

DEVELOPMENT OF A METHODOLOGY FOR EVALUATING THE EFFECTIVENESS OF FINANCIAL POLICIES OF COMPANIES

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Abstract

Subject. This article presents an analysis of the essence of financial policy as a factor of effective development of companies. Evaluation of the effectiveness of the implemented financial policy of companies is a significant scientific and practical problem. It determines the choice of the main criteria used to calculate the financial policy effectiveness.

Objectives. The article aims to develop a comprehensive methodology for assessing the effectiveness of financial policy of companies in modern conditions, and define criteria for its evaluation.

Methods. The Due Diligence approach is the basis for solving the research tasks: comparing the current standards and methods for assessing the financial policy of companies and simplifying its implementation through the proposed method of multivariate coefficient analysis.

Results. The article offers a comprehensive approach to assessing the effectiveness of financial policy, considering electric power companies as a case study. The practical significance of the results obtained lies in the use to increase the investment attractiveness of companies that are considered as potential investment objects.

Conclusions. The research proposes a methodology for assessing the financial policy of companies based on a multivariate, customizable system of financial coefficients. An indicator of the effectiveness of financial policy of companies was calculated. It can be recommended for practical application. The obtained results of evaluating the effectiveness of financial policy can be used by the companies' management to make management decisions, investors to choose the best investment option, market participants to rank companies by efficiency, and determine industry benchmarks.

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The relevance of the research topic is due to the absence of an effective diagnostic system, external and internal control of effective financial policy of companies in modern conditions of a high-risk globalized economy. The focus of the economy is currently directly related to the need to reduce the social consequences of bankruptcy of socially significant economic entities¹. According to the Rosstat and arbitration statistics, over the past five years, more than 50 thousand Russian companies have failed to implement anti-crisis measures, and about 1.8 million people have lost their jobs².

The solution of this problem requires the creation of a socially oriented methodological approach to the use of financial policy as a system not only for planning, but also for forecasting the prevention of consequences of its violation by socially significant companies. The results of calculations based on the existing official methods of diagnosing the risk of bankruptcy are not reflected in the financial policy of companies. It is worth noting that the use of private methods of financial analysis and diagnostics do not give an unambiguous answer about global risks, inefficiency in the implementation of financial policies of companies, forming contradictory data. This affects the degree of confidence of investors, partners and competitors in economic processes.

The theoretical basis of the research envelops scientific works by domestic and foreign authors in various branches of economics, including financial risk management [1–4], economic and mathematical methods for diagnosing the financial condition of companies [5–7], accounting and auditing [8–10] etc.

Despite a significant body of scientific work related to the financial analysis of the state of companies, Russia has not created a theoretical, methodological and managerial basis for the use of financial policy as a factor of effective development of companies in modern conditions. The significance of this problem and the need to solve it determined the choice of the research topic.

In modern conditions, stabilization trends of economic development are manifested in the Russian Federation. A slowdown in inflation, a decrease in the volatility of the ruble exchange rate, a reduction in the key rate of the Central Bank of the Russian Federation, an increase in the net financial result of companies and other positive factors contribute to improving the financial contour of companies. At the same time, in the conditions of increasing unpredictability of the external environment, a clear definition of the development trajectory in the strategic plan becomes particularly relevant for the successful economic growth of companies. However, many companies do not pay enough attention to financial policy. This is due to erroneous ideas that market relations are unpredictable, and the development of a high-precision financial policy for the future is impossible.

¹ Socially significant economic entities are economic entities in the commercial activities of which the funds of an unlimited number of persons are directly or indirectly involved.

² The Federal State Statistics Service data. URL: <http://www.gks.ru/>

In scientific publications, financial policy is defined as a form of implementation of the financial strategy of companies or as a financial ideology, a system of views, targets and ways of adapting and developing the company's finances to achieve its goals [3]. A common interpretation of the term *Financial Policy* is given by I.A. Blank: "Financial policy is a form of implementation of the financial philosophy and the main financial strategy of the company in the context of the most important aspects of financial activity" [11].

Financial policy at the company level is a complex and urgent problem. The logic of its solution is based on the word *politics*. In the modern interpretation, this term is used in the context of the financial activities of companies, as a result of various financial phenomena and processes that occur as a result of economic activity.

Economist A.I. Bukovetsky argued that "...financial policy sets as its task the scientific consideration of the implementation of new financial institutions. Financial policy takes conclusions from financial theory and proves the possibility of using them in practice." And further, "...the absence of sharp boundaries between financial theory and financial policy is also explained by the pressure of practice" [12].

