

THEORETICAL BASIS OF ASSESSING THE FINANCIAL AND ECONOMIC EFFICIENCY OF INDUSTRIAL ENTERPRISES

Mamatkulov Tuxta Daminovich,

Lecturer at Termez State University, Republic of Uzbekistan

Annotation. This article describes the theoretical bases, indicators, and principles of statistical evaluation of the financial and economic efficiency of industrial enterprises. In particular, the grouping of general principles of investment efficiency assessment, methods of financial and economic efficiency assessment of investment projects, methodological development stages of economic assessment of financial and investment components of industrial potential are presented in detail. Author approaches to statistical evaluation of financial and economic efficiency of industrial enterprises have also been developed.

Key words: industry, industrial enterprises, statistical assessment, industrial potential, efficiency, financial and economic efficiency.

Introduction

According to the UNCTAD report, the investment gap in developing countries to achieve the Sustainable Development Goals (SDGs) by 2030 may widen. After all, global foreign direct investment (FDI) was observed to decrease by 12 percent in 2022. However, the volume of investment in industrial projects has increased. In particular, the volume of direct investment abroad of the United States increased from 6.37 trillion dollars at the end of 2021 to 6.58 trillion dollars at the end of 2022. The largest increase in investment projects in industry was recorded by the Netherlands and the United Kingdom (\$ 172.8 billion).

It is known from world experience that the rapid development of the economy improves the investment climate. Investors invest in various projects or enterprises and receive income depending on the level of profitability of the project or enterprise. In this case, factors such as the profitability of enterprises and the time spent on covering costs are in the focus of investors. Therefore, it is important to assess the financial and economic efficiency of the project before investing.

In Uzbekistan, in recent years, one of the pressing issues has been the implementation of investment programs in the system of management of strategic goals and projects of industrial development, their support, improvement of the mechanism for managing investment activities, especially increasing the financial and economic efficiency of investment projects implemented in industrial enterprises.

In the current conditions of economic development, the development and expansion of production and investment relations are observed. Of course, in financing investment projects implemented in industrial enterprises aimed at ensuring sustainable economic development, intensive production of competitive products and, most importantly, obtaining high profits, the share of internal (in the form of own funds, budget funds, bank loans, borrowed funds, domestic investor funds) and external (foreign investor funds, external debts, foreign bank loan funds and other forms) investments is increasing. All this indicates the relevance of the topic of this study.

Literature review

In recent years, the problem of increasing investment efficiency in the implementation of various types of projects has become particularly relevant. The essence of the problem of increasing investment efficiency is to achieve a significant increase in the volume of production, service provision and each unit of expenditure - labor, material, financial profit. Solving the problems of increasing the efficiency of investment activities of industrial enterprises largely depends on the correctly chosen strategy for their development and management [1].

First of all, it is advisable to deeply understand the essence of such concepts as industry, industrial enterprises, investment project and its financial and economic efficiency, as well as to study theoretical views on this issue.

Industry is one of the most dynamic sectors of the world economy [2], according to J.Church, R.Ware [3], A.Marshall [4], industry is the basis of material production and is the dominant force in the sustainable operation of all other sectors and industries.

According to the economist A. Ortikov [5], industry is a reflection and a high generalization of objective reality (being). Its emergence as a separate sector, that is, a separate sphere of social production, is historically connected with the development of productive forces and the social division of labor.

Based on the above, it can be said that industry is a sector that produces many products and tools that people want and need, and it develops along with the development of science and technology.

Therefore, industrial enterprises are of great importance for the economy of countries. In addition to being a profitable sector, a large amount of capital (investment) is required for the establishment and stable operation of enterprises in this sector. Most industrial enterprises are no exception, since investment is the main means of modernizing the existing material and technical base, increasing production volumes, or diversifying existing activities into new types. On the other hand, it is important for investors that the investment projects being implemented are effective. Therefore, it is always relevant to assess the effectiveness of investments. Also, when making investment decisions, factors such as the type of investment, the cost of the investment project, and its size should be taken into account.

Research methodology

In carrying out this study, official statistical data, statistical observation, comparative analysis, synthesis, logical reasoning, tables and graphs, comparative analysis, statistical analysis, mathematical and econometric modeling methods were widely used. For statistical analysis, official statistical data of the Statistical Agency under the President of the Republic of Uzbekistan and international organizations were used.

Analysis and results

Investment efficiency assessment is the most important stage of making an investment decision, the results of which largely determine the level of implementation of the investment goal. In turn, the objectivity and reliability of the results obtained are largely determined by the analytical methods used. In this regard, it is important to consider existing methodological approaches to assessing the effectiveness of investments and identify the possibilities of their application for a rational selection of investment opportunities.

