FINANCIAL EVALUATION METHODS OF INVESTMENT PROJECTS

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Principles for strategy development after Lindblom and Braybrooke:

1. identifying a policy that requires consensus among relevant stakeholders;

2. definition and consistent ordination of all objectives and goals whose touch will be a problem solving;

3. Identify all alternatives (= policies) that can help achieve each goal or goal;

4. the prediction of all the consequences that would result from the choice of each alternative (policies);

5. Comparing between each of the alternatives according to their consequences in terms of how they achieve each objective or goal;

6. choosing the alternative that maximizes the goal.

The directions of analysis in investment policy

- the **internal environment** of the state - **cultural, social, agrarian, technological, innovative, etc.**
- **duration** of benefits - **short, medium, long-term.**
- **risks inherent** in situations of certainty and uncertainty.

Methods analysis benefit-cost (1):

1. **The method of measurable criteria for objectives** is characterized - average life expectancy, gross domestic product, average level of education, etc.,

2 **The satisfaction method** are questionnaires, opinion polls - people's satisfaction with their lives or the work of politicians or family relationships etc.

Methods analysis benefit-cost (2):

3. **The method welfare economy**:

- the defining gain in individual well-being by the amount of money the person would be willing to pay to get the change

- losing the amount of money a person is aiming to offset that change.

Through different ways to **develop policies and programs, priority** will be given to **areas, regions and social groups** that need **long and short**-term investment

THE METHOD ABC (1)

1. identifying the needs of the company and their **possibilities for payment** for a whole set of **criteria or preferences**;

2. attribution of **monetary value** for resources and policy results.

Benefits are measured in monetary terms directly by increasing tax and tax rates, increased productivity and the creation of additional jobs, and indirectly where a shadow price will be established, reflecting a procedure to make subjective judgments about the monetary value of benefits and costs, when the market price is not reliable or not available.

3. timely **estimation of costs and benefits**.

THE METHOD ABC (2)

4. **cost-benefit** ratio calculation.

- the ratio between benefits is outweighed by costs is **subunit**

- the between costs is outweighed by benefits is **over unit**

At the end of the ABC, these cost-benefit reports for different variants are presented in a table, and the descriptive narrative has been explained.

Ex ante - at the beginning of the study to implement or start a policy or project. Ex ante analysis must be carried out with great responsibility, taking into account internal and external factors.

Ex post - at the end of the project a more comprehensive analysis is made if the intervention was efficient and timely.

In media res - benefit analysis during the implementation of a project. The elements of the studies carried out are similar to ex-ante and ex-post ones.

Policy or project analysis is about social change and it is advisable to analyze **ex-ante and ex-post** ABC

Analyze anticipated values

The calculation of the anticipated net benefit (BNA) of a policy, which is calculated as follows:
$$BNA = p_1 (B_1 - C_1) + \ldots + p_n (B_n - C_n)$$
Where:
BNA - anticipated net benefit
p1 - probability of occurrence of this event
B1 - Appropriate estimated benefits
C1 - Estimated costs under event conditions

Net present value of investments

$$VAN = \sum_{n=1}^{r} \frac{CF_n}{(1+r)^n} - CI$$

Where:

- **CFn**- the net income or cash-flow forecast to be obtained over time - "t";
- **R** - discount rate;
- **CI** - investment cost;
- **n**- number of analyzed periods

Net present value of investments

Economic and financial. the project, the investment program with a positive net positive value means the following:

a) the ability to repay during its life cycle initial investment;

b) capacity to produce excess cash-flow.

The disadvantages of this method are that:

· **the ability** to determine whether the project is profitable or not, but does not allow us to compare it with others.

· **the term** of recovery is undetermined;

· **the update** rate directly influences the results, so it is desirable to be as concrete as possible.

Net present value of investments

The discount rate allows us to determine the **cost of capital**.

➡ If **VAN = 0**, the investment is similar to a placement of the amount invested in the bank.

➡ If **VAN <1**, the project brings less income than a financial placement to the bank and the project will not be funded.

➡ If **VAN> 1,** the investment in the project brings more income than a financial placement to the bank and the project will be funded.

The Internal Rate of Return

the variance in relation to the VAN of the future cash inflows generated by an investment becomes equal to the cost of the invested capital.

where RIR = r; VR- residual value

$$RIR = \sum_{t=1}^{n} \frac{CF_t}{(1+RIR)^t} - CI + \frac{VR_n}{(1+RIR)^n} - I_0 = 0$$

Indicators of investment projects analysis

- **financial analysis**, based on the project's financial flows, which will reflect the profitability of the project;

- **economic analysis** is determined by the same mathematical formulas as financial analysis, but by applying some corrections to financial flows (shadow price corrections and outsourcing corrections). They express **the extent to which the project is beneficial to society**;

- **profitability of the invested capital** - VFNA / K, RIRF / K are based on the calculation only on the capital part of the project promoter, thus subtracting from the value of the investment the investor's contribution, which will reflect the profitability of the project if **part of the investment value is covered by non-reimbursable funding**, the pressure on the promoter being lower.

Recovery term

The **liquidity analysis** in choosing the investment variant according to the speed of recovery of the invested capital.

$$\sum_{an1}^{t} CF_{actualizat/an} - I_0 = 0$$

Methods, techniques and models of investment risk analysis

Qualitative Analysis

- Surveys, Questionnaires, Observations, Interview, Scenario, Probability-Impact Matrix, Brainstorming, Debate Groups.

Quantitative Analysis

- Parkinson's Model, Theory of Savage, Laplace's Model of Proportionality, Bayes' Average Profit Model, Hurwics Optimality Model, Abraham Wald's Prudent Model (pessimistic), Taguchi's quality analysis method, Monte-Carlo simulation method, Critical point calculation, Sensitivity analysis, Scenario approach method.

Thank you

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