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Dynamics of Financial Streams of the Enterprise in System of Crisis Management

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ABSTRACT
Resources of management of financial streams of the enterprise in system of crisis management are presented in article. The structure of management of financial streams of the organization concerning the center of the movement of financial means is considered. This approach is focused on the analysis of crisis management of the enterprises working in the conditions of market risks in particular risks of bankruptcy.

KEYWORDS
center of the movement of financial means, financial streams, material and intangible assets, risk management of the organization, marginal analysis, SWOT-analysis, tourist sphere

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Динамика финансовых потоков предприятия в системе кризисного управления

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РЕФЕРАТ
В статье представлены ресурсы управления финансовыми потоками предприятия в системе антикризисного управления. Рассматривается структура управления финансовыми потоками организации относительно центра движения финансовых средств. Данный подход ориентирован на анализ антикризисного управления предприятий, работающих в условиях рыночных рисков в особенности риска банкротства.

КЛЮЧЕВЫЕ СЛОВА
центр движения финансовых средств, финансовые потоки, материальные и нематериальные активы, управление рисками организации, маржинальный анализ, SWOT-анализ, туристическая сфера

An urgent task of financial flows is the study of economic security capabilities of the organization and, in particular, out of the financial crisis provided the reasons of its occurrence in the organization. This requires a thorough analysis of the external and internal environment affecting the development of the organization of crisis factors.

All of these major sections of complex diagnostics associated with the identification of financial flows in dynamics (Figure 1).

There are different approaches to the management of financial flows of enterprises in the economic activities of the organization [3]. In terms of the practical value of interest are balanced management of industrial enterprises [4].

To make a profit, the company always increases capital and, therefore, able to meet its financial obligations. This organization places their finances so that they can be quickly mobilized to fulfill obligations (Figure 2).

The net profit of the company (NWP) means that you can gain equity and is part of the company's revenue. As a result of capital allocation of its financial condition can be fixed on a particular date (Table 1).

Table 1

The balance sheet structure

Capital Investments (Assets)	Sources of capital (passive)
BF	EC
CA	B
Losses	

Notes:
1. Revenue from the point of view of the priority allocated:
   - For compensation previously incurred costs of production (including the repayment of liabilities).
   - On the payments to the budget and extra-budgetary funds.
   - On the cost of the company's profit, which encompasses the net profit of the company (NWP).
2. Net income can be spent on the needs of consumption and accumulation.
3. In general, enterprise resources allocated to the assets and liabilities are shown in the following scheme (Table 2).

Table 2

Distribution of resources of the enterprise

Assets	Liabilities
1. The main tangible and intangible assets	1. Funds
2. Products and inventory	2. Credits
3. Finance (shares, securities)	

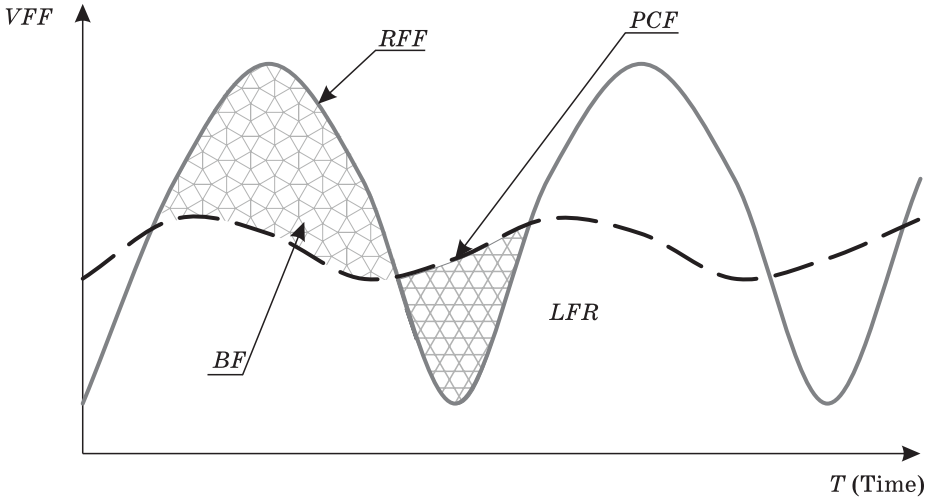

Figure 1. Dynamics of funds in the organization

Notes: *VFF* is the volume of financial flows, *LFR* is a lack of financial resources, *BF* is the balance of funds, *PCF* are planned cash flows, *RFF* are the real financial flows.

