ЕКОНОМІКА ТА УПРАВЛІННЯ ПІДПРИЄМСТВАМИ
(за видами економічної діяльності)

METHODOLOGY OF THE SHORT-TERM INVESTMENTS MANAGEMENT

Yusaf a.b. abde Al Sulaiman, phD, lecturer.
Cihan University. College of Administration and Financial Sciences.
Department of Business Administration

Introduction. One of the tools to generate additional income are short-term investments. The short-term investment is an account in the current assets section of a company's balance sheet. This account contains any investments that a company has made, that will expire within one year's term. For the most part, these accounts contain stocks and bonds that can be liquidated fairly quickly. In accounting, short-term investments account is an account for the compilation of information about the presence and movement of short-term (less than one year's term) investments (investment), companies in the securities of other companies, interest-bearing bonds of state and local loans, etc.

The Corporation may use this tool as an option when diversifying financial resources. The most attractive for investments in the market are corporate securities, but investors could pose different problems. To avoid this, it is necessary to conduct various analyses, including the assessment of the acquired property value, to consider the number of solutions for this problem.

The analysis of resent studies and publications discussing the problem.

Contemporary problems of financial assets management are devoted to prominent foreign scholars Y. Kohno, P.A Meskon M., Albert M., F. Hedouri, Santo B. [1,2,3] and many others. However, the publications related to the techniques of surgical management of financial investments, such as current assets, now there are practically none.

Problem definition. The aim of the work is a theoretical analysis, development of methodological foundations for operational management of current operations and short-term investments of enterprises.

The main part. Based on our analysis of the literature, the following activities are suggested, a series of specific analyses that are presented below.

The structure of the current activities in the implementation of short-term investments. Set of activities.

As part of the ongoing activities, the operational management of short-term investments, in our view, requires the following basic steps [3,4]:

1. Development of investment strategies to create investment portfolios:

♦ choice of financial markets;

♦ range of financial instruments;
♦ determination of the financial portfolios structure;
♦ risks assessment and hedging.

2. Distribution of assets for investment portfolios based on the established criteria.
3. Monitoring of financial instruments, the use of which seems a priority for future work.
4. Development and organization of information and analytical support of management.
5. Information and analytical support to departments and clients of the Corporation on the issues related to the assets management.

Events for the operational management of short-term investments

In carrying out short-term investments it is necessary to implement the two groups in parallel events. Management structure in accordance with the two groups can be represented as follows (Fig. 1) [5].
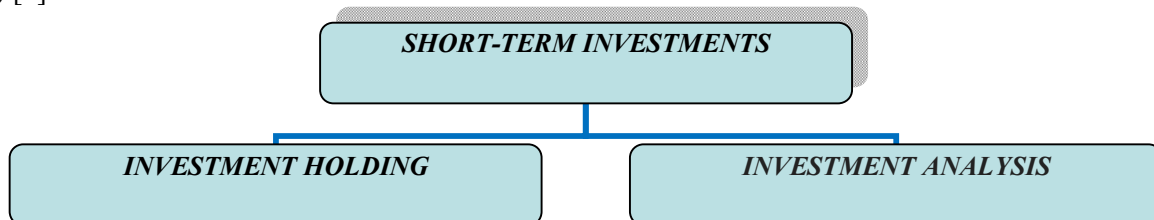
SHORT-TERM INVESTMENTS

INVESTMENT HOLDING   INVESTMENT ANALYSIS

Fig. 1 Structure of operational management activities

Short-term investments

In carrying out the investment the following tasks should be resolved [6]:

1. Decision-making asset management.
2. Development of financial schemes for the operational asset management.
3. Selection of financial instruments for investment.
4. Construction of the portfolios structure and the choice of maturity investments.
5. Processing of orders to deal with working through a broker.
6. Designing your own transactions when working on the trading floors.
7. Reconciliation of transactions, submission and approval of the reports.
8. Submission of assignments associated with the movement of securities in different accounts, not related to the transaction.
9. Submission of orders related to transactions with cash: displacement, conversion, payments [7].

