



ECONOMIC BASES OF EVALUATING THE EFFECTIVENESS OF INVESTMENT PROJECTS

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ABSTRACT

This article explores the economic foundations underlying the evaluation of investment projects and their effectiveness. Investment decisions play a crucial role in the success of businesses and economies, and assessing their potential returns and risks is essential for informed decision-making. By examining key economic principles and methodologies, this article provides valuable insights into the evaluation process and highlights the factors that contribute to the effectiveness of investment projects.

KEYWORDS: *investment projects, evaluation, effectiveness, economic principles, decision-making, returns, risks.*

INTRODUCTION

Investment projects form the backbone of economic growth and development, driving innovation, job creation, and wealth generation. However, making informed investment decisions requires a thorough evaluation of project effectiveness. The economic bases underlying this evaluation process are crucial in assessing the potential returns, risks, and overall viability of investment opportunities.

Understanding the economic principles that shape the evaluation of investment projects is essential for individuals, businesses, and policymakers alike. By examining these principles, one can gain insights into the factors that contribute to project success and make informed decisions regarding resource allocation.

This article delves into the economic bases of evaluating the effectiveness of investment projects, shedding light on the key concepts and methodologies involved. It explores how economic principles such as the time value of money, discount rates, and opportunity cost influence project evaluation. By considering both the quantitative and qualitative aspects of investment projects, stakeholders can develop a comprehensive understanding of their potential outcomes.

Moreover, this article delves into the various methodologies employed in evaluating investment projects. Traditional approaches like net present value (NPV), internal rate of return (IRR), and payback period are explored, along with more advanced techniques such as sensitivity analysis and scenario planning. Understanding these methodologies equips decision-makers with the tools necessary to assess project effectiveness accurately.

In addition to economic principles and methodologies, this article highlights the factors that affect investment project effectiveness. Market conditions, industry trends, regulatory frameworks, and macroeconomic factors all play a role in shaping project outcomes. By comprehensively assessing these factors and implementing appropriate risk mitigation strategies, stakeholders can enhance the effectiveness of their investment projects.

LITERATURE REVIEW

The evaluation of investment projects has been a subject of extensive research and literature due to its critical role in allocating resources efficiently and maximizing returns. This literature review provides an overview of key studies and scholarly contributions that explore the economic bases of evaluating the effectiveness of investment projects.

Economic Principles in Investment Project Evaluation:

Various economic principles form the foundation of evaluating investment project effectiveness. Researchers have emphasized the significance of the time value of money, recognizing that the timing of cash flows affects project



viability. Studies by Brealey and Myers (2003) and Copeland et al. (2013) highlight the importance of discount rates and their impact on project valuation.

Opportunity cost is another key economic principle discussed in the literature. Researchers such as Jensen and Meckling (1976) and Williamson (1985) emphasize that investment decisions involve trade-offs, and the foregone alternatives must be considered when evaluating project effectiveness.

Methodologies for Evaluating Investment Projects:

The literature offers a range of methodologies to assess the effectiveness of investment projects. Traditional approaches such as net present value (NPV), internal rate of return (IRR), and payback period have been extensively studied. Notable contributions include the works of Brealey and Myers (2003), Brigham and Ehrhardt (2016), and Berk and DeMarzo (2017), which provide comprehensive guidance on using these methodologies.

Researchers have also explored more advanced techniques to enhance project evaluation. Sensitivity analysis, as discussed by Gitman and Zutter (2015), allows decision-makers to examine the impact of changes in variables on project outcomes. Scenario planning, as highlighted by Schoemaker (1995), enables stakeholders to consider multiple future scenarios and evaluate project effectiveness under different conditions.

Factors Affecting Investment Project Effectiveness:

The literature recognizes that several factors influence the effectiveness of investment projects. Market conditions play a significant role, and studies by Fama (1970) and Ross (1976) emphasize the importance of efficient markets in accurately valuing investment opportunities. Industry trends, as discussed by Porter (1980), can shape project outcomes, highlighting the need for industry analysis in project evaluation.

Regulatory frameworks and government policies are also recognized as crucial factors affecting project effectiveness. Researchers such as Megginson et al. (2014) and Brounen et al. (2006) explore the impact of regulations and government interventions on investment projects, emphasizing the need for a comprehensive understanding of the regulatory environment.

Macroeconomic factors, including inflation, interest rates, and exchange rates, are studied extensively in relation to investment project evaluation. Notable contributions include the works of Mishkin (2007) and Blanchard et al. (2017), which highlight the influence of macroeconomic variables on project effectiveness.

Case Studies and Empirical Research:

Many scholars have conducted case studies and empirical research to illustrate the practical application of economic bases in evaluating investment project effectiveness. These studies provide real-world examples that demonstrate how economic principles and evaluation methodologies interact in diverse contexts. Notable case studies include those by Damodaran (2012), where the author analyzes investment projects in different industries and regions.

Critiques and Emerging Trends:

While the existing literature provides valuable insights, there are ongoing discussions and critiques regarding the evaluation of investment projects. Some researchers emphasize the limitations of traditional evaluation metrics and advocate for alternative approaches, such as real options analysis (Trigeorgis, 1996) or the use of multiple criteria decision-making (MCDM) techniques (Saaty, 2008).

ANALYSIS AND RESULTS

One of the important tasks of the state, enterprises and organizations is to increase the economic efficiency of investments. The essence of the problem of increasing the economic efficiency of investments is that it is necessary to achieve an increase in the volume of production, services and profits, as well as the national income for each cost unit (labor, material, financial).

It is known that the term "efficiency" can often be found in micro and macro economy and their sectors. They differ from each other depending on their economic nature and content. The concept of "Effectiveness" reflects the result (achieving a positive result) of the measures used in some part (link) of the economic process. Efficiency is an absolute indicator that shows the economic results of production.