Financial policy sets the direction of financial activity of companies, using the available opportunities and means, has an impact on financial development processes in a given direction. It is inevitably associated with the distribution and redistribution of cash flows. Moreover, financial policy is the art of redistributing cash flows for the development of companies³.

The goal of financial policy is inextricably linked with the development strategy of companies and is implemented with it in a single complex. There are seven main goals in financial management, which are reflected in the financial policy of companies [13]:

- profit maximization;
- optimization of the company's capital structure and ensuring its financial stability;
- increasing the level of capitalization of the company;
- improving the competitiveness and strengthening the company's position in the market;
- achieving information transparency of the financial and economic condition of the company for owners (participants, founders), investors, creditors;
- ensuring the investment attractiveness of the company;

³ Slepov V.A., Pivnyk K.E. Financial Policy as a Factor of Effective Development of Companies. In: Proc. Int. Sci. and Prac. Conf. XXXII International Plekhanov Readings. Moscow, April 15–19, 2019, pp. 199–205.

- creation of an effective mechanism for managing an organization based on the diagnosis of the financial condition, the choice of strategic goals of the company's activities that are adequate to market conditions, and the search for ways to achieve them.

In the context of globalization, for many companies, strategic goals are either absent or criteria and deadlines for their achievement are not clearly defined due to the uncertainty of the external environment. Financial resources are directed to the coordination of conflicting tasks at different levels of management. This makes the next stage impossible – the choice of strategic financial mechanisms and technologies that allow achieving the set goals in the shortest possible time and at the lowest cost.

A common statement is that a company should work in such a way as to provide maximum income to its shareholders (Profit Maximization Theory) [14]. This approach is associated with increased profitability, increased profits and reduced costs. However, this approach does not take into account environmental factors, which in the modern conditions of a globalized economy have a direct impact on financial performance.

Only with the help of an effective financial policy developed, it is possible to achieve the set goals at the lowest cost and in the shortest possible time [15]. Below, there is a list of goals that need to be addressed when forming the financial policy of companies:

- avoid financial difficulties and bankruptcy;
- maintain or strengthen the company's position in the market;
- minimize costs;
- maximize profits;
- increase capitalization.

The priority of each of these goals is explained differently in the outline of existing theories of business organization (theories of the firm). To increase the level of effective development of companies, it is necessary to transform the system of control of the financial policy of economic entities.

The basis of development in the context of globalization can be the use of elements of an open economy as part of building trusting relationships between participants in economic processes. In this regard, the Due Diligence procedure is promising – the procedure for forming an objective view of the object. The meaning of Due Diligence is to analyze the current and future financial condition of companies that are of public importance. However, neither a theoretical nor a methodological approach to such a procedure has been formed.

The analysis of the level of effective development of companies in the context of globalization within the framework of the formation of trust relations between its

participants should be based on the reform of the system of control over socially significant economic entities.

In this research, the financial indicators presented in *Figure 1* are taken as a basis. They act as official indicators of the development of companies in accordance with the current legislation of the Russian Federation: Federal Law *On Insolvency (Bankruptcy)*, Order of the Ministry of Economic Development *On Approval of the Methodology for Analyzing the Financial Condition of an Interested Person in Order to Establish the Threat of Signs of His Insolvency (Bankruptcy) in the Event of a One-Time Payment of Tax by This Person*, and the Rules for conducting financial analysis by the arbitration manager, approved by a Government Decree.

A comparison of regulatory and author's methods for determining the effective development of companies using financial policy allows you to select key coefficients for further analysis (*Figure 1*).

One of the problems of rating the effectiveness of financial policy is the vagueness of criteria in determining the rating classes of financial policies of companies. When analyzing individual factors affecting the level of the rating of financial policy, ambiguous situations are possible in which the factor of the object of evaluation can be attributed to several rating classes at once. To solve this problem, the authors propose the application of the methodology and mathematical apparatus of the theory of fuzzy sets.

In the proposed methodology, the assessment of the effectiveness of the financial policy of electric power companies is carried out on the basis of several financial and economic indicators, which are combined into a single integral indicator. The generalized Harrington utility function is used in its construction [12]:

$$D = \sqrt[n]{\prod_{i=1}^n d_i},$$

where n is the number of indicators used to evaluate;

d_i is a private function defined according to the Harrington scale.