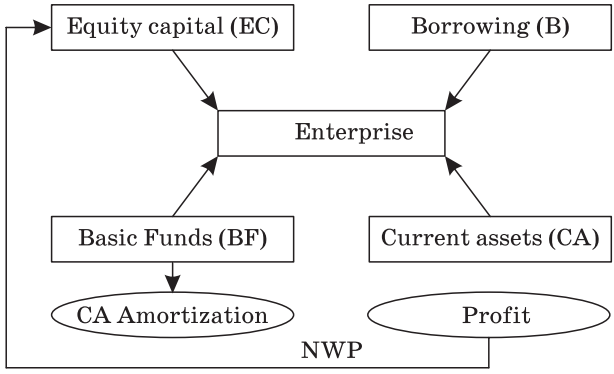

Figure 2. Structure of the capital of the enterprise

Notes: **EC** is an initial equity, **B** is a bank loan or credit in the form of money or in-kind with cash equivalent, **BF** are buildings, equipment, facilities, long-term securities, **CA:** a) means to produce, i. e. capital, located in the production process; b) funds in the calculations (the attachment is made).

Dynamics of the financial flows of the company are reflected in the main financial indicator, which is the center of the movement of funds — center of the movement of funds CMF (Figure 3).

CMF is the center of the movement of funds [5].

In this figure, the main sources of distributed dynamics of financial assets of the company, including production activities and sale of goods (services). In fact, CMF is the main indicator of the movement of funds, including taxes (i.e. obligations, primarily the state) and the structure of the partnership.

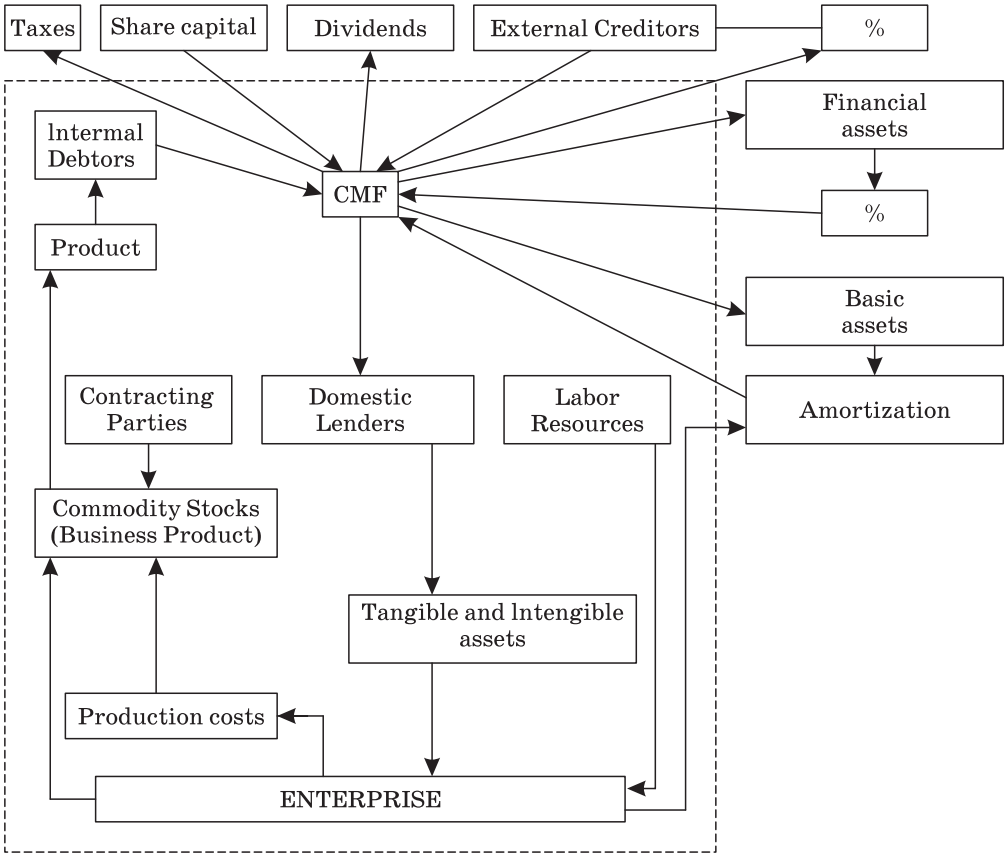

Figure 3. Model of motion enterprise funds

In the course of business CMF reflects the financial result in the ultimate form of money. Part of the funding adds CMF finance resources, the other part is CMF consumes resources.

