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Übersetzung Studienbrief »Wirtschaftlichkeit und Investitionsrechnung«

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5 Economic efficiency analysis and capital budgeting

5.1 Introduction

In common usage, an 'investment' means a capital expenditure that is made today with a view to generating income at a later date.

Investments are necessary to ensure that a business remains competitive and able to survive in the market, so plans to invest must be subjected to thorough scrutiny prior to realisation. One crucial aspect of the decision-making process is to carefully assess the consequences of the investment options that are available and weigh up the respective pros and cons. Assessment is based on the objectives and interests or wishes of a business. The word 'business' as used here also includes private individuals engaged in business activity.

The above process draws on the methods of capital budgeting to inform an investment decision; these methods enable one to examine the anticipated consequences of investments in terms of quantifiable interests, and then suitably evaluate them.

In essence, capital budgeting must help to answer the following six questions:

1. Would the business actually reap any benefit from the intended investment? Would the investment be profitable? Does it make sense?
2. Given several investment options to choose from, which should take precedence?
3. Should an existing machine or something similar be replaced even if it hasn't yet been fully depreciated? At what point would replacement make sense?
4. What risks does the investment involve?
5. How long is the amortisation period likely to be?
6. How urgent are the intended investments, and how should they be prioritised?

To clarify these issues one must determine as accurately as possible the benefit resulting from the measure in question. An economic efficiency study focusing primarily on the return from the financial investment is generally used for this purpose.

Recommended further reading: [3], [2], [5], [6], [7], [8], [11], [12], [14], [15], [16].

5.2 Definitions

5.2.1 Economic efficiency

Economic management

Economic management is the sum of human activity (procurement, creation and use of goods or services) designed to satisfy existing needs as effectively as possible with limited resources.

Principle of economic efficiency

The principle of economic efficiency describes the goal of generating as much income as possible with a given outlay (maximum/income principle), spending as little as possible to achieve a given income (minimum/parsimony principle), or achieving an optimal ratio of resources deployed to desired benefits (optimum/*extremum* principle).

Economic efficiency is an expression which is neutral in terms of economic systems and corporate goals, and it is used to denote the extent to which an activity complies with the principle of economic efficiency.

Economic efficiency

Absolute economic efficiency is all about determining the relationship between the outcome of an action and the resources required to carry it out.

Absolute economic efficiency

One refers to absolute economic efficiency if the following inequation applies:

(5.1)

$$\text{Wirtschaftlichkeit} = \frac{\text{Ertrag}}{\text{Aufwand}} \quad \text{opt.}$$

(5.2)

$$\frac{\text{Ertrag}}{\text{Aufwand}} \quad 1$$

or

(5.3)

$$\frac{\text{Leistung (Umsatzerlöse)}}{\text{Kosten}} \quad 1$$

Table 5.1: Entries in the balance sheet

Assets	Liabilities
Capital assets	Equity capital
Current assets	Borrowed capital
	Net profit for the year

Income:

Income

- All the monetary inflows created by the business over the accounting year and leading to an increase in company assets
- The gross capital gain that a business generates by producing/providing goods or services

Expenditure

Expenditure

- All the monetary outflows occurring over the accounting year and leading to a decrease in company assets
- Outlay for goods and services consumed/used by a business over the accounting year (together with public levies) and which appears opposite 'income' in the profit and loss account

Output is the monetary expression for material goods or services produced/provided (by the business from its own operations) over the accounting year and valued at market prices.

Output

Costs

Costs:

- The monetary expression for the material goods and/or services consumed in connection with the manufacture of products/ provision of services in the course of company operations over the accounting year.
- The monetary value of the 'materials', 'capital' and 'manpower' production factors which are consumed for the purpose of operational output.

Profit

Profit is the surplus income from goods and services sold that remains after accounting for the costs of the production factors expended for operational output.

Capital

Capital is the item listed under 'liabilities' on the balance sheet, opposite a company's assets; it reveals the origin of the monetary and material assets that are available to the business.

Return on investment

Return on investment (ROI):

- Ratio of a performance indicator to a meaningful economic reference parameter (e.g. ratio of profit to capital invested, thereby revealing the relative success or failure of a business activity or capital investment)
- A measure of the average return on the capital invested

(5.4)

$$\text{Rentabilität} = \frac{\text{Gewinn}}{\text{Kapital}} \quad 100\%$$

5.2.2 Investment

The term 'investment' is not used uniformly in business economics, and is interpreted in a wide variety of ways.

Investment:

- The investment of monetary resources in capital goods (mediaeval Latin *investire*: to clothe)
- Targeted and generally long-term commitment of capital to generate autonomous income
- Conversion of financial resources into tangible or financial assets

The uncommitted funds earmarked for an investment are available to the business in the form of equity capital or borrowed capital (loans, bonds).

Types of investment

Depending on their objective, a distinction is made between the following types of investment:

1. *Financial investment* essentially refers to the acquisition of stakes in other businesses by purchasing appropriate stocks and shares (seen predominantly in larger companies)
2. *Intangible investment* subsumes a number of forward-looking measures that are undertaken by a company. This might include investment in research and development, advertising and marketing, basic and advanced of training of employees, and the acquisition of patents, licences, concessions, or software