



Volume: 02 Issue: 12 | Dec 2021 ISSN: 2660-454X

<http://cajitmf.centralasianstudies.org/index.php/CAJITMF>

Determining the Cost-Effectiveness of Investments Specific Features

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Received 26th Oct 2021,
Accepted 27th Nov 2021,
Online 16th Dec 2021

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Abstract: In determining the economic efficiency of investments, indicators such as "net discount income", "profitability index" represent the achievement of results, taking into account the time factor. Because the investment is a long-term agreement, a comparison of the current costs with the results obtained during the entire investment project on the basis of bringing them to the same value allows you to accurately assess the economic efficiency. The article covers these aspects both theoretically and practically.

Keywords: investment, cost-effectiveness, net discount income, profitability index, investment payments.

Since Uzbekistan became independent, it has set a specific direction for the development of the national economy. As a result of understanding the unique role of investment in the economic growth, there has been an increase in terms of investments, especially foreign investments, which has led to the development of investment activity in our country. It should be noted that the development of investment activity today is the result of the prudent investment policy pursued by our government. One of the priorities of economic development and liberalization in the Strategy for the five priority areas of development of the Republic of Uzbekistan for 2017-2021 is to improve the investment climate, foreign, primarily direct, to the sectors and regions of the economy. - active attraction of foreign direct investment [1-4]. Therefore, without attracting foreign investment, especially without expanding the participation of foreign investment in key sectors, it is impossible to carry out structural changes and modernization of the economy, re-equip enterprises with modern equipment and launch the production of competitive products. Attracting foreign investment to the economy of our country is important in accelerating the expansion of its economic potential, ensuring the economic strength of our country through the use of domestic opportunities and reserves in all areas, the development of new equipment and technology, export-oriented goods, their production. earns. At the end of 2020, the volume of foreign direct investment in fixed assets increased by 101.5% or 6.6 billion compared to 2019. dollars. According to the study, 197 projects were implemented under the investment program, which created 38,000 jobs. In addition, 10,586 projects worth 59.1 trillion sums were implemented under regional investment programs. As a result of the projects, 131.5 thousand new jobs were created [5-11]. No country can develop without attracting investment into its economy. Investment will be provided through the development of production, renewal of fixed assets, overcoming social problems, increasing the

competitiveness of products based on modern technology and strengthening the country's export potential. This is a result of the ongoing large-scale reforms in the country's investment attractiveness top. One of the requirements of today's industrialization is the introduction of modern technologies involving these active investments, and their rapid implementation and further increase the investment attractiveness of our country, attracting foreign investment in industrial enterprises is one of the main tasks today. Investments are also economic resources and their sources of funding are limited. Accordingly, along with the amount of investment, increasing the efficiency of their use, the study of investment processes and their effective operation has become a topical issue of economic research. This raises the need for an accurate assessment of investment efficiency as an objective necessity and determines the relevance of the research direction.

Level of study of the topic.

Theoretical and practical problems of investment have been studied by many experts and scholars. For example, the organization of investment activities and the implementation of an active investment policy by the state have been widely studied by economists from a number of CIS countries, such as L.N.Abalkin, R.Z Akberdin, G.R. Balberdinova, P.G.Bunich, A.Yu. Vislav, A.Ya. Kabashev. These problems have been studied by leading Uzbek economists and specialists T.K.Iminov, R.K.Karimov, SH.Kh.Nosirov, N.K.Popadyuk, SH.Shodmonov, B.H.Erkaev, N.M.Yusupova, Sh.Yuldashev, O.H.Hikmatov and others . attention. However, the practical aspects of determining the economic efficiency of investments in the example of industrial enterprises have not been sufficiently studied [12-17].

The main part.

The role of investment in socio-economic development can be considered separately at the macro and microeconomic levels.

At the macroeconomic level, their most important aspects are:

- determines the basis for the development of the national economy;
- increase the efficiency of social reproduction;
- systematic renewal of basic production facilities;
- support of scientific and technical progress, ensuring the competitiveness of national production;
- balanced development of all sectors of the economy;
- increase the economic potential of the country;
- improving and expanding the export structure;
- addressing social issues, including unemployment;
- implementation of effective structural changes in the economy;
- enabling the formation of a wide range of market infrastructure with targeted placement of productive forces and means of production in the economy;
- accelerating the country's sustainable growth and integration into the world economic system by activating all sectors of the economy, etc.
- At the microeconomic level, the positive importance of investment is reflected in the following key areas:
- strengthening and expanding the scope of enterprises;

- prevention of moral and material obsolescence of fixed assets;
- reduction of production costs;
- increase the level of technical support of production through the introduction of new equipment and technologies;
- strengthening competitiveness and improving product quality;
- increase labor productivity and improve the social security of employees.