Taxes, primarily a reflection of the duties of the enterprise to the state.

Share capital is a needed financial source for the CMF replenishment. Specific requirements for the authorized capital shall be presented at the opening of business.

Dividends are funds finance the activities of owners (shareholders), which is carried out by the success of the organization.

External creditors replenish center of financial flows in the case of the necessary activities of the enterprise, for example, liquid sales, requiring additional funding. But you need to replenish the deficit to return to foreign creditors with interest.

Financial assets are funds, resource investments in CMF in the economic activities of the organization.

The main assets are a transfer of the funds in the economic management of property and taking into account depreciation, recalculate the cost of the property.

Accounts are individuals, institutions, organizations related obligations under the general agreement, to cooperate in its implementation.

Amortization is the gradual loss of the equipment of its value (original) as wear during operation with simultaneous transfer of the cost of equipment for products manufactured with its help. The amount of depreciation included in the costing of production.

With depreciation mechanism accumulates the amount of funds required for the purchase of new equipment to replace worn-out [6].

Labor resources of the enterprise is a collection of all the individuals who now comprise both a legal person in relations governed by the contract of employment.

Product is a product of activity (including works and services) for the sale or exchange.

Commodity stocks are products that are in circulation (in the warehouses of industrial enterprises, trade and sales organizations in retail outlets and on the way) and intended for the market. Commodity stocks is a necessary condition for the continuity of the production process.

Material (tangible) assets are:

- the land or the right to use it;
- buildings and structures of production and non-production;
- administrative buildings;
- housing, children's, educational, medical, recreational and other buildings, premises, located on the balance sheet;
- installed and uninstalled production equipment;
- movables non-production;
- stocks of raw materials, fuels, semi-finished and finished products;
- property, plant and equipment, buildings and structures, land leased;
- branches belonging to the company, its subsidiaries, if they do not have legal status, and their balance sheets are not separated from the balance of the enterprise.

Intangible assets are assets that have no physical, tangible forms: administrative, organizational, technical resources, reputation in the financial world, capitalized rights, privileges, competitive advantage, control over the distribution network, the protection provided by insurance, patents and trademarks, service marks, "know-how" and other types of intellectual property, the right to use [7].

Production costs are the costs associated with the production of goods. The accounting and statistical reporting are reflected in the form of cost. Includes: material costs, labor costs, interest on loans.

Production is part of the company, determine production inventory (business products).

Domestic lenders redistribute some funds on 3 main areas: 1) counterparties, 2) tangible and intangible assets, 3) human resources.

Domestic receivables involve cash flows after the sale of goods in CMF.

The main risks in the course of business are related to the lack of funding creditor obligations of the enterprise that are redistributed between the parties, tangible and intangible resources and labor personnel.

The most risky is the lack of financing of tangible and intangible resources, which effectively stops the activity of production, and consequently, the release of inventory. Ultimately, when there is insufficient funding counterparties production transferred to the competitors and create market strength for the sale of goods. Human resources often go out of the company due to lack of financial means (salary) to obtain unemployment benefits. This benefit allows them to identify the job in the short term, in accordance with Russian law.

To assess the benefits of entrepreneurial resources should take the recommendations on the method of determining financial stability [2].

$$K1 = \frac{A1+}{P1+P2} \text{ — current ratio;}$$

$K1$ describes the overall security of enterprise working capital for business activities and timely repayment term liabilities.

($K1 \geqslant 2$ — standard value at the end of the current period)

If this condition is not satisfied, it is necessary to make $K2$ supplement calculation

$$K2 = \frac{P4 - A4 +}{A1 + A2 + A3} \text{ — ratio of the own funds;}$$

$K2$ is characterized by the presence of its own funds necessary for its financial stability ($K2 \geqslant 0.1$).

