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METHODOLOGICAL RECOMMENDATIONS OF CARRYING-OUT OF THE DIAGNOSTICS OF FINANCIAL AND ECONOMIC FLEXIBILITY OF THE SUBJECTS OF A REAL SECTOR OF ECONOMY

Objective. *The objective of the article is development of methodological recommendations of carrying-out of the diagnostics of financial and economic flexibility of the subjects of a real sector of economy.*

Methods. *The following methods were used in the course of investigations: method of analysis and synthesis, induction and deduction (for detalization and specification of a subject of research); methods of statistical analysis (for integral estimation of financial and economic flexibility of the subjects of a real sector of economy).*

Results. *In the course of work and for estimation of financial and economic flexibility of the subjects of a real sector of economy during the work there was developed the system of indicators which includes partial indicators of estimation (classified according to life-cycle stages), presumptive and integral indicators of financial and economic flexibility with the help of which its level is determined.*

Academic novelty. *The scientific-methodological approach to estimation of financial and economic flexibility of the subjects of a real sector of economy has been improved, which unlike existent ones allows to investigate flexibility holistically taking into account cyclicity of an industrial enterprise.*

Practical importance. *The obtained results were directed to formation of an optimal level of financial and economic flexibility and enhancement of efficiency of its management by the subjects of a real sector of economy.*

Key words: *financial and economic flexibility, subjects of a real sector of economy, life-cycle stages, diagnostics, estimation, management indicators.*

The present-day business climate of real economy entities put forward new requirements to the diagnostic techniques for their activity. It becomes necessary to improve already existing decisions and to work out the new ones of theoretical and applied nature intended to ensure efficiency of analytical and managerial activity of real economy entities under market conditions.

Analysis of those used in the world practice methods, mechanisms, algorithms of managing the financial and economic activity of companies showed that they do not take into account cyclicity in development of an entity in the real sector of economy. The real economy entities at the same stages even of one and the same

development cycle have different purposes and priorities that is why depending on the life cycle stage the evaluation criteria must change in methods.

It is worthy of note that problems of financial activity management of real economy entities are highlighted in a sufficient quantity of studies of domestic and foreign scientists, wherein problems of financial and economic diagnostics and economic and mathematical modeling of financial standing are investigated. The following authors may be distinguished among them: T. Ye. Unkovskaya [1], V. P. Savchuk [2], O. O. Tereshchenko [3], A. Utkin [4], I. A. Blank [5], T. S. Klebanova [6], B. Dreyer [7] and other. Study of literary sources gives an evidence on insufficient study of methodological support for financial and economic flexibility analysis of the real economy entities, which confirms the urgency of the problem under study.

The purpose of this article is to develop methodical recommendations on holding the diagnostics of financial and economic flexibility of real economy entities.

Diagnostics of financial and economic flexibility of the real economy entities represents a profound analysis of financial and economic flexibility (qualitative definition of the level), revelation of reasons for occurrence of problematic situations, definition of belonging of the real economy entity to one or another zone of financial and economic flexibility.

The first stage of this diagnostics is formation of scientifically grounded system of fractional indexes, which correspond to the basic criterion of financial and economic flexibility of the real economy entity.

In order to evaluate the financial and economic flexibility of the real economy entities it is necessary to substantiate the choice of any particular indexes relating to stages of their life cycle. The system of evaluation indexes for financial and economic flexibility of real economy entities is given in table 1.

At the stage of formation of real economy entities the financial resources should be distributed in such a way so that in future it will ensure profit earning and growth of competitiveness.

The stage of real economy entities' growth is characterized by rational use of their cash funds.

The stage of market stabilization of the real economy entities is characterized by investment of additional funds into updating of technical facilities, increasing the technology and industrial engineering level.

The maturity stage of the real economy entities is characterized by maintaining its stable activity, viability, ability to achieve efficient results in short term and long term.

At the stage of ageing the real economy entity becomes less active relating to long-term opportunities, its capability to response to short-term needs also decreases.

Table 1 – System of evaluation indexes for financial and economic flexibility of a real economy entity

Life cycle stages	Management indexes	Index title
1	2	3
Formation	Liquidity management index	current liquidity ratio
		quick liquidity ratio or “critical assessment” ratio
		absolute liquidity ratio
	Financial independence management index	equity capital concentration ratio
		financial dependence ratio
		borrowed-to-own funds ratio
Growth	Business activity management index	equity capital turnover
		aggregate capital turnover
		mobile means turnover
	Financial resources management index	economic growth resilience ratio
		equity capital manoeuvrability ratio
		borrowed capital concentration ratio
Market stabilization	Fixed capital management index	long-term investments structure ratio
		capital renewals ratio
		capital consumption ratio
		capital depreciation ratio
	Profitability management index	operating margin of profit
		investment activity profitability
Maturity	Profit margin management index	financial activity profitability
		profit margin
		equity capital profitability
	Debt management index	production facilities profitability
		receivables turnover

1	2	3
		payables turnover
		current payables turnover
Ageing	Solvency management index	endowment of material operating capital with own financing sources
		Ratio of actual value of industrial purpose property
	Financial and economic reliability ratio	reliability ratio

Has been developed by the author based upon [8,9,10].