Investments are the receipt of profit (income) through investments in cash, target bank deposits, shares, stocks and other securities, technologies, machinery, equipment, licenses, including trademarks, loans, other property or property rights, intellectual property, entrepreneurship and other types of activity [6].

Investment efficiency is understood as the ratio between the effective results obtained as a result of an enterprise's investments and the volume of consumed or produced output, that is, the proportional relationship between the income and expenses of the enterprise's investment activities, the output produced and the costs incurred. Investment efficiency is a measure of how effectively an enterprise allocates limited resources to investment projects and converts investment opportunities into actual investment [7].

An investment project involves planning three main cash flows over time: investment flows, current (operating) payment flows, and income flows. It is impossible to accurately plan both current payment flows and income flows, since it is impossible to accurately predict the future state of the market. Also, the price and volume of products sold, prices for raw materials and supplies, and other environmental cost indicators may differ significantly from the planned values, estimated from today's point of view, in their future implementation [8].

International practice for assessing the effectiveness of investments is based mainly on the concept of the time value of money and the following principles [9]:

1. The efficiency of using investment capital is assessed by comparing the cash flows generated during the implementation of the investment project with the initial investments. The project is considered effective if it provides a return on the initial investment amount and the necessary income for investors who provided the capital.

2. Invested capital, as well as cash flows, are reduced to the present time or a specific reporting year (usually before the start of the project).

3. The process of discounting capital investments and cash flows is carried out at different discount rates, which are determined depending on the characteristics of investment projects. When determining the discount rate, the composition of investments and the value of individual components of capital are taken into account.

Despite the significant differences between different types of projects and the variety of conditions for their implementation, the assessment of the effectiveness of projects and their examination should be carried out in a certain sense in the same way. Therefore, the assessment of the effectiveness of any type of project, regardless of its technical, technological, financial, industrial or regional characteristics, is based on common basic rules (principles).

Such principles can be divided into three groups and their composition can be summarized as follows: methodological, methodical and operational.

Table 1

Grouping of general principles for assessing investment performance [11]

General principles of assessing investment efficiency		
Methodological:	Method:	Operational:
Social acceptability; Systematicity; Complexity; Adequacy; Payment for resources; Non-negativity and maximum impact; Comparability; Utility; The presence of various project participants and the coordination of their interests.	Comparison of situations "with" and "without" the project; Uniqueness; Measurability; Suboptimization; Dynamism; Time value of money; Incomplete information; Capital structure.	Interdependence of parameters; Modeling; Organizational and economic mechanism of project implementation; Multi-stage assessment; Information usefulness; Adaptation to public policy; Information consistency; Methodological consistency; Overall assessment.

Financial and economic assessment of an investment project occupies a central place in the process of selecting and justifying possible options for investing funds in various operations (objects) with real assets. Financial analysis reveals the potential of each of its participants to achieve the results that can be achieved in the implementation of the project, based on their own goals. Economic analysis analyzes the project from the perspective of its impact on the national economy. In particular, World Bank employees (experts) have carried out extensive analytical work to determine whether each project is more effective in the economy than other conflicting options for investing specific resources.

The main criterion for selecting investment projects by the World Bank is the discounted expected value of the benefit minus the costs. Of course, both income and costs increase during the implementation of the project. In order for the project to pass the economic selection, it must meet the following two conditions:

- the net present value of the expected benefit from the implementation of the project must not be negative;
- the expected net value of the project must be equal to or higher than the expected net value of other alternative projects.

Financial assessment is used to analyze the liquidity of an investment project in the process of implementation. In other words, the task of financial assessment is to determine

whether the enterprise has sufficient financial resources to fulfill its total financial obligations for the implementation of the project within the specified time frame. Economic assessment, on the other hand, is used to assess the potential ability of an investment project to maintain the value of the funds invested in this project and create a sufficient level of their growth rate.

In general, the indicators and procedure for calculating the economic efficiency of capital investments are established in the Model Methodology for Determining the Social Efficiency of Capital Investments.

According to this model methodology, the efficiency of capital investments is determined at all stages of planning. That is, efficiency in the design of facilities is determined by two types of indicators (coefficients) - the overall (absolute) economic efficiency of capital investments and the relative economic efficiency. In other words, the overall economic efficiency is relative and is determined by the ratio of the effect to the costs necessary to obtain it.

Conclusions

In practice, the assessment of the effectiveness of investment projects is carried out on the basis of financial and economic methods. That is, the methods for assessing the financial and economic effectiveness of investment projects include the following (Figure 1).