In practice, the ratio of various possible options of $K1$ and $K2$:

1) $K1 \geqslant 2$, $K2 \geqslant 0.1$ the company is solvent.
2) $K1 < 2$ и $K2 < 0.1$ the company characterized as insolvent, which brings it to a state of insolvency (bankruptcy).
3) $K1 < 2$, $K2 > 0.1$;
   or $K1 > 2$, $K2 < 0.1 \Rightarrow$

The company is characterized as deemed insolvent, thus, to prove the absolute insolvency can involve reducing the solvency ratio ($K3$).

$$K3 = \frac{K_{1f} + {}^{n}\!/_{T}\left(K_{1f} - K_{1n}\right)}{2}.$$

Notes:
K_{1f} is the actual value of $K1$ at the end of the reporting period, K_{1n} is the actual value of $K1$ at the beginning of the reporting period, n is a considered current period (in months)
T is the reporting period (in months).

The following analysis options:

A. If $K3$ ($n = 6$) > 1, the company has a real chance to restore solvency;
   If $K3$ ($n = 6$) < 1, the company has no real chance to restore solvency;
B. If $K3$ ($n = 3$) > 1, the company has a real chance not to lose the ability to pay;
   If $K3$ ($n = 3$) < 1, the company loses its ability to pay.

Marginal analysis of the economic entity is as follows (Figure 3). In this figure, the dynamic nature of the scheme proposed in the financial and economic activity of the company. The range of active sales of goods (services) includes the analysis of cost and revenue analysis. In the first case, the maximum cost point may be the state to reduce costs during the transition from retail to mass production and sales of the relevant species. In the second case, the point of maximum revenue in the sale of goods (services) should be considered as a state of market saturation in this type of product. A typical indicator of the market situation in these cases may be selling a range of break-even point-to-point loss. The extension of this range can be viewed as the result of a temporary reduction of the breakeven point and (or) increase the point of unprofitability.

The main characteristic of the company's risk management and management of its resources, economic security is a characteristic of the investment profitability [1]:

$$II(T) = IV0 + VB \cdot T.$$

Notes:
$II(T)$ is an investment income;
$IV0$ is the initial value of the company's investment returns;
VB — velocity of the business process.

For the analysis of financial and economic condition of the company (investment attractiveness) appropriate evaluation in dynamics advantageously carried out in the form of a set of analysis of business processes of these companies. This kind of financial condition of the self-esteem is characteristic of most modern tools of foreign and Russian companies.

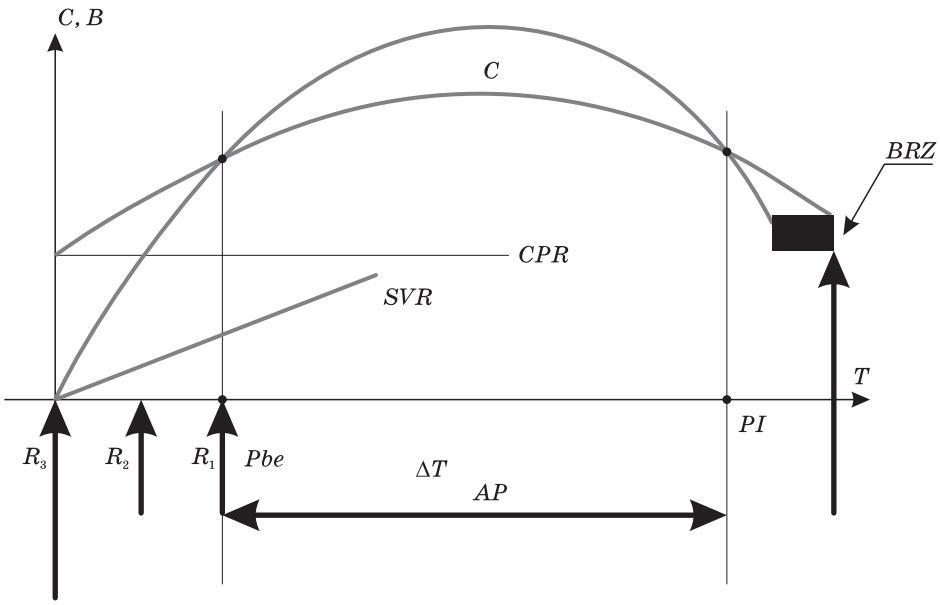

Figure 4. The dynamic characteristics of the risk management of sales of goods (services)

Notes:

C — product cost; B — revenue in the business enterprise; CPR — conditional permanent resources; SVR — semi-variable resources; Pbe — break-even point; Pl — loss point; $R1$ — tolerable risk; $R2$ — critical risk; $R3$ — catastrophic risk; $R4$ — the risk of insolvency; $R5$ — the risk of bankruptcy; BRZ — bankruptcy risk zone; T — business time.