Of course, the sustainable functioning and development of a market economy is closely linked to investment and their movement, as evidenced by the practice of countries with more developed market relations. Innovative growth and sustainable functioning of the economy in all respects depends on the availability of funds to finance the needs of economic entities, which, in turn, requires the development of investment processes in the economy and the improvement of the investment climate. Investment with natural production and labor resources together for the introduction of advanced technologies and the introduction of modern methods of organization and management of production. Investors will direct their funds to the technical re-equipment of the enterprise, as well as its development [18-23]. The growing demand for investment flows and the increase in the efficiency of their use require the constant improvement of economic mechanisms and the creation of a favorable investment climate for investors. Therefore, the selection and implementation of the optimal methodology for determining the efficiency of investment will increase the flow of investment and increase its efficiency.

The evaluation of investment efficiency is based on several principles and they include:

- comparison of primary data;
- reliability;
- purposefulness;
- structure;
- multidimensionality;
- compliance;
- Relying on the results of calculations;
- uniformity of applied criteria [2,3,4,5].

Compared to the initial information analyzed the principle of alternative investment projects in time and the duration of the initial capital costs would be close to each other at once.

The principle of reliability refers to the reliability and accuracy of the data you are looking at.

A targeted, provides that the principle of alternative investment projects in purpose, the principle of systematic processes in all aspects of the project and one close relation. In terms of measuring, the principle of alternative investment projects, many of them in the implementation selected aspects of care and different methods of calculation for the purpose in accordance with the world. At the same time, the principle of conformity to the deserving projects meant to increase the importance of the project to rely on the results of the calculation basis. Alternative criteria uniformity that is, investment projects should be based on a comparative analysis of uniform criteria. Investment efficiency refers primarily to the economic or social outcome achieved by a unit of investment.

As far as I know, in assessing the effectiveness of investments in modern conditions, it is advisable to take into account the following aspects:

1. Use of cash flow ratio formed from the sum of net profit and depreciation when estimating the return on invested capital.
2. Obligation to bring the amount of invested capital and cash flows to current value. Because the investment process takes place at different stages. Therefore, the amount of funds raised and the amount of cash flows at all stages except the first stage should be brought to the present value.
3. The correct choice of interest rate (discount rate) in the process of discounting cash flows for various investment projects. As mentioned above, the amount of return on investment is formed taking into account the following four factors: the average real deposit rate, inflation rate, payment for risk, payment for low liquidity. For this reason, it is necessary to use different discount ratios when comparing investment projects with different levels of risk (relatively high interest rates are chosen for a project with a high level of risk).
4. Variability of interest rate forms applied for discounting based on the purpose of valuation. In calculating various indicators of investment efficiency, such indicators as the average interest rate, the rate of individual return on investment, taking into account the rate of inflation, the rate of return on current economic activity are used as interest rates. Investment efficiency refers primarily to the economic or social outcome achieved by a unit of investment. In determining the effectiveness of investment, it is not enough to use specific indicators that describe only some of its aspects. Therefore, several methods and a system of indicators are used to evaluate the effectiveness of investment projects. Based on the above principles, we consider a system of indicators used to assess the effectiveness of investments. The net discount income and profitability index are indicators that take into account the above situation.

Net discount income (NDI) allows you to get the most generalized description of the results of the investment, i.e. its final effect in absolute terms. Net discounted income is the difference between the amount of cash flows brought to the present value (through discounting) at the time of implementation of the investment project and the funds invested in its implementation. It is calculated by the following formula:

$$NDI = \sum_{t=0}^T (B_t - X_t) K_{dis}$$

Here:

B_t is the cash flow achieved in step t of the account;

X_t is the cost of that step;

T - period of validity of the investment project;

K_{dis} is the discount coefficient, which is determined by the following formula:

$$K_{dis} = 1 / (1 + i)^t$$

Here:

i is the amount of the interest rate

In addition to a comparative assessment of investment projects, the indicator "Net discount income" can be used as a reasonable criterion for their implementation. An investment project where the net discount rate is zero or negative is rejected because it does not bring additional income to the investor for the capital invested. Investment projects with a net discount rate of zero or positive serve to increase the investor's capital.

