

METHODICAL ASPECTS OF MANAGEMENT OF ENTERPRISE VALUE IN CIRCUMSTANCES OF ENVIRONMENTALLY ORIENTED DEVELOPMENT ON THE BASIS OF VALUE GAP

Problem statement. In the modern conditions of economic management range of problem questions that require a further decision and accordingly form the vector of future actions of economic subject appears before the financial management of enterprise. That way, at the level of corporate management an agent problem, disparity of strategic and tactical aims of enterprise activity, problem of enterprise value estimation acquire the priority value [1, p. 104-105; 2, p. 10-17]. As foreign practice shows, value-based management (VBM) acquires currency in enterprise management and, in particular, in the decision of the marked problems [2, p. 18-22; 3, p. 113-119; 4, p. 3-5]. However, scientific and methodical approaches to VBM in response to environmentally oriented development require a further improvement.

Analysis of the last researches and publications. Research-and-development in the theory of value-based management came true by many scientists, such as: E. Black [5], A. Damodaran [6], S. Valdaytsev [7], M. Volkov [4], I. Ivashkovskaya [1; 3; 14], T. Copeland [8], J. Murrin [8], A. Rappaport [9], M. Scott [10], T. Teplova [2], A. Kharin [11], W. Sharpe [12] and other. Taking into account considerable contribution of scientists in researching questions of value conception, the methodical providing of VBM in response to environmentally oriented development is restricted enough in use. It requires further improvement in order to use in practice by domestic enterprises.

Problem definition. The aim of the work is to improve scientific and methodical providing of value-based management in the enterprises in response to environmentally oriented development. Realization of the aim of the work envisages the decision of such tasks: analysis of the modern approaches to value-based management taking into account the nonfinancial impact factors; research and grounding of value gap method as the perspective direction of value-based management; research and choice the most expedient value estimation model in order to use in forming of methodical providing for value gaps; the analysis and determination of value gap points in view of enterprise activity directions; development of the methodical providing of value gap estimation based on the chosen impact factors of value management.

Exposition of the basic research material. The lack of sufficient complete and transparent information in the financial market, functioning of un-efficient financial market results in disparity of value estimates made by an enterprise and market, in particular by investors, insurance companies and others. As practice shows, enterprise activity in direction of environmentally oriented development assists receiving the best financial and economic indexes for enterprise, including value expansion. It is confirmed by the results of research undertaken by Russian Independent Ecological Rating Agency «NERA», that carries out independent ecological ranking of the Russian companies. Agency «NERA» is the developer of the whole complex of stock indexes NERAX Eco, that include companies which have the transparent ecological accounting and high indexes of ecological efficiency. Results of positing ecological ratings of companies which are included into the fund indexes NERAX Eco provided the growing of the companies market value in 40% compared with average market value. This tendency saved during the next market fluctuations [13]. It attest to the fact that environmentally oriented development of enterprise occupies step-by-step positions of booster of enterprise value recapitalization. It can become one of the directions of coordination of enterprise value estimates and its increasing.

Therefore, consider that the use of value estimation methods in view of value-based management, their proper use and adaptation corresponding to the modern terms will provide objective value estimation of enterprise taking into account ecological impact factors.

Beginning from 1990th, next to a book-keeping model considerable distribution in a financial management received value-oriented conception of management. Such tendency is explained by considerable advantages of VBM compared with other value indicators. Firstly, unlike book-keeping indexes that are based on operations carried out in fact, VBM indicators take into account additional alternative possibilities of reinvestment, that provide investor with information about the level of risk for different variants of monetary inputs [3, c.115-116]. Secondly, the traditional system of value indexes does not allow to create the effective system of motivation, while value-based management gives possibility to form the mechanisms of long-term reward of workers at all levels of management [14, p. 106-107]. Thirdly, comparison the resulting effects of different models of value estimation according to VBM-approach is carried out on the basis of criteria of maximization of return on capital, minimization of its cost, while the interrelate criteria of efficiency are absent in the estimation of traditional indexes (net operating income, ROA). Next to considerable advantages of the value-based management there is a weak point related to failure to take into account interrelation between financial and economic indicators, on the one hand, and nonfinancial, - on the other hand, during value evaluation.

There are other approaches in an economic theory and practice next to VBM that differently estimate influence of environmentally oriented activity of enterprise on its value. They are: index approach, nature protection model.

