

INVESTMENTS

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DIFFERENTIATED PROJECTS

- It is normally supposed that NPV method is good for all projects, notwithstanding what their period of activity is. However, it is just an assumption – a good assumption but not the only possible;
- There may be other assumptions that could help to take into account the difference in periods of activity

PROJECTS WITH DIFFERENT PERIODS OF ACTIVITY

	I_0	CF_1	CF_2	CF_3
A	- 100	120		
B	- 50	30	40	15

SUBSTITUTION OF PROJECTS

	I_0	CF_1	CF_2	CF_3
A	- 100	120		
		- 100	120	
			- 100	120
A_f		20	20	120

PROJECTS WITH NON-CORRESPONDING PERIODS

	I_0	CF_1	CF_2	CF_3
A	- 100	50	70	
B	- 100	30	40	60

PROBLEMS OF EVALUATION OF PROJECTS

- Economic and financial indices can contradict each other
- Traditional indices do not take into account non-financial parameters (social, ecological etc)

MULTI-CRITERIA SELECTION

	A	B	C	D
Initial investments	1 000 000	1 250 000	1 350 000	<u>1 400 000</u>
Payback period	<u>5</u>	3	3,5	4
NPV	500 000	600 000	<u>450 000</u>	650 000
Social efficiency	6	<u>5</u>	8	7

TRANSFORMATION OF REAL VALUES

- $$B = \frac{b - b_{pes}}{b_{opt} - b_{pes}} (B_{max} - B_{min}) + B_{min}$$

b_{pes} – worst value

b_{opt} – best (optimal) value

B_{max} – maximal number of points

B_{min} – minimal number of points

FINAL EVALUATION

- $$Y = \sum_{i=1}^n w_i B_i$$

w_i – weight of the i -th parameter

B_i – number of