At the second stage of financial and economic flexibility of real economy entities the choice is made of comparative base and standardization of fractional indexes of financial and economic flexibility evaluation. One of the main research tasks is formation of integral index of financial and economic flexibility level, which combines fractional evaluation indexes. As a comparative base it is reasonable to use limit values on each fractional index, it is necessary to establish the limits depending on the nature of index.

The third stage of diagnostics provides for calculation of significance (weight) of each index in the general evaluation of financial and economic flexibility of the real economy entity and individual fractional indexes at each stage, which is determined by experts.

At the fourth stage of diagnostics the calculation of generalizing indexes of financial and economic flexibility of real economy entities by life cycle stages is made, according to the following formula:

$$IFEF_{f,g,ms,m,ag} = \frac{\sum_{i=1}^n a_{(f,g,ms,m,ag)}^i * v_{(c_t, p_t, pc_t, z_t, cm_t)}}{\sum_{i=1}^n v_{(f,g,ms,m,ag)}} \quad (1)$$

where $IFEF_f, IFEF_g, IFEF_{ms}, IFEF_m, IFEF_{ag}$ – are generalizing indexes of financial and economic flexibility at the stages of formation, growth, market stabilization, maturity, ageing, accordingly;

$a_f^n, a_g^n, a_{ms}^n, a_m^n, a_{ag}^n$ – actual value of i^{th} fractional index at the stages of formation, growth, market stabilization, maturity, ageing, accordingly;

$v_f, v_g, v_{ms}, v_m, v_{ag}$ – weight of the i^{th} fractional index at the stages of formation, growth, market stabilization, maturity, ageing, accordingly;

n – quantity of indexes, which evaluate the influence of fractional indexes of financial and economic flexibility of real economy entity.

At the fifth stage of diagnostics of financial and economic flexibility of the real economy entity the calculation is made for integral index of the financial and economic flexibility (I_{FEF}). Based upon the formula of geometric mean of values of

five integral indexes we shall calculate the general integral index of financial and economic flexibility:

$$I_{FEF} = \sqrt[5]{(1 + IFEF_f) * (1 + IFEF_g) * (1 + IFEF_{ms}) * (1 + IFEF_m) * (1 + IFEF_{ag})} - 1 \quad (2)$$

Addition of units to values of integral indexes is necessary to prevent from the cases, when the zero value of any such index automatically converts I_{FEF} into 0 irrespective of values of other indexes, is not logic. Approximation of the I_{FEF} value to the unit gives an evidence of increase in financial and economic flexibility of the real economy entity, and approximation of this value to zero – vice versa.

At the sixth stage of diagnostics we determine the dynamics of the financial and economic flexibility level and nature of economic development of the real economy entity. Value indexes of financial and economic flexibility are to be calculated for several periods for the purpose of their comparison against each other and definition of the tendency of real economy entity development.

This approach to diagnostics of financial and economic flexibility of real economy entity has a series of advantages:

- distinguishing of life cycle stages and their indexes, respectively, that ensures complexity of financial and economic flexibility evaluation;
- simple and descriptive procedure of calculation of system of financial and economic flexibility evaluation indexes and their interpretation;
- calculations are made using each index weight ratio;
- possibility to study financial and economic flexibility at different enterprises (i.e. this method is universal).

Hence, the proposed recommendations for holding the diagnostics of financial and economic flexibility of real economy entities allow to determine the level of financial and economic flexibility, and also to determine how correctly they can manage their resources at their life cycle stages.

References:

1. Unkovskaia, T.E. (1997), *Finansovoe ravnovesie predpriiatiia* [Financial equilibrium of enterprise], Geneza, Kiev, Ukraine.
2. Savchuk, V.P. (2005), *Upravlenie finansami predpriyatiya* [Financial of enterprise management], BINOM, Moscow, Russia.
3. Tereshchenko, O.O. (2003), *Finansova diialnist subiektiv gospodariuvannia* [Financial activity of subjects of menage], KNEY, Kiev, Ukraine.
4. Utkin, E.A. (1996), *Upravlenie firmoi* [Management a firm], Akalis, Moscow, Russia.
5. *Osnovy finansovogo menedzhmenta* [Bases of financial management], Nika-Centr, Kiev, Ukraine.
6. Klebanova, T.S., Gyrianova, L.S. and Bogonikolos, N. (2006), *Modelirovanie finansovyh potokov predpriyatiya v usloviyah neopredelennosti* [Design of financial streams of enterprise in the conditions of vagueness], Injek, Kharkov, Ukraine.

- 7.** Dreyer B. Uncertainty, Flexibility, and Sustained Competitive Advantage / B. Dreyer, K. Gronhaug // *Journal of Business Research*. – 2004. – № 57. – С. 484-494.
- 8.** Sheremet, A.D., Saifulin, R.S. and Negashev, E.V., (2000), *Metodika finansovogo analiza* [Method of financial analysis], INFRA, Moscow, Russia.
- 9.** Tarasenko, N.V. (2000), *Ekonomichnyi analiz diyalnosti promyslovogo pidpryemstva* [Economic analysis of activity of industrial enterprise], LBI NBY, Lviv, Ukraine.
- 10.** Dovbnya, S. and Shembel, Yu. (1998), “Financial analysis on the different stages of life cycle of enterprise”, *BIZNESINFORM*, no. 17-18, pp. 87-92.