting integration of enterprise's financial state of the into the system of its economic safety with the aim of increase its efficiency is disclosed. The study of certain aspects of the formation of subsystems for diagnosing and forecasting the financial condition of the enterprise, which integrates into the system of economic security of the enterprise. The economical tools of the diagnostics and forecasting subsystems, the system of indicators and indicators for assessing the financial condition of the enterprise are highlighted. The adapted calculation of integral estimation of results of diagnostics of financial condition of the enterprise is offered.

Keywords: diagnostics, forecasting, economic safety, financial condition of the enterprise, integral estimation, system of indicators.

Domestic industrial enterprises at this time operate in conditions of high competition of a market economy, unfavourable financial and economic situation, which is caused by uncertainty of the external environment, which can contribute to the financial crisis in the enterprise or bankruptcy. In order to prevent a negative financial result of the enterprise, there is an urgent need for the formation and use of effective economic instruments in the process of management, the main components of which are the diagnosis and forecasting of the enterprise's financial condition in the system of its economic security.

Due to the lack of timely diagnosis of the financial condition and economic activity of the enterprise, preventive measures to reduce the volumes of production and sales of products, increase the cost of production, decrease the quality of products, there is a crisis situation in the enterprise, which affects its ability to provide financial support for their business activities. For the stable operation and development of the enterprise, diagnostics and forecasting of the crisis symptoms of financial and economic activity must be carried out in advance of manifest signs of deterioration of the enterprise's financial condition.

Analysis of recent researches and publications

Problems of diagnosing and forecasting the financial condition of enterprises are investigated both by domestic and foreign scientists. In particular, Blank I.A., Kizim M.O., Savitska G.V., Sheremet A.D. paid considerable attention to the analysis of the financial state etc. Theoretical and methodological aspects of the problems of ensuring the economic security of the enterprise were reflected in the scientific works of such domestic and foreign authors as: Alkema V.G., Arefyeva O.V., Heyets V.M., Kavun S.V., Lyashenko O.M., Oleynikov Ye.A., Ponomarev V.P. and others.

For today, among scholars who deal with this issue there is no consensus, a unified approach regarding the development of tools for diagnosing and forecasting the financial condition of the company in the system of ensuring its economic security, so this issue is a very topical issue.

The aim of the article is to study the aspects of diagnostics and forecasting system of the enterprise's financial state, which is integrated into the system of economic security of the enterprise.

The main part

In modern economic conditions, the diagnosis of financial condition is one of the main indicators of enterprise's economic security level and the tool for managing the economic security of the enterprise. The financial condition of a modern industrial enterprise is a multifaceted, complex and ambiguous concept.

Many scholars [1-5] consider financial status as: an economic category, a set of indicators, a financial capacity of an enterprise, a complex concept, a description of certain aspects of financial and economic activity, etc. But the foreground is the following characteristic of the financial condition of the company, as a set (system) of indicators. These indicators, being random variables, can give grounds for making managerial decisions in conditions of incomplete certainty.

Analysis of practical activity of domestic enterprises shows that they do not fully use effective financial instruments in the system of ensuring their economic security. One of the modern and effective tools for ensuring economic security is the diagnosis and forecasting of the enterprise's financial condition. In most Ukrainian enterprises, the diagnosis and forecasting of the financial state has not formed as a holistic system for collecting, analyzing, interpreting and presenting useful information on the financial condition of the enterprise, with the aim of making operational, tactical and strategic decisions on ensuring the economic security of the enterprise on its basis yet. In these circumstances, the task is to create the necessary tools for diagnosing and forecasting the financial condition of the enterprise, which integrates into the system for ensuring its economic security.