Application of the special fund indexes that are developed today by leading stock markets and rating agencies is the most simple method of information accumulation about the market value of companies. Fund indexes show capitalization of enterprises, that characterizes a present value of ecologically responsible companies. The most popular for today is the group of Dow Jones Sustainability Indexes (DJSI). The indexes of DJSI envisage the complex estimation of corporate responsibility, in particular practices of following the sustainable development, and give an independent expert estimation of investments efficiency in environmentally oriented activity, quantitative financial estimation of corporate strategies of sustainable development. The best known ecological, low-carbon indexes are: NASDAQ OMX CRD Global Sustainability Index (THE USA), FTSE4GOOD (Great Britain), HKQ AA HSBC (Hong Kong), BOVESPA (Brazil), NERAX - Eco (Russia) and others. Setting of indexes is not only to simplify the process of investment decision-making but also to motivate. The constantly growing positive dynamics of sustainable development indexes compared with the indexes of industrial enterprises, that do not adhere to principles of environmentally oriented development, stimulates enterprises to increase shareholder value in a long-term prospect due to integration in their business strategy principles of sustainable development.

Next to the mentioned advantages of index approach, there are some essential weak points. The specialized fund indexes of sustainable development, as well as other indexes, characterize the general fund market conditions, test influence of many factors not related to ecological problems and as a result do not represent an objective situation. In addition, fund indexes are characterized with not high certainty because of the average reading of initial data. Including to the index pool mainly - large and leading companies limits the use of index approach by small and middle enterprises [11, p. 52-53].

A nature protection model is based on principle that every human has a right as personality on possessing shareable natural resources, confession of equality in access to the use of shareable resources and obligatory payment for received benefits. The economic base of this conception is that provision of ecosystem services, production of ecologically clean products seem to be the part of the sphere of production of merit goods. Within the value conception there are methods of the social questioning and expert estimations that do not allow to convert the quality indexes of natural resources value in quantitative value indexes [15; 16].

We consider that under such conditions it is important to improve theoretical and methodical providing of value-based management by the gradual decline of disparity in estimations, in other words value gap estimation and management.

Method of spreads or "gap-analysis" is one of basic instruments of strategic management and planning in modern economic practice. The further improvement of the methodical providing of value gaps will be carried out on the basis of their interpretation as the difference between the indicators estimated as the best value indicators in industry and actual value indicators of enterprise. The value indicators are determined depending on the chosen value estimation method.

In the modern conditions of economic management within the wide list of methods of value estimation on the basis of VBM the choice of the most expedient for domestic enterprises is necessary to carry out through the analysis of value models of enterprise according to their advantages and disadvantages. There are three main groups of value estimation models in relation to the base for indexes settling in the theory of financial management. They are: balance methods (based on the book accounting), cash flow methods and market methods. Some value estimation methods have mixed base of index settling, however as a result they gravitate to one of groups. Such value estimation models are: an economic value added (EVA) and net economic profit (NEI). Value estimation based on EVA is included in balance methods and NEI - in cash flow methods [4, p. 6-10]. Classification of value estimation models is presented on figure 1.

In the conditions of the ineffective financial market, that is typical for Ukraine, the usage of market methods of estimation is impossible. Value estimation methods based on cash flows are not reasonable due to the lack of statistical information and post-prognosis character of money streams that make estimations doubtful. Estimation of the value of enterprise on the basis of balance models is much more practical, it is formed according to the real data and meets the operating conditions of the Ukrainian enterprises. To our mind, among all the balance methods economic value added (EVA) method is the most suitable for enterprise value estimation within the value-based management and further evaluation and management of a value gap. Basic advantages of this method are following: consideration of all charges on doing business (actual and alternative) that allows the investors to compare the profitability of the capital with the alternative charges of the invested money; adjustment of accounting data that allows to represent the actual quantity of resources and strategic orientation of their use taking into account branch features, and the same time it helps to avoid the standard drawbacks of accounting; the mechanisms of reward of managers of all levels of an enterprise are built on the basis of EVA method [14, p. 104-106]. In addition, as a significant merit of EVA method we can emphasize its world popularity, the methodology of estimation was acknowledged by a wide range of large international consulting companies and financial corporations, such as: The Coca-Cola Company, Eli Lilly and Company, Bausch & Lomb, Matsushita, Briggs & Stratton, Herman Miller [4, p. 11].