Basic formulas defining the strategic framework of the investment model can be the following: $II(T)$ is an investment income of the company; VIB (T) is the velocity of the flow of investment business; $IV0$ is the initial value of the company's investment returns.

The corresponding set of matrix-analysis of investment resources of the regional companies is shown below. In this figure, as the investment rate of return indicators companies II (T) should be considered as VBP and IV0.

For ease of analysis should be broken down by sector of the matrix, each of which reflects its own strategy (Figure 5).

	O (capabilities)	**T (threats, risks)**
S (Strengths)	SO $VIB > 0$ $IV0 > 0$	ST $VIB < 0$ $IV0 > 0$
W (weaksides)	WO $VIB > 0$ $IV0 < 0$	WT $VIB < 0$ $IV0 < 0$

Figure 5. The SWOT-analysis matrix

«SO» In terms of investment returns, this strategy is possible if the company has competitive advantages (company-leader). Accordingly, the financial resources of the company allow it to maintain its leading position in the dynamics.

In terms of risks, the most significant is the risk of loss of competitive advantage.

«ST» From the point of view of investment profitability the company is positioning its resources in accordance with the plan of risk management, i. e. having its own financial resources; this strategy requires the company to change the dynamics of the business. Therefore, to implement the investment strategy yields only possible if a new business process (e. g. using reengineering).

The main risk of this strategy is a business opportunity to become insolvent.

«WO» In this strategy, the company has invested in an innovative finance and investment capital. Such positioning of the company's own innovative resources generates investment income on the basis of borrowed funds. Those. investment development of the company is carried out with the involvement of venture capital. As a result of the capitalization of its organization can reach the level of development of the corresponding «SO» strategy.

The main risk of this strategy is a loss of financial stability.

«WT» The basis of this strategy are the residual resources as the company reduces the market position and become insolvent (bankrupt) due to loss of business competitiveness and profitability of the initial investment value.

In the dynamics of the financial condition of the company becomes futile and she was forced to settle with creditors only property.

The main risk of this strategy is the risk of losing assets (bankruptcy risk).

Reported cash flow in the business activities of organization in the framework of crisis management can be reduced to four main strategies. Each of these strategies is determined by a combination of business process speeds Vb initial investment rate of return (ID0). The relevant SWOT-analysis shown in Figure 4, describes the strategic resources management of financial flows of the company risk management.

For example:

Task: The investor made the decision to pass to new profitable business at the moment of $Tk1$. At the same time the condition of firm at the beginning of the site of economic downturn was determined by the size P_0. Upon transition to new business to the moment of $Tk1$ the investor used a part of own means (OM) and a part of borrowed funds (BF).The cost of the investment investments (CI) in new business is equal to the amount of own and borrowed funds: $CI = OM + BF$. Let's determine solvency recovery time, using risk management resources.

Basic data:

$P_0 = 220\ 000$ y. e.

$V_{CB} = -5\ 000$ y. e./month

$V_{NB} = 35\ 000$ y. e./month

$T_{k1} = 3$ month.

$CI = 305\ 000$ y. e.

$K = 0.2$ (20%)

$i = 0.2$

$T_{OV} = 2$ years.

The decision (option taking into account risks):

The I stage — financial a business purchase and sale terms ($T = T_{k1}$).

One of ways of financial improvement of firm is its participation in corporate business. For this purpose the firm estimates own property (OM) and can take the credit in bank (BF).

The property created thus can be used for entry into structure of joint-stock company as the co-owner. After that the firm can provide the assets for use them in eco-

nomic activity of the organization in the form of a simply commercial bill of exchange validity period 2 years.

$$II(T) = IVo + Vb \cdot T$$

$$V_{CB} = \frac{205 - 220}{3} = -5000 \text{ y.e./month}$$

$BF1 = CI - OM = CI - (P_0 + V_b \cdot T) = 305 - (220 + (-5) \cdot 3) = 100\ 000$ y.e.
The debt to bank (DO_{BK1}) is equal:

$$DO_{BK1} = BF_1\left(1 + k \cdot \frac{Taf}{12}\right) = 100\left(1 + 0.2 \cdot \frac{9}{12}\right) = 115\ 000 \text{ y.e}$$