Estimation of investment value cost

To determine the value of the acquired stake in corporations, as a rule, the following methods are used [8]:

♦ analysis of discounted funds flows;
♦ comparative analysis of companies;
♦ comparative analysis of operations;
♦ analysis of the replacement cost.

In the case of the discounted flows of funds analysis, in particular, the crucial role is played by the quality of information about the investment value as a source of background information to provide a reliable assessment of the final cost.

In addition to the formal (calculated) the market price of the investment value is influenced by:

♦ the level of competitive tension between the two groups of bidders at the tender for the purchase of investment property;
♦ the structure of the sales process, in particular, the share acquired under the influence of the stake acquisition, or the possibility of using the value of the investment after the acquisition;
♦ the problem of the financial terms of the acquisition.

Assessment of the acquired investment value is usually considered in terms of the two perspectives:

♦ value as a whole (total cost);
♦ cost of basic components (on the object value).

Evaluation of the discount funds flow ("DFF")

This evaluation algorithm is the most convenient when assessing the value of the acquired company (for example, for speculation on the stock market). With the appropriate quality of

information, the algorithm is usually considered as a priority for the corporation, if it acts as a potential buyer. Main steps of the algorithm shown in Fig. 2.
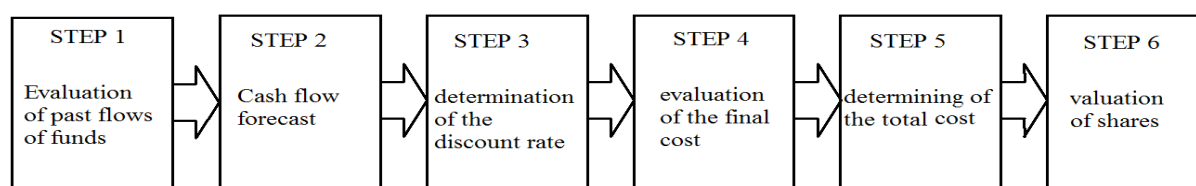
STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6
Evaluation of past flows of funds	Cash flow forecast	determination of the discount rate	evaluation of the final cost	determining of the total cost	valuation of shares

Fig. 2 Algorithm for valuation of a corporation shares

Let us briefly consider some of the basic steps of the algorithm. **Determination of the discount rate**. Profits derived by holders of shares and debentures, is the value of the debt obligation, depending on the market value of the liabilities and the value of shares, depending on the market value of these shares. The average value determined in accordance with the market value, is called the average cost of capital (ACC). Projected free flows are discounted in accordance with the ACC [9,10].

The basic formula for determining the ACC is as follows:

$$ACC = \left[Rd * (1 - Tc) * \frac{D}{D+E} \right] + \left[\text{Re} * \frac{E}{D+E} \right], \tag{1}$$

where Rd - value of a debt obligation before taxes;
Tc - marginal tax rates for corporations;
D - market value of the debt obligation;
E - market value of the shares;
Re - stock value before taxes.

The value of shares can be determined using the capital assets pricing model ("CAPM"), the essence of which is, that the difference in income is a necessary degree of risks, but the reward is subject only to the portion of this difference, which is not subject to diversification. The basic formula of the CAPM model can be represented as:

$$E(Ri) = R_f + \beta * (R_m - R_f).$$

In this case, R_f represents a bet, risk-free (usually government bonds or other types of government debt instruments in emerging markets); $\beta*$- risks, not subject to diversification; Rm - market risks. Prize for market risks is represented by the difference between the values of Rf and Rm. The value of β, may be determined by dividing the covariance of the market by the total variation of the market.

$$\beta = \frac{Cov_{im}}{\sigma_m^2}, \tag{2}$$

where Cov_{im} - covariance of the acquired company with the market;
σ_m^2 - The total variation of the market.

The calculation of the final cost. The total cost (TC) is usually determined using the formula of growth to infinity or terminal multiplicity.

Growth formula to infinity is as follows:

$$TC = FcFn * \frac{1+g}{ACC-g}.$$

There $FcFn$ are flows of funds at the end of the forecast period, and g is the expected rate of flows growth. This formula must be normalized for use in the full cycle of activities in those industries that have cyclic structure. The main disadvantage of the final cost estimates lies in the assumption, that the company has reached a stage of stable functioning [11,12,13].