In order to ensure a high level of economic security, the enterprise must continuously diagnose and forecast the financial condition of the enterprise. The proposed scheme of integration and interaction tools diagnosis and prediction of the enterprise's financial condition in the system of its economic security is shown in fig. 1.
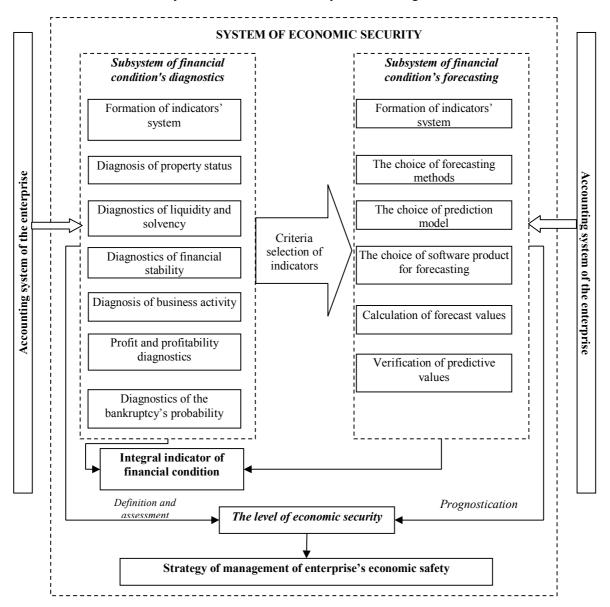
SYSTEM OF ECONOMIC SECURITY

Subsystem of financial condition's diagnostics

Formation of indicators' system

Diagnosis of property status

Diagnostics of liquidity and solvency

Diagnostics of financial stability

Diagnosis of business activity

Profit and profitability diagnostics

Diagnostics of the bankruptcy's probability

Subsystem of financial condition's forecasting

Formation of indicators' system

The choice of forecasting methods

The choice of prediction model

The choice of software product for forecasting

Calculation of forecast values

Verification of predictive values

Criteria selection of indicators

Accounting system of the enterprise

Accounting system of the enterprise

Integral indicator of financial condition

Definition and assessment

Prognostication

The level of economic security

Strategy of management of enterprise's economic safety

Fig. 1. Integration of diagnostics and forecasting of enterprise's financial condition into the system of providing economic security

Source: own elaboration

The proposed scheme covers separately the subsystem of diagnostics of a financial condition and a subsystem of enterprise's financial condition forecasting.

The subsystem for diagnosing the financial condition of an enterprise covers the following components of this process:
— the formation of a system of evaluation indicators and indicators for the diagnosis of financial composition;
— diagnostics of the property status of the company, which provides with the help of absolute and relative indicators to identify the crisis phenomena regarding the property of the enterprise;
— diagnostics of liquidity and solvency to identify the ability of an enterprise to settle its short-term and long-term liabilities at the expense of its own assets;

— diagnostics of financial sustainability of an enterprise for revealing of financial possibilities of the enterprise from the standpoint of efficiency of own capital's use;

— diagnostics of the business activity of an enterprise in order to determine the ability of an enterprise to effectively use its resources;

— diagnostics of profits and profitability of an enterprise for carrying out an estimation in this direction;

— diagnostics of the probability of bankruptcy to prevent unplanned liquidation of an enterprise.

After the stage of diagnosing the financial condition of the enterprise for ensuring its economic security, it is necessary to make forecasts of the financial condition for the future period of operation of the enterprise on the basis of the results obtained in this block. But in the subsystem of diagnosing the financial condition of the enterprise a significant number of absolute and relative indicators are used. Therefore, we propose with the help of criterion selection will reduce this number of indicators and use to predict those that have a certain significance for the enterprise at the given time.

In the subsystem of forecasting a system of indicators is formed on the basis of a criterion selection, the choice of methods and models of financial condition's forecasting for a concrete enterprise is carried out.

As a result of the diagnosis to monitor the overall financial condition of the enterprise, it is expedient to calculate the integral indicator of the financial state with the help of the established system of indicators.

Proposed subsystems of diagnostics and forecasting of the financial condition of the enterprise, which are oriented on providing economic safety of the enterprise, are based on a certain system of financial state's indicators. To diagnose the financial condition of an enterprise, it is necessary to form a system of indicators for each direction of diagnostics. On the basis of the theoretical research we propose to use the following system of indicators and indicators in the system of diagnostics of enterprise's financial state of (table 1).