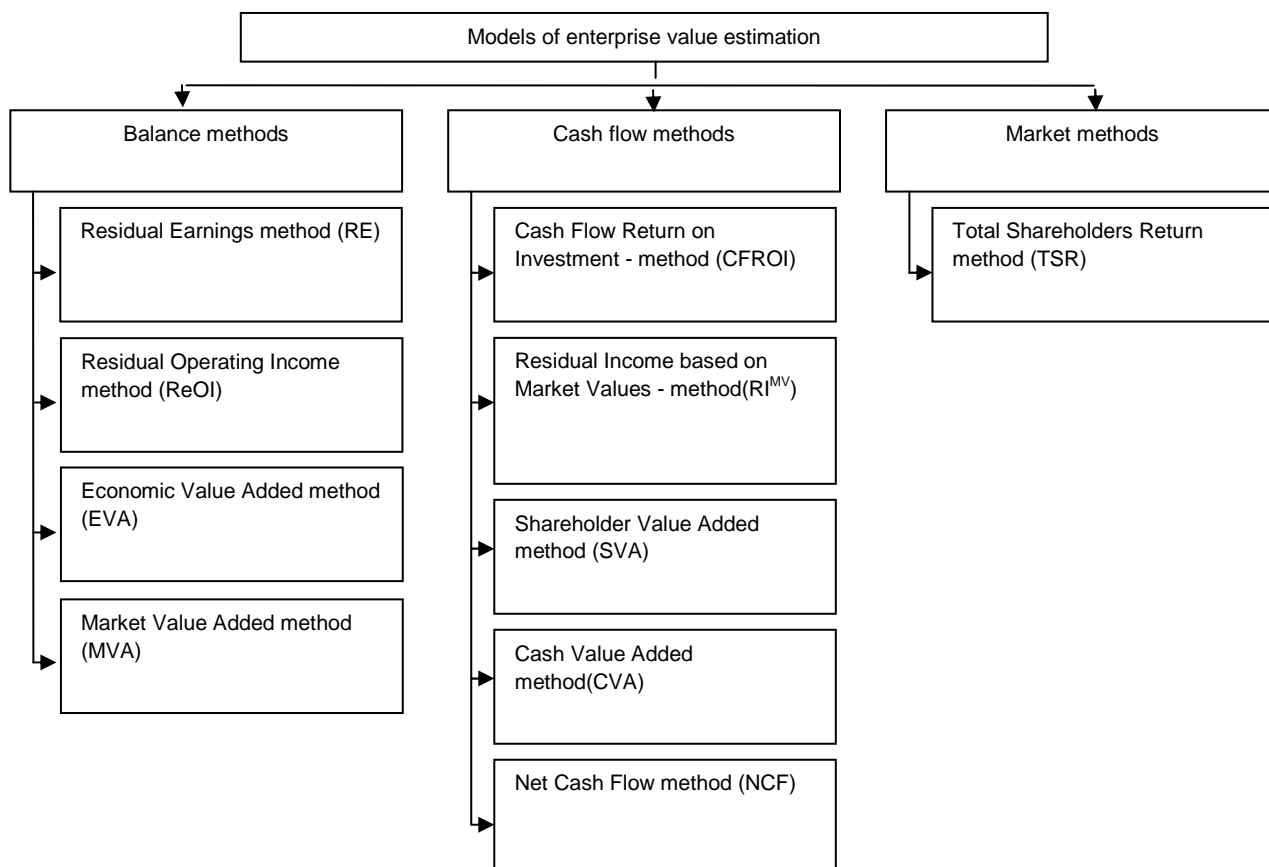


Figure 1. Classification of value estimation models of enterprise

Source: made by author on basis [4, p. 8]

The further improvement of the methodology of the value gaps envisages the determination and analysis of the basic zones of their origin. The evaluation of an enterprise value using EVA method makes it possible to analyze the factors of cost break as a result of refusal of an enterprise from the eco-oriented vector of the development in the context of value indicators that represent investment, operating, and financial activities of an enterprise (fig. 2). The factors of value gap show zones of formation of potential possibilities to increase the enterprise value owing to the implementation of the eco-oriented activity.