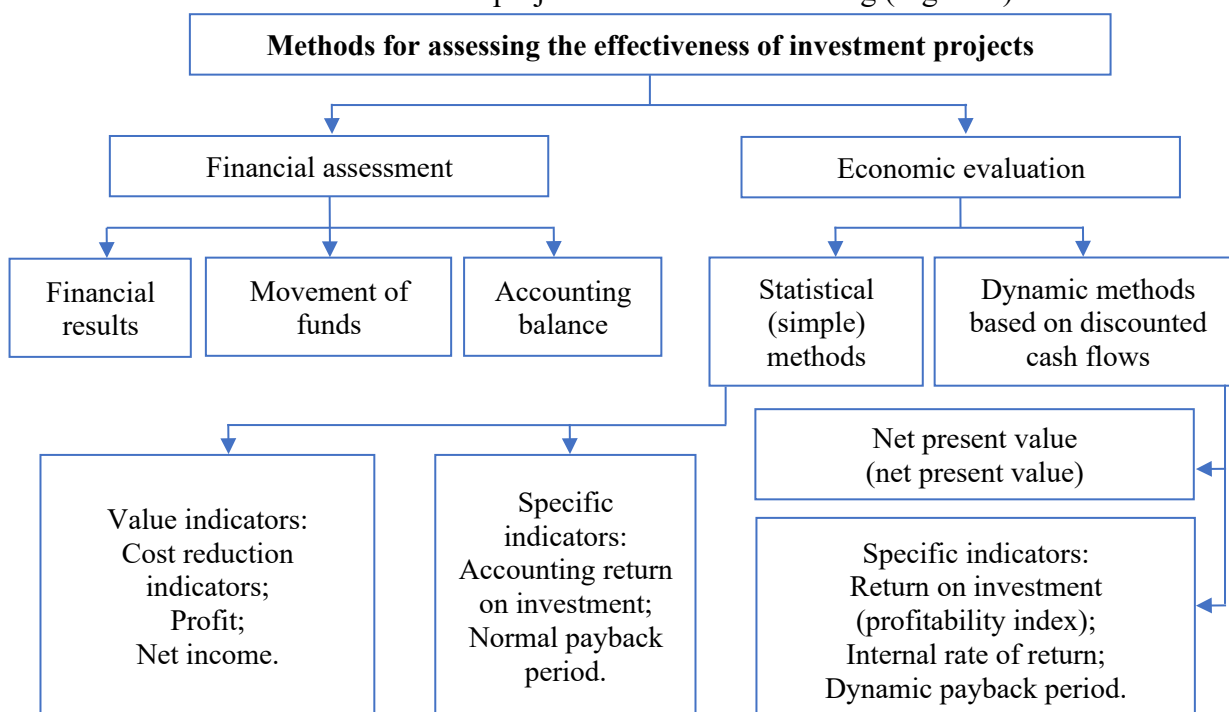


Figure 1. Methods for assessing the financial and economic efficiency of investment projects¹

In particular, for investment projects, the value of the project should be assessed by comparing future revenues and costs. The net present value criterion NPV is used in investment evaluation.

According to this criterion, an investment is made if the income generated is higher than the cost of the investment ($R > C$).

$$NPV = -I + \frac{R_1 - C_1}{(1+i)} + \frac{R_2 - C_2}{(1+i)^2} + \dots + \frac{R_T - C_T}{(1+i)^T}$$

where: i - discount rate (rate of simultaneous costing);

T - project life.

¹ Compiled by the author based on a summary of scientific sources.

If $NPV > 0$, the investment is justified, that is, the expected benefit is greater than the cost of the investment. If $NPV < 0$, the investment is not justified.

When the project life is infinite ($t \rightarrow \infty$), the net present value is calculated as follows.

$$NPV = -I + \frac{R - C}{i}$$

The stages of methodological development of the economic assessment of the financial and investment components of industrial potential are as follows:

Stage 1. Determining the purpose of assessing the financial and investment components of industrial potential, i.e., making effective decisions in the field of implementing state control over the development of the financial and investment components of industrial potential;

Stage 2. Determining the development indicators of the financial and investment components of industrial potential, i.e., developing initial indicators to reflect potential opportunities and final indicators to characterize the potential;

Stage 3. Determining the system of indicators for assessing the financial and investment components, i.e., a set of interrelated indicators reflecting the quantitative and qualitative development indicators of the financial and investment components of industrial potential;

Stage 4. Grouping of assessment indicators by financial and investment components of industrial potential, i.e., selection of indicators by initial and production development parameters for financial and investment components of industrial potential;

Stage 5. Determination of the methodology for assessing the financial and investment components of industrial potential, i.e., calculation of integral indicators of the level of development of the financial and investment components of industrial potential based on reliable statistical data.

In general, since it is impossible to quantify all indicators, it is necessary to resort to a balanced scorecard, which provides for the integration of financial and non-financial indicators. The balanced scorecard includes four strategic zones that reflect the relevant prospects of the company. In particular, it is advisable to assess the financial outlook, customer value, the outlook for internal business processes, innovation, and economic growth.

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