Comparative analysis of companies

Valuation of the company should be carried out by the analysis of some indicators of peers. For example, in the analysis of packet oil company the same data for several oil companies can be used.

Different indicators should be selected, such as the ratio of the similar companies' costs to their reserves and market capitalization of the company's reserves. Further indicators are calculated in relation to the total reserves and those which it has the right for (as a rule, after adjustment for small stakes in industrial associations). Stocks, which the company has the right for, should be calculated on the basis of the commercial (non-voting) stake [6].

Comparing the values of the obtained parameters, we can determine the approximate value of the acquired company.

Comparative analysis of the absorpion operation

One method to evaluate the investment value is a comparative analysis of the absorption operation. This method is based on analysis of the similar investment values acquisition. As the basis for calculation is determined on the baseline (e.g, the carrying value of assets and the stock price), then we use the appreciated proportions of the investment value opportunity cost. The basis for the use of this method is that it provides an adequate degree of realism in cases of acquisition of the enterprise corporation's shares [2].

Analysis of the replacement cost

Another method of the investment value evaluation is a method for estimating the replacement cost. Particularly, for real investment this method can take into account the cost of building a new facility investment at today's value of money and using discount with such a value to calculate the existing investment value.

Usually a discount in respect of a replacement value of 30-40% or higher is adjusted for the region.

Market specificity of shareholdings estimates

In addition, we propose a method of capitalization calculation, which allows making the initial price of shares much closer to the market price. This method is used, if the acquired company's shares are not quoted on the stock market; in this case, the definition of market value can be carried out using the following initial data:

♦ financial statements of the analyzed company;

♦ financial statements of the companies in the industry, whose shares have a market value (listed on the market);

♦ values of market quotations of these companies' shares [14].

Then the predicted value of the analyzed company's shares can be calculated using the following algorithm:

1. Calculating the total book value of companies (*VC*) whose shares are listed:

$$VC = \sum_{i=1}^{n} BA_i \,,$$ (3)

where *BAi* - the total assets of the company;

  n - total number of companies whose shares are traded.

2. For each company the proportion of (*q*) is calculated using its balance-sheet total in the shopping cart:

$$q_i = \frac{BA_i}{VC}.$$

3. For *i* coefficient the calculated excess (*k$_i$*) is calculated over the market capitalization:

$$k_i = \frac{cap_{market_i}}{cap_{calculated_i}},$$ (4)

Where Cap $_{marketi}$ - market capitalization of the *i*-th company;

  Cap $_{calculatedi}$ – calculated capitalization of the *i*-th company, which is equal to the value of its own funds.

4. Calculation of the general rate is exceeded (*K*):

$$K = \sum_{i=1}^{n} \left(k_i * q_i \right).$$

5. Calculation of the expected market capitalization (*S*) of the analyzed company:

$$S = BA * K.$$

Another valuation method that takes into account the specificity of the market is a method of grouping, which is analyzing a set of indicators of the acquired company and the allocation of the acquired company in a particular group of companies, which can be purchased for a price.

In the analysis of a business enterprise the most frequently used are:

1. Structural groups - with their help we study the complex enterprises' structure, their products, the composition of personnel by occupation, length of service, age, level of the work norms fulfillment, the composition of enterprises in respect of the plan output implementation, the level of its

cost, etc. Of particular importance are the structural groups in the analysis of consolidated accounting associations, ministries, as they allow you to identify the best, average and laggard companies to determine the direction of the excellence search, hidden reserves.

2. Analytical groups are used to identify the relationship of interdependence and interaction of the studied phenomena.

With these methods it is possible to purchase shares of the company, which is interested in the corporation, at a price as close to the market cost as possible, that is, with maximum efficiency.

Expert assessment of the investment value risks

The variety of risk factors complicates the process of obtaining baseline information and risks assessment itself. In this connection, of all the possible methods for risks assessment of investment property, only those methods should be used that take into account multicriteriality and multivariance of the different type's effect of risks on investment value. In this regard, in our opinion, a method of expert assessment can be used for the risks analysis. [4].