In assessing the effectiveness of investment projects, adjustments should be made to take into account the current inflation rate. As a result, the nominal and real value of cash flows are formed. The nominal value

of cash flows represents the purchasing power of money, which does not reflect inflation rates. The real value of cash flows, on the other hand, represents real purchasing power, which reflects inflation.

It is also advisable to use the profitability index to determine the cost-effectiveness of an investment project. As mentioned above, the profitability index represents the level of effective use of investment funds, i.e. the level of return on investment per sum. Although the profitability index is methodologically similar to the coefficient of efficiency of capital investment, it differs from it in economic content. In calculating this indicator, cash flow, rather than net return, is generated as return on investment. In addition, the expected return on investment is brought to present value in the valuation process. The profitability index is determined as follows:

$$\text{Profitability Index} = \frac{DI}{D_{\text{Inv}}} + \frac{\sum_{t=1}^T B(t) * K_{\text{dis}}}{\sum_{t=1}^T K(t) * K_{\text{dis}}}$$

Here:

DI - the amount of discounted income;

D_{Inv} - the amount of discounted investments;

$B(t)$ is the cash flow in the t -period of the accounts;

$K(t)$ - investment funds in the t -period of accounts;

K_{dis} is the discount rate. [5]

Investment efficiency was studied on the example of a specific enterprise using the method of determining the efficiency of investments.

The company received an investment of \$ 4,700,000 as an object of research. The investment was used to purchase equipment. 90% of the products manufactured on these devices are intended for sale in foreign and 10% in domestic markets.

In assessing the efficiency of the use of investment, the general indicators were used, such as an increase in production, profitability, profitability, reduction of payback periods. (**Table 1**).

Table 1. Evaluation of the effectiveness of the use of investments in the enterprise, in percent *

№	Main indicators of an organization	1 st year	2 nd year	3 rd year	4 th year
	Change in sales	100	103	106	118,7
	Changes in labor efficiency	100	103,5	105	115,2
	Changes in net income	100	106	111	125
	Fund efficiency	100	103	106	110

* Source: compiled by the author.

The table shows that from the 2nd year onwards, all indicators have changed due to the labor efficiency. At the end of 4 years, the change in sales was 118.7%, an increase of 12% compared to 3 years. Profit from sales was 125% year-on-year.

The rate of return was used to determine the efficiency of investments. This indicator is defined as the ratio of net profit to the amount of payments on investments.

The rate of return was 33% in year 3 and 40% in year 4. The rate of return determined by this method was calculated on the basis of nominal indicators for each year, without taking into account the current value of expected income.

The indicators of net discount income and profitability index proposed in the assessment of investment efficiency represent the income that is taken into account during the investment period, taking into account the change in the discount rate over the years. Based on the above formulas, we perform the calculation of the net discount income and profitability index in the example of the enterprise under study.

The assessment is based on 2 years of operation of the enterprise.

$$NDI = (4750565 - 1268706,2) * \frac{1}{1 + 0,05} + (5820632 - 1268706,2) * \frac{1}{(1 + 0,05)^2} =$$

$$= 3481858,8 * 0,9524 + 4051925,8 * 0,9070 = 3316122,32 + 3675216,145 = 6991338,5$$

$$PI = \frac{4750565 * \frac{1}{1 + 0,05} + 5320632 * \frac{1}{(1 + 0,05)^2}}{1268706,2 * \frac{1}{1 + 0,05} + 1268706,2 * \frac{1}{(1 + 0,05)^2}} =$$

$$= \frac{4524438,1 + 4825813,2}{1208315,785 + 1150716,52} = \frac{9350251,3}{2359032,3} = 3,96$$

The profitability index is 3.96, which means that for the past 2 years, each sum of investment has brought a return of 3.96 sums. These calculations were performed taking into account the time factor.

It can be concluded that the use of the discount method in assessing the effectiveness of the introduction of investments allows you to compare the expected results with the costs incurred on the basis of bringing them to a comparable value over time.

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