In every other convenient description of a project, a project will never be implemented unless it provides:

- Reimbursement of the funds deposited with the income obtained from the sale of project goods and services;
- The profit that ensures the profitability of investments is higher than the level of the firm's desire;
- That the payback period of the investment corresponds to the period suitable for the company.

Determining the validity of achieving such results in investment processes is the main task of determining the financial and economic indicators of any project with funds invested in real assets. Conducting such an assessment is always a somewhat difficult task, as it requires taking into account the influence of a number of important factors:

- First, investment costs can be made only once or several times over a long period of time;
- Secondly, the duration and length of the period of obtaining results from the implementation of the investment project;
- Thirdly, the implementation of long-term operations can lead to an increase in uncertainty and the emergence of risk in the assessment of all aspects of investments.

The main criterion for the selection of investment projects at the World Bank is the discounted modern value of benefits after excluding costs. Both revenues and costs will increase during the implementation of the project. In order for the project to pass the economic competition, it must meet the following two conditions:

- The net modern value of the profit expected from the implementation of the project should not be negative;
- The expected net present value of the project should be equal to or higher than the expected net present value of alternative conflicting projects.

Financial evaluation is used in the analysis of liquidity during the implementation of the investment project. In other words, the task of financial assessment is to determine whether the enterprise will have sufficient financial resources to fulfill its total financial obligations in order to implement the project within the specified time.

Using the indicators of the investment project, we calculate the economic efficiency of the project based on methods based on discounting, using the formulas available in the current theory.

Method 1: Net present value (NPV) is a value obtained by discounting all incomes and expenses for a specific period of income and expenses at a predetermined and fixed interest rate during the period of use of the investment object and represents the difference between them. Its essence is that the amount of annual net cash flow is brought to the initial year of project implementation for each period, and it eventually manifests itself in the amount of money as net present value or net discounted income.

The formulas for calculating it are as follows:

$$NPV = \frac{CF_1}{(1+d)^1} + \frac{CF_2}{(1+d)^2} + \dots + \frac{CF_t}{(1+d)^t} - I_0$$
$$\ddot{e}kuNPV = \sum_{t=1}^n \frac{CF_t}{(1+d)^t} - I_0 \quad (1)$$

$$NPV = \sum_{t=1}^n \frac{CF_t}{(1+d)^t} - \sum_{t=1}^n \frac{I_t}{(1+d)^t} \quad (2)$$

$$t=1 (1+k) \quad t=1 (1+k)$$

Method 2: The internal rate of return method (IRR) is the rate of return when the discounted value of cash inflows is equal to the discounted value of cash outflows, or else it is the discount rate when the discounted value of the net proceeds from the project is equal to the discounted value of the investment, and the net present value is equal to zero. To determine this indicator, the formula used to determine the net present value is used, and the minimum interest rate at which the net present value equals zero is found. This interest rate is called the internal rate of return method. This method is also referred to as the internal rate of profitability in economics, the rate of return or efficiency, and the marginal efficiency of capital investments.

The formula for calculating it can be expressed in the following equation:

$$NPV = \sum_{t=1}^n \frac{CF_t}{(1+d)^t} - I_0 = 0$$

Method 3: Return on investment method (RI) - based on calculating the ratio of discounted income to discounted investment costs. It shows how an investor's wealth can grow and is defined as:

$$PI = \frac{\sum_{t=1}^n \frac{CF_t}{(1+d)^t}}{I_0}$$

When any project is implemented, costs are primary in the cash flows associated with it. That is, first investments (albeit a certain part) are made, and then cash receipts are realized in return for these investments. Therefore, when calculating the net present value (NPV), the value of all cash flows (cash inflows-CF_t and investment costs) is brought to the value on the date of the initial investment amount.

Therefore, when calculating the net present value for a project that requires financing in several stages, the discount rate at the initial period (initial investment) used to bring the cash flow values to present value is not applied (or may be applied starting at zero). Because all other values are set to the current value. The present value of the value at that time is necessarily equal to itself.

CONCLUSION

When making investment decisions, it is important to use a scientifically based method of evaluation, analysis, selection and implementation of investment projects. Also, when making decisions about investments, it is necessary to organize the processes of providing them with financial resources in such a way that it is necessary to evaluate the ways of using sources capable of minimizing their cost and increasing the usefulness of the invested capital. Making investment decisions requires the structure of investment capital, its distribution over a certain period of time, and the use of discount coefficients that allow calculating the current value of money.

Evaluation of the project's effectiveness is carried out, as well as determining the manifestation of the interests of the participating parties. Although each party carries out its own and different valuation work, the interest in future profits is common to all parties involved. When evaluating the project from the point of view of efficiency, determining the interest and interest of the society, the ecological purity of the product, and how well it corresponds to the development goal of the socio-economic system has a great impact on the financial implementation of the investment project.

Economic and financial evaluation is very important when investing in real assets. Any proposed project will not be eligible for acceptance if it does not meet the following conditions:



- Income from the sale of goods does not cover the expenses incurred;
- If the investor providing funds for the project does not achieve profitability not lower than the average profit rate;
- If expenses are not covered within a period favorable to the investor.

Determining whether these conditions are realistic is the key to investing in projects. Evaluating these conditions is a very difficult process. The main reason for this is the influence of the following factors: attracting investments can be repeated once, all at once, or several times over a long period of time; the period of achieving results can also be very long; as the period of achieving results increases, the level of uncertainty increases, risk increases. The presence of these factors in life requires the creation of investment project evaluation methods. Of course, no one can calculate this quickly and with one hundred percent accuracy in advance.

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