General methods of expert assessments were developed for research in the field of forecasting. These include, for example, a well-known *Delphi-Method* (Figure 3), the method of using a matrix of assessments, turned further through the use of weighting factors for each option. The central problem in this case (and not always solvable) is the subjectivity of expert judgments [11].
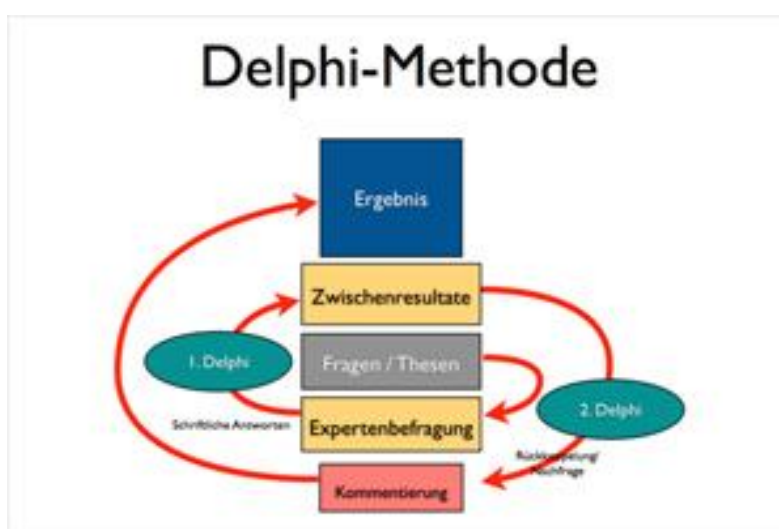

Fig. 3 – the Delphi-Methode.

Features of the Delphi-Methode*:*

a) the anonymity of experts. Panel members are unknown to each other. The interaction of team members in completing the questionnaire is completely eliminated;

b) the possibility of using the previous round results of the survey;

c) the statistical characteristics of the group opinion.

Method of expert evaluations includes complex logical and mathematical procedures to obtain information, analysis and synthesis from the professional experts for the preparation and selection of rational solutions. The essence of this method is to conduct qualified, experts-intuitive, logical analysis of the problem from the qualitative or quantitative assessment judgments and formal processing of the results.

The content of the Delphi method is as follows:

I. Establishment of groups. For the organization of peer reviews, a working group, whose function is to conduct a survey, materials processing and analysis of the collective expert evaluation is created. The Working Group shall appoint experts to provide answers to the questions relating to the development prospects of the industry. The number of experts involved to develop prediction can range from 10 to 150 members, depending on the complexity of the object.

II. Formulation of the global objective for the system. Before organizing a survey of experts, it is necessary to clarify the main directions of the object's development, as well as to make a matrix reflecting the general goal and subgoal and means to achieve them. In the course of the preliminary analysis, together with a team of specialists, the most important aims and objectives for the task are determined. By means of achieving understanding in the directions of research and development, the

results can be used to achieve the goal. In this case, the directions of research and development should not overlap with each other.

III. Questionnaire Design. It is to develop questions that will be offered to the experts. A questionnair form can be designed in the form of tables, but their content should be determined by the specificity of the projected object or industry. In this case, questions should be written according to a certain structural and hierarchical scheme, i.e., from wide to narrow issues, from complex to simple.

When conducting a survey of experts it is necessary to provide a clear understanding of certain issues, as well as the independence of the expert judgment [7].

IV. Calculation of expert assessments. It is necessary to process the materials of expert estimates that characterize the general opinion and the degree of the individual experts' assessments consistency. Data of expert evaluations processing serve as the starting material for the predictive hypotheses synthesis and options for the industry development.

The final quantitative assessment is determined by the four main methods of expert estimates and their numerous varieties:

1) the method of simple ranking (or preference);
2) the method of setting the weighting factors;
3) the method of paired comparisons;
4) the method of successive comparisons [12].

Integrated use of intuition, logical thinking and the corresponding mathematical apparatus provides a solution to the problem (problems). To assess the risks of the investment value for the selected parameter profiles are made. Questionnaire form has a universal design, and is simple to fill in.