The function was developed by American scientist Harrington in 1965, who called it the *desirability function*. It is also called a *generalized utility function* or a *generalized efficiency criterion*. The construction of this function is based on the idea of converting the natural values of particular indicators into a dimensionless scale of desirability or preference.

The purpose of the desirability scale in this research is to assess the financial policy of companies. The assessment refers to the effectiveness of the implementation of financial policy, which is ranked in the range $[0, 1]$. To obtain a desirability scale, we will use the

developed numerical ranges of values [16] and assign the corresponding efficiency statuses to the financial policy (*Table 1*).

Figure 2 shows a generalized Harrington function. *Table 1* shows the values that correspond to this curve. This function is given by the following equation:

$$d_i = \exp [-\exp (-y_i)],$$

y_i is an indicator of the effectiveness of financial policy in a dimensionless form;

\exp is exponent, function $\exp(x) = e^x$; e is the basis of natural logarithms.

The Harrington scale is conventionally divided into five groups that characterize the dimensionless value of the company's financial policy efficiency indicator. The point with coordinates [0,8; 0,63], according to the proposed methodology, as a critical point of Due Diligence for determining the effectiveness of financial policy of companies is a critical point of inflection of the curve. It divides the value of the indicator of the effectiveness of the financial policy of companies into satisfactory and unsatisfactory.

To apply the Harrington scale, it is necessary to bring all the financial indicators under research (*Figure 1*, $K1$ – $K12$) to a dimensionless form in accordance with the abscissa axis and calculate the values of particular functions. Next, a generalized indicator is calculated for each financial coefficient based on the values of the function (defined for each electric power company according to the methodology proposed by the authors).

We will demonstrate on a real example the methodology for calculating the integral indicator of the effectiveness of financial policy for electric power companies. In the course of the research, when conducting a rating assessment of nine Russian electric power companies⁴, calculations of financial and economic indicators of the effectiveness of financial policy were performed on the basis of fuzzy multiple analysis.

The values of the financial coefficients are calculated on the basis of the official financial statements of companies in the electric power sector for the reporting period of 6 months 2019 and are presented in *Table 2*. Companies for which the value of the financial coefficients $K5$ – $K8$ deviate significantly from the regulatory values for the electric power industry are excluded from the further research (companies 1, 6, 7).

In order to choose the best from the point of view of the effectiveness of the implementation of financial policy and an investment-attractive electric power company from the proposed series, it is proposed to use some integral indicator, on the basis of which it is possible to draw an unambiguous conclusion about the priority of one electric power company over others. The next step of the research is to determine the dimensionless type of indicators of the selected financial coefficients of electric power companies. Next, we calculate the partial functions based on the obtained financial

⁴ 1. PAO DEK, Dal'nevostochnaya Energeticheskaya Kompaniya; 2. PAO Inter RAO UES; 3. PAO Mosenergo; 4. PAO RusHydro; 5. PAO Unipro; 6. PAO Enel Russia; 7. PAO Yakutskenergo; 8. PAO OGC-2; 9. PAO TGC-1.

coefficients from the previous stage, presented in dimensionless form. The final stage of the research is the calculation of the integral indicator of the effectiveness of the financial policy of companies, the results are presented in *Table 3*.

In *Table 3*, the generalized function (an integral indicator of the effectiveness of the financial policy of companies) is calculated by the formula:

$$D = \sqrt[12]{d_{K1} \cdot d_{K2} \cdot d_{K3} \cdot d_{K4} \cdot d_{K5} \cdot d_{K6} \cdot d_{K7} \cdot d_{K8} \cdot d_{K9} \cdot d_{K10} \cdot d_{K11} \cdot d_{K12}}.$$

The results of the calculations allow us to conclude about the effectiveness of the implemented financial policy. In the course of the research, nine electric power companies of the Russian Federation were analyzed. Each electric power company has been assigned a statute on the effectiveness of the implementation of financial policy. After ranking nine electric power companies using an integral indicator of the effectiveness of financial policy, a conclusion was made about the priority of the companies Unipro and Inter RAO.

Thus, the research proposes a methodology for assessing the financial policy of companies based on a multivariate system of financial coefficients, which can be recommended for practical use.

The scientific novelty of the research lies in the possibility of using the proposed methodology for rating the effectiveness of the implementation of financial policy of companies to choose the best company among a number of alternatives, for making managerial decisions by the management of companies, choosing the best company for investors and other financial market participants.

The practical significance of the results obtained lies in their use to increase the investment attractiveness of companies that are considered as potential investment objects.