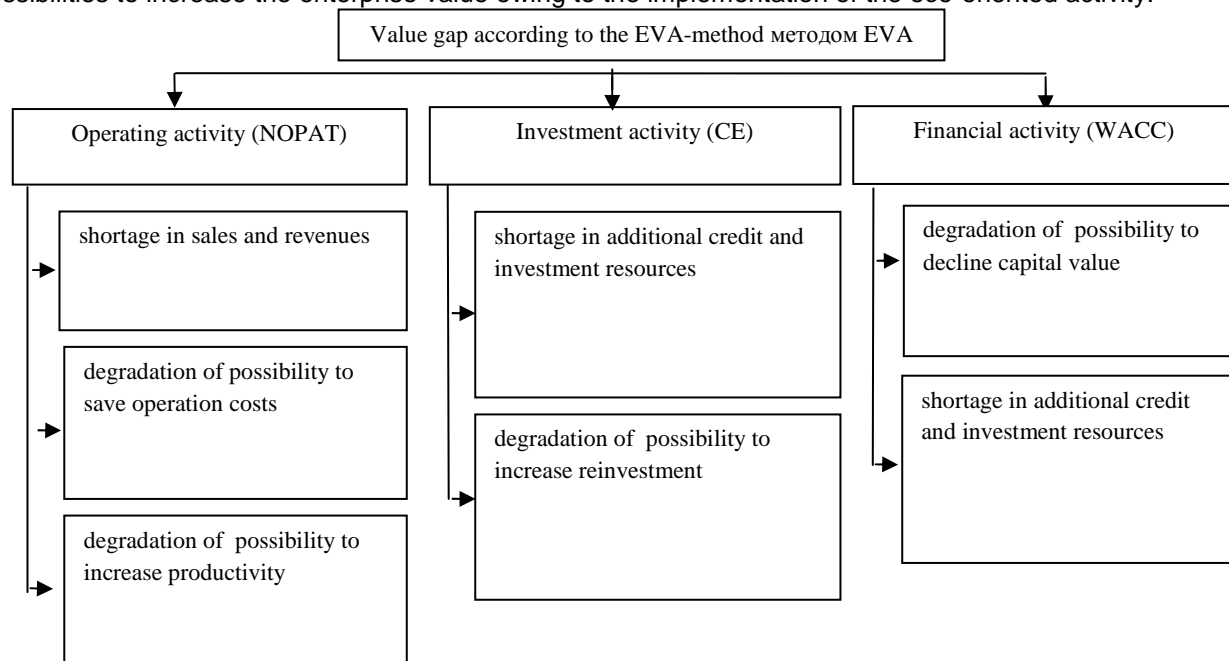


Figure 2. Factors of value gap in terms of enterprise value indicators

Source: authoring

In order to provide value gaps management it is necessary to apply procedure of their evaluation, that within the framework of research we suggest to carry out on the basis of EVA method.

In general terms enterprise value according to EVA is calculated in the form of absolute indexes (formula 1) or as relative indexes (formula 2)[14, p. 105-106].

$$EVA = NOPAT - WACC \times IC, \quad (1)$$

where $NOPAT$ - a net operating income of enterprise after tax payments;

$WACC$ - weighted average cost of capital;

IC - invested capital.

$$EVA = (ROIC - WACC) \times IC, \quad (2)$$

where $ROIC$ - return on invested capital;

$(ROIC - WACC)$ - spread of efficiency.

Consider that value gap evaluation based on EVA method must be carried out according to the formula 2. Presentation of algorithm of EVA method as a multiplication of spread on invested capital allows to forecast potential value for the enterprise according to the actual (V_a) and the best in industry (V_b) indicators of profitability and cost of invested capital at the volume of the capital fixed for two variants (fig. 3). A difference between these two values (GAP_{value}) will represent gap value.