Table 1. The system of indicators for diagnosing the financial condition of the enterprise

Indicators of financial condition	Indicative value
Diagnosis of property status	
The property of the enterprise	$\uparrow$
Factor for depreciation of fixed assets	$\leq 0.5, \downarrow$
Fixed asset refresh rate	$\uparrow$
Fixed assets retirement factor	$\downarrow$
Fixed assets ratio	≥ 0.5
Diagnostics of liquidity and solvency	
Absolute liquidity ratio	0.2-0.35
Current liquidity ratio	>1
Quick liquidity ratio	0.6-0.8
Working capital	>0, $\uparrow$
The coefficient of capital' mobility	>0
Diagnostics of financial stability	
Coefficient of financial independence (autonomy)	>0.5
The coefficient of financial stability	0.8-0.9
Coefficient of financial leverage	0.3-0.6
Coefficient of maintenance of own working capital	>0.1
Long-term debt ratio	<0.5
Diagnosis of business activity	
Period of aggregate assets' turnover, days	$\downarrow$
Period of current assets turnover, days	$\downarrow$
Period of repayment of accounts receivable, days	$\downarrow$
Period of stocks' storage, days	$\downarrow$
Profit and profitability diagnostics	
Net profit, ths. UAH	>0, $\uparrow$
Operating profit, ths. UAH	>0, $\uparrow$
Cost-effectiveness of production, %	$\uparrow$
Return on equity, %	$\uparrow$
Return on assets, %	$\uparrow$
Profitability of the main activity, %	$\uparrow$

Source: compiled by the authors according to materials [1, 6-8]

In order to summarize the assessment of the company's financial condition, we propose to calculate the integral indicator of the assessment of the enterprise's financial condition. To simplify the evaluation, we propose, from the whole set of indicators,

to select indicators according to certain criteria that will be included in the integral index of the financial state of the enterprise and will be transferred to the subsystem of forecasting the financial condition of the enterprise.

In our study, an integrated assessment of the diagnosis of enterprise's financial condition is based on an integral factor model [9], which covers the system of indicators of enterprise's the financial condition diagnosis' results and allows to evaluate and generalize information about the financial state of the enterprise without excessive detail.

Adapted calculation of the integrated assessment of the diagnosis of enterprise's financial condition is carried out in accordance with the following dependence, which takes into account that in the general case, the group of indicators is not equivalent:

$$D = \sum_{j=1}^{m} \frac{W_j \cdot \sum_{i_j=1}^{n_j} \left(w_{i_j} \cdot q \left(p_{i_j} \right)_{i_j} \right)}{\sum_{k=1}^{m} W_k \cdot \sum_{i_j=1}^{n_j} w_{i_j}}, \tag{1}$$

where m – the number of groups of indicators of enterprise's financial condition diagnosis;

W_j – weight of the j-th group of indicators in points;

w_{i_j} – weight of i-th indicator of j-th group in points;

$q \left(p_{i_j} \right)_{i_j}$ – evaluation of the i-th indicator for the j-th group is a function that establishes the relationship between the value of the indicator on the free scale and its assessment on the normalized scale in points (for example, from 0 to 10 or from 0 to 100);

p_{i_j} – the value of the i-th indicator of the j-th group;

n_j – the number of indicators for the j-th group.

After performing the diagnosis and forecasting of enterprise's financial condition, it is possible to determine, assess and predict the level of enterprise's economic security, which in turn affects the strategy of managing the economic security of the enterprise.

Conclusions

Thus, the toolkit for diagnostics and forecasting of enterprise's financial condition is formed, which covers:

— construction of diagnostics' subsystem, which includes the following components of this process: a) the formation of evaluation indicators' system for the diagnosis of financial composition; b) diagnosing the property status of the enterprise; c) diagnosing liquidity and solvency; d) diagnosing financial sustainability of the enterprise; e) diagnosing the business activity of the enterprise; e) diagnosing profits and profitability of the enterprise; g) diagnosing the probability of bankruptcy;

— construction of the subsystem of forecasting the financial condition of the enterprise;

— criterion selection of indicators for calculating the integral indicator of the financial state of the enterprise and forecasting;

— integration of these subsystems into the system of economic security of the enterprise.

Thus, the proposed measures allow us to diagnose and forecast continuously the financial condition of the enterprise, to provide determination of the level of economic security of the enterprise, which in turn affects the strategy of management of enterprise's economic safety.

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