As a result of the research, it is proposed to use an integral indicator of the investment attractiveness of financial policy as a factor of effective development of companies. Based on its value, a conclusion can be made about the priority of one company over others in the alternative series. The generalized Harrington function can be used as such an indicator.

Table 1

Ranking of quantitative values of the dimensionless scale for evaluating the financial policy of companies

Company's Financial Policy Evaluation System	Number System
Maximum efficient	1...0.8
Efficient	0.8...0.63
Moderate efficient	0.63...0.37
Inefficient	0.37...0.2
Maximum inefficient	0.2...0

Source: Authoring

Table 2

Values of financial coefficients calculated as of six months 2019

Company	K1 0.8...2	K2 0.8...1	K3 0.1...0.4	K4 0.4...0.7	K5 > 0	K6 > 0	K7 > 0	K8 > -0.22	K9 0.5...0.7	K10 –	K11 –	K12 Z > 2.9
1	0.78	0.56	0.11	-0.19	0.29	-0.05	-0.03	-2.06	1.19	0.19	0.21	-0.7
2	2.5	1.46	0.77	0.7	0.19	0.13	0.12	0.4	0.3	0.1	0.13	2.98
3	4.01	3.3	1.87	0.82	0.09	0.08	0.15	0.36	0.18	0.18	0.07	1.41
4	1.35	0.94	0.41	0.62	0.1	0.06	0.21	-0.79	0.37	0.21	0.2	0.97
5	2.09	1.48	0.84	0.88	0.19	0.17	0.32	0.12	0.12	0.07	0.07	4.59
6	1.02	0.72	0.43	0.45	-0.11	-0.05	-0.07	-0.25	0.55	0.08	0.13	0.42
7	1.13	0.62	0.01	0.05	-0.29	-0.04	-0.1	-1.93	0.95	0.35	0.32	0.3
8	1.23	0.77	0.48	0.59	0.15	0.09	0.18	-0.87	0.4	0.09	0.12	1.04
9	0.4	0.28	0.08	0.45	0.09	0.04	0.07	-3.97	0.55	0.1	0.09	-0.69