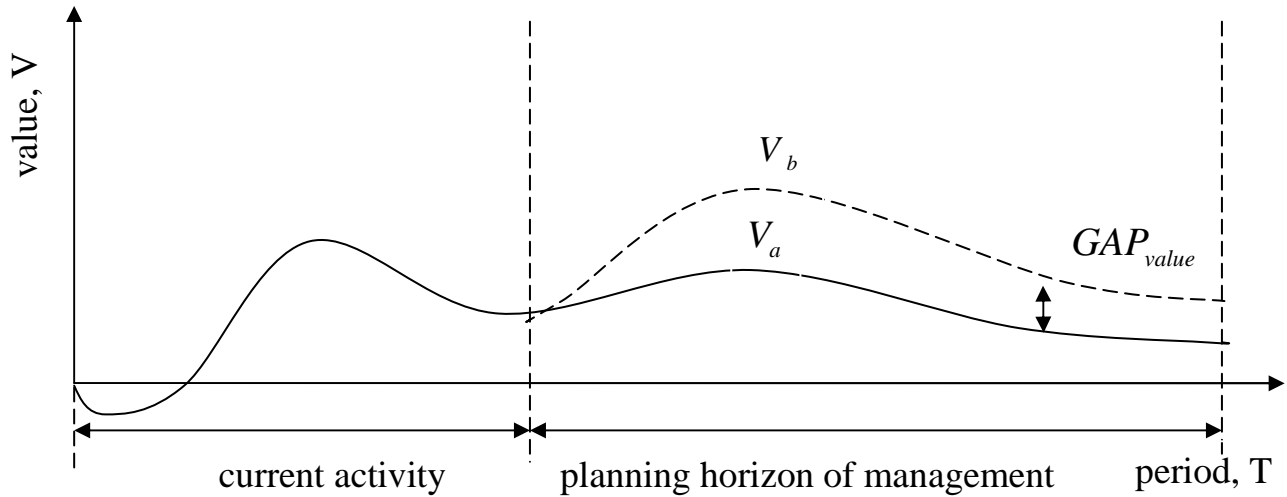


Figure 3. Graphic image of cost break

Source: authoring

Value gap calculation is offered to carry out according to the formula:

$$GAP_{value} = (GAP_{ROIC} - GAP_{WACC}) \times IC, \quad (3)$$

where GAP_{ROIC} - value gap according to the indicator of ROIC;

GAP_{WACC} - value gap according to the indicator of WACC.

Thus, value gap evaluation envisages realization of separate estimation of value gap according to the indicator of ROIC and to the indicator of WACC.

In order to make value gap estimation according to the indicator of ROIC it is reasonable, in our opinion, to use logistic function. Logistic functions in an economy are used in order to increase efficiency of management and business organization in general and determine capital value in the cost measuring in particular. Dynamics of value gap according to the indicator of ROIC is explained as follows. Thus, due to mobilization of internal reserves of current financial and economic activity, value gap according to the indicator of ROIC will not change substantially. An introduction of investment projects with eco-directivity, raising additional capital in order to renovate productive equipment will gradually increase capital profitability. The last will be accompanied by value gap declining and, thus, by gradual reduction of differences in estimations. In a strategic prospect actual ROIC will catch up with master values. Value gap according to the indicator of ROIC in a dynamics is presented in the Figure 4.

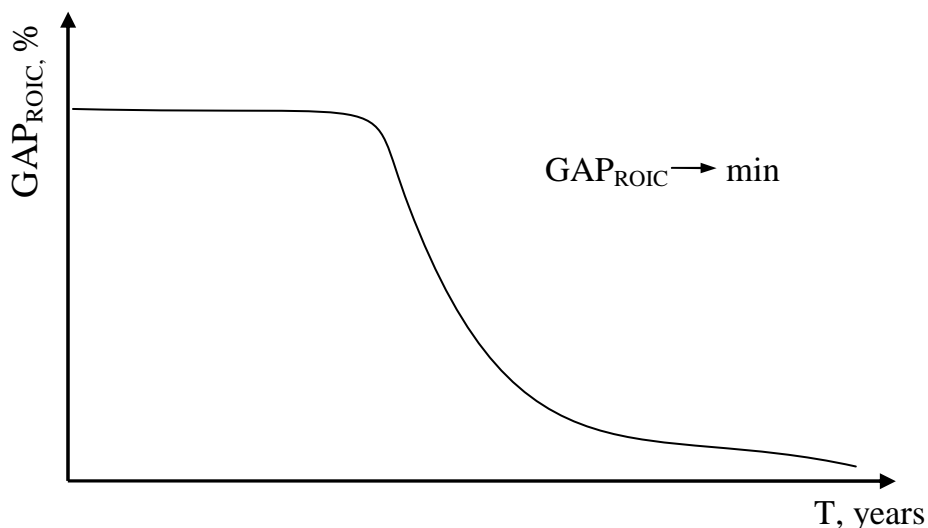


Figure 4. A graphic presentation of gradual decline of value gap according to the indicator of ROIC

Source: [17]

The value gap according to the indicator of ROIC is determined as a difference between the master value of ROIC through branch ($ROIC_{max}$) and actual for an enterprise ($ROIC_a$).

In order to calculate value gap according to the indicator of ROIC ($ROIC_{max}$) we suggest to use formula 4:

$$GAP_{ROIC_t} = \frac{1}{C} \left(1 + \frac{e^{\alpha(T-t)} - e^{-\alpha(T-t)}}{e^{\alpha(T-t)} + e^{-\alpha(T-t)}} \right), t \geq 0 \quad (4)$$

$$C = 1 + \frac{e^{\alpha T} - e^{-\alpha T}}{e^{\alpha T} + e^{-\alpha T}}, \alpha > 0,$$

where α - parameter that characterizes influence of eco-oriented activity of enterprise on ROIC;

t - a moment of time when value gap estimation is conducted;

T - management horizon.

There is a parameter that characterizes influence of eco-oriented activity of enterprise on its financial and economic indexes in the recommended algorithm of value gap determination according to the indicator of ROIC that determines a behavior pattern and dynamics of gap function. We consider that further development of such parameter is a fundamental in methodology of management of enterprise value gaps. Transformation of priorities of future enterprise development in the direction of realization eco-oriented activity will assist, in our opinion, to the gradual decline of value gaps sizes, increase of enterprise value and decision of problem of disparity of value estimations in general.

Conclusions and further researches. As a result of the conducted analysis of the existing approaches to the value management with consideration of the requirements of eco-oriented development the expediency of the implementation of the value-based management at Ukrainian enterprises was grounded. However, its scientific and methodic bases require further improvements under the conditions of ecologically sustainable development. Eco-oriented development as a factor of recapitalization of an enterprise envisages access to the full and transparent information about ecological indicators of operation, respective value increase, and, as a result, reduction of value differences in estimation which are calculated according to the value gaps method. The value gap is determined as the difference between the best indicators in the sphere and the actual indicators of an enterprise value. The choice of indicators depends on the selected method of value estimation. Research of advantages and drawbacks of balance, market and money estimation methods showed the expediency of balance methods, in particular EVA method to form the methodical mechanism of value gap model.

On the basis of EVA method the main zones of value gaps occurring were detected in terms of investment, operating and financial activities of an enterprise. It would helps in future to form corresponding mechanism of value gaps management in the places of their origin.

We consider that forecasting of a value gap according to the indicator of ROIC has to be carried out on the basic of logistic function. It is explained by its practical use in order to increase the business efficiency in general and by its agreement with the characteristics of our research in particular. We emphasize a determinant role of the parameter of influence of eco-activity on the value indexes of an enterprise. It is a mandatory component of the methodology of the value gap calculation using capital profitability and cost. In

future the development of the algorithm of calculation of such parameter will help to evaluate the influence of ecological factors on the enterprise value by means of the value gap management.

Further developments of the mechanisms of the value-based management in response to the conditions of eco-activity envisage the development of the scientific and methodical approaches to the estimation of value gaps using the indicator of the capital cost, determination of perspective ways of value gap management in an enterprise, formation of corresponding mechanism of such management providing.

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Shyshova Yu.H. METHODOLOGICAL ASPECTS OF MANAGEMENT OF ENTERPRISE VALUE IN CIRCUMSTANCES OF ENVIRONMENTALLY ORIENTED DEVELOPMENT ON THE BASIS OF VALUE GAP

Purpose. The aim of the article is to improve scientific and methodical support of value oriented management at the enterprises in circumstances of environmentally oriented development.

Methodology of research. Theoretical and methodological basis of research are the modern foreign and domestic approaches to the cost concept management at the enterprises in circumstances of environmentally oriented development, the method of value gaps. The following methods of research are used in the article: methods of argumentation and comparison (when determining the most expedient approach for financial management taking into account the nonfinancial impact factors), method of logic analysis (when choosing value estimation model), method of analogy and observations (when determining the model of value gap estimation according to the ROIC indicator), method of generalization (when summing up the results of work).

Findings. Results of conducted research in the article are: modern approaches to value oriented management taking into consideration nonfinancial impact factors have been analyzed; value oriented approach in terms of value gap method as the perspective direction of financial management in circumstances of environmentally oriented development has been substantiated; model of economic value added as the most expedient value estimation model in order to use in forming of methodical providing for value gaps has been chosen; value gap points in view of enterprise activity directions have been analyzed

and determined; the methodical providing of value gap estimation according to the ROIC indicator has been developed.

Originality. The novelty of the work is to improve the existent approaches to value oriented management of the enterprise in terms of value gap method offered in the article. The value gap estimation and management is suggested to carry out on the basis of model of economic value added according to the cost and return on invested capital.

Practical value. Research results will assist practical introduction of the value oriented management in the domestic enterprises in circumstances of environmentally oriented development.

Key words: value management, value gap indicator, cost of capital, return on invested capital, value estimation model, economic added value, environmentally oriented development.