In turn, the debt to shareholders (DOS) which we will transfer to the medium-term bill will constitute:

$$DOS = S = P \cdot (1 + i)^{Tov} = 205 \cdot (1 + 0.2)295.2 \text{ thousands y.e.}$$

Financial and economic result in 5 months:

$$FER \text{ (5 month)} = FER(3 \text{ month}) + Vnb \cdot 2 = -100 + 35 \cdot 2 = -30\ 000 \text{ y.e.}$$

$$BF2 = FER \text{ (5 month)} - 7.8 = |-30| - 7.8 = 22.2 \text{ thousands y.e.}$$

The II stage — determination of financial and economic result of firm at the end of the first year.

$$FER \text{ (1 year)} = FER \text{ (5 month)} + V_{NB} \cdot 7 = -30 + 35 \cdot 7 = 215 \text{ thousands y.e.}$$

Let's determine financial and economic result of firm taking into account debt obligations before bank:

$$FER_{DObk} \text{ (1 year)} = FER \text{ (1 year)} - DO_{BK1} - DO_{BK}215 - BF_1 \cdot (1 + K \cdot 9/12) - BF2*(1 + K*6/12) = 215 - 100 \cdot (1 + 0.2*9/12) - 22.2 \cdot (1 + 0.2 \cdot 7/12) = 75.21 \text{ thousands y.e.}$$

The III stage — financial and economic result of the firm at the time of compensation of debt obligations at the cost of the bill of exchange

At first we will determine financial and economic result at the end of the second year:

$$FER \text{ (1 year 3 month)} = FER \text{ (1}y) + V_{NB} \cdot 3 = 75.21 + 35 \cdot 3 = 180.21 \text{ thousands y.e.}$$

$$FER \text{ (2 year)} = FER \text{ (1 year 3 month)} + V_{NB} \cdot 9 = 180.21 + 35 \cdot 9 = 495.21 \text{ thousands y.e.}$$

The financial and economic result of firm at the time of compensation of debt obligations at the cost of the bill of exchange will make:

$$FER_{DOS}(2) = FER(2y) - DOS = 495.21 - 295.2 = 200.01 \text{ thousands y.e.}$$

The IV stage — determination of time of recovery of solvency (T_{RS})

Let's work out the equation:

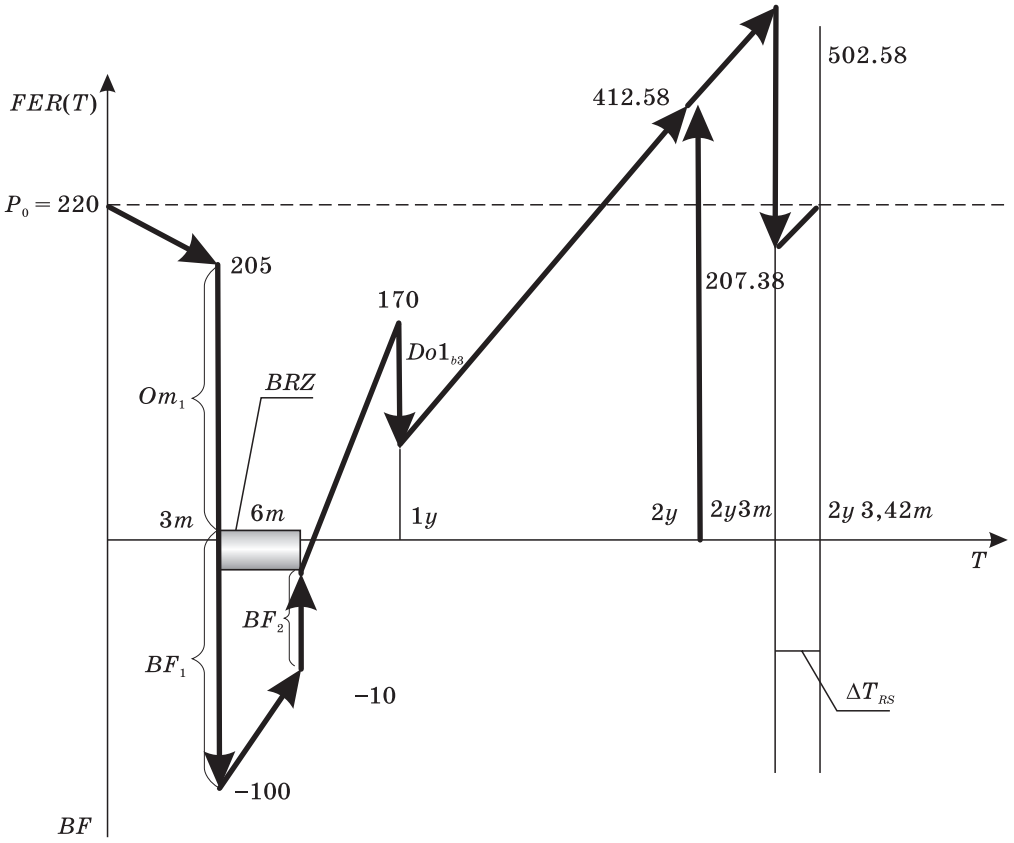

Figure 6. Investment profitability of the owner in dynamics

$$P_0 = FER_{DOA}\ (2\ \text{г}) + V_{NB} \cdot \Delta T_{\text{RS}}$$

$$220 = 200.01 + 35 \cdot \Delta T_{RS}$$

$$\Delta T_{RS} = (220 - 200.01)/35$$

$$\Delta T_{RS} = 0.57 \text{ month}.$$

Time of recovery of solvency will constitute:

$$T_{RS} = 2 \text{ year} + 0.57 \text{ month} = 2 \text{ year } 0.57 \text{ month}.$$

References

1. Alushkin Yu. A., Samodurov A. A. *Restructuring as effective remedy of financial improvement of the entities and industries*: tutorial [Restrukturizatsiya kak effektivnoe sredstvo finansovogo ozdorovleniya predpriyatii i otraslei: metodicheskoe posobie]. SPb. : Computerburg, 2008. 120 p. (rus)
2. Bobyliova A. Z. *Financial improvement of firm: Theory and practice* [Finansovoe ozdorovlenie firmy: Teoriya i praktika]: tutorial. 2nd edition. M. : Delo, 2004. 256 p. (rus)

3. Kaplan R., Norton D. *The Balanced Scorecard: Translating Strategy into Action* [Sbalansirovannaya Sistema: pokazatelei ot strategii k deistviyu]. M. : CJSC “Olymp-business”, 2004. (rus)
4. Konovalova T. I. *Practical approach to the balanced management of industrial enterprise* [Prakticheskii podkhod k sbalansirovannomu upravleniyu promyshlennym predpriyatiem] // Management in Russia and abroad [Menedzhment v Rossii i za rubezhom]. 2009. N 3. P. 91–96. (rus)
5. Putkov K. A., Shmatko A. D. *Economy of entrepreneurship of resource ensuring of innovative processes* [Ekonomika predprinimatel’stva resursnogo obespecheniya innovatsionnykh protsessov] // Economy and entrepreneurship [Ekonomika i predprinimatelstvo]. 2015. N 2. P. 921–923. (rus)
6. Economic dictionary. URL: http://ekslovar.ru/slovar/t-/tovar.html (date of the address: 18.02.2016). (rus)
7. Financial dictionary “Academic”. URL: http://dic.academic.ru (date of the address: 24.02.2016). (rus)

Литература

1. *Алушкин Ю. А., Самодуров А. А.* Реструктуризация как эффективное средство финансового оздоровления предприятий и отраслей: метод. пособие. СПб. : Компьютербург, 2008. 120 с.
2. *Бобылева А. З.* Финансовое оздоровление фирмы: Теория и практика: учеб. пособие. 2-е изд., испр. М. : Дело, 2004. 256 с.
3. *Каплан Р., Нортон Д.* Сбалансированная система показателей от стратегии к действию. М. : ЗАО «Олимп-Бизнес», 2004.
4. *Коновалова Т. И.* Практический подход к сбалансированному управлению промышленным предприятием // Менеджмент в России и за рубежом. 2009. № 3. С. 91–96.
5. *Путков К. А., Шматко А. Д.* Экономика предпринимательства ресурсного обеспечения инновационных процессов // Экономика и предпринимательство. 2015. № 2. С. 921–923.
6. *Экономический* словарь [Электронный ресурс]. URL: http://ekslovar.ru/slovar/t-/tovar.html (дата обращения: 18.02.2016).
7. *Финансовый* словарь [Электронный ресурс]. URL: http://dic.academic.ru (дата обращения: 24.02.2016).