Using the methods of optimal processing of expert information and solutions of multi objective optimization problems, you can identify and assess the main types of risks and prioritize the necessary measures to minimize them, and to develop proposals to change the structure of the investment portfolio.

The lack of material to determine the weights compensated by judgments of experts who are involved for paired comparisons of different criteria or objectives. It is important that only two criteria or two targets are compared with each other. Based on frequency preferences and using the arithmetic mean ranking of objects, we can determine the standard deviation.

Example. To illustrate this method, the data are represented in the form of a triangular matrix (Table. 1).

Each row of the matrix, starting from the top, writes down the number of criteria that favor. A comparison is made by rows. First, one criterion is compared with all the others, then the two pairs criterion is compared with all the others, etc. Summarizing preferences, we obtain a basis for determining grades.

Table 1

Evaluation criteria

Objectives and criteria	Number of criteria in pair-wise comparisons 1234567	The number of preferences	Rank
1. The amount of sales	1111567	4	3
2. A method of manufacturing	232567	2	5
3. Development time	33333	6	1
4. Environmental protection	4567	1	6
5. Profit	567	5	2
6. Compliance with the program of development	67	4	3
7. Technical superiority	7	6	1

This method can be used in different ways. Thus, criteria and projects can be initially subjected to a preliminary ranking. Then, based on pair-wise comparisons, we assign a rank to each criterion. Further it is possible to rank the ideas associated with the solutions for each criterion, and also to get an immediate judgment on the preferred option by summing or calculating the relative importance of factors:

$$W = \frac{n+1}{R} \, ,$$ (5)

where   W - coefficient of importance;
n - number of degree distribution;
R - rank.

Comparisons permit to obtain useful results, if experts realistically assess the causes and relationship factors.

The disadvantage of the method lies in the fact that an increase in the number of objectives and criteria in accordance with the combinatory laws causes significant increase in the number of value judgments. This shortcoming is particularly serious when using multi-stage methods of ranking, when it comes to compare a lot of goals and sub-goals. However, the most significant drawback of this method is the ranking criteria only within a given set.

Conclusions. Methodology consists of several parallel steps aimed at improving the economic benefit by using temporarily idle funds; particularly, it includes methods for assessing Stakes Corporation, informal methods of assessment indicators, characterizing the investment value.

Using the proposed methods we can identify and assess the main types of risks and prioritize the necessary measures to minimize them, and to develop proposals on changing the structure of the company's investment portfolio.

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Yusaf a.b. Abbood Al Sulaiman, PhD, lecturer. Cihan University. College of Administration and Financial Sciences. Department of Business Administration. **Methodology of the short-term investments management.** The obtained results of the research methods comparison permit to create operational control of short-term financial investments at enterprises. As part of the management activity, the methodological basis has been developed for operational management of current operations and finance. Mathematical formalism is illustrated by examples.

Keywords: short-term investments, investments, management, financial reporting, technique.

Юсаф А.Б. Абді Алсулаіман, кандидат економічних наук, асистент кафедри. Джіханскій університет. Коледж адміністратора і фінансових наук. Департамент ділового адміністрування. **Методика оперативного управління короткостроковими фінансовими вкладеннями.** У статті представлені результати дослідження зі створення методики оперативного управління короткостроковими фінансовими вкладеннями на підприємствах. В рамках управління розроблено методологічні основи оперативного управління поточними операціями і поточними фінансами, проілюстрований математичний апарат прикладами.

Ключові слова: короткострокові фінансові вкладення, інестіції, управління, бухгалтерська звітність, методика.

Юсаф А. Б. Абди Алсулаиман, кандидат экономических наук, ассистент кафедры. Джиханский университет. Колледж администратора и финансовых наук. Департамент делового администрирования. **Методика оперативного управления краткосрочными финансовыми вложениями.** В статье представлены результаты исследования по созданию методики оперативного управления краткосрочными финансовыми вложениями на предприятиях. В рамках управления разработаны методологические основы оперативного управления текущими операциями и текущими финансами, проиллюстрирован математический аппарат примерами.

Ключевые слова: краткосрочные финансовые вложения, инвестиции, управление, бухгалтерская отчётность, методика.