Source: Authoring

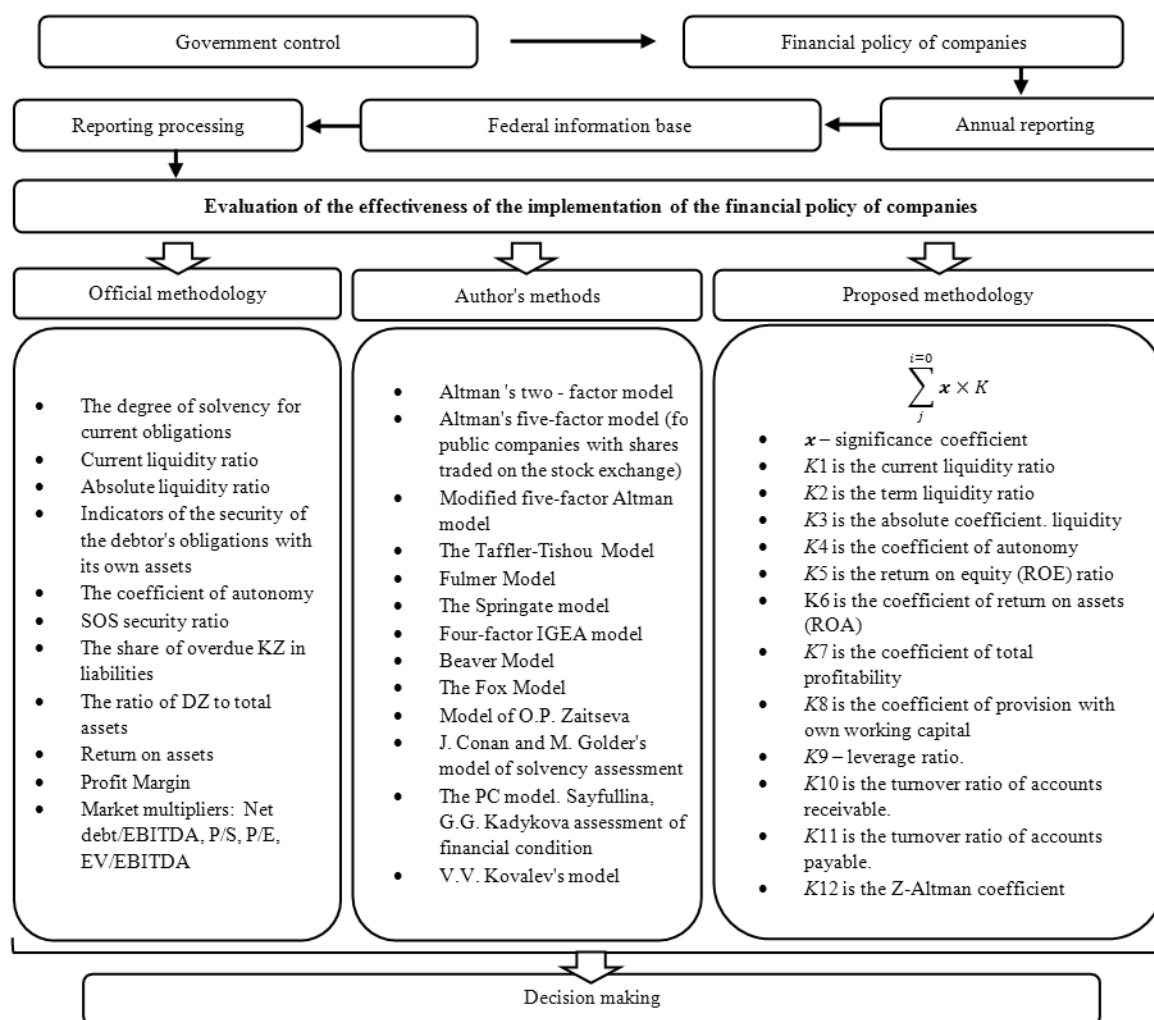
Table 3

Financial policy performance and series rankings

Company	D	Rank	Company's Financial Policy Evaluation
2	0.64	2	Efficient
3	0.57	3	Moderate efficient
4	0.41	5	Moderate efficient
5	0.65	1	Efficient
8	0.38	6	Moderate efficient
9	0.42	4	Moderate efficient
For companies that were eliminated at the stage of ranking financial ratios			
1	0.01	9	Maximum inefficient
6	0.29	7	Inefficient
7	0.08	8	Maximum inefficient

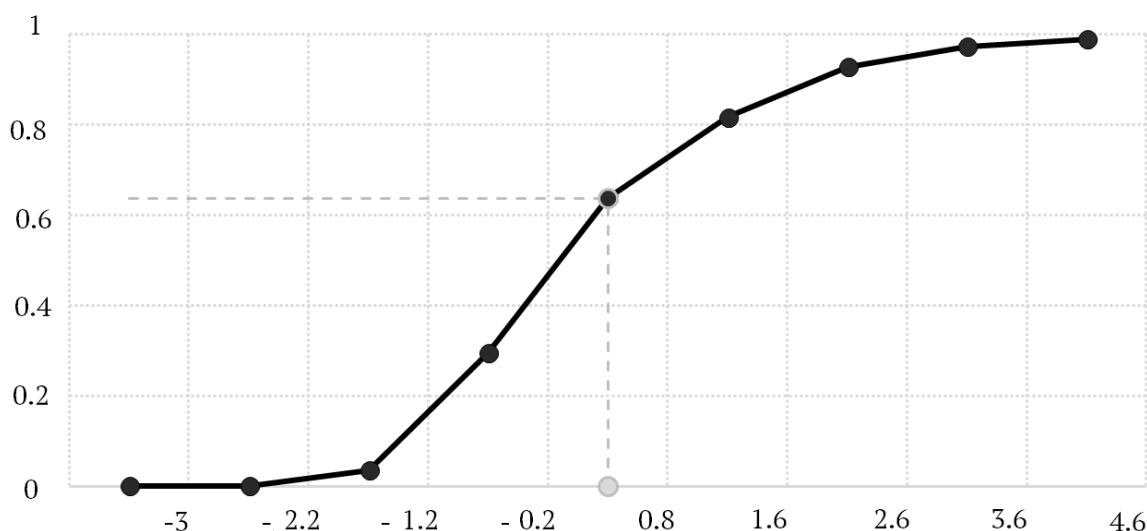
Source: Authoring

Figure 1
A methodology for evaluating companies' financial policy



Source: Authoring

Figure 2
Generalized Harrington's function



Source: Authoring

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Conflict-of-interest notification

We, the authors of this article, bindingly and explicitly declare of the partial and total lack of actual or potential conflict of interest with any other third party whatsoever, which may arise as a result of the publication of this article. This statement relates to the study, data collection and interpretation, writing and preparation of the article, and the decision to submit the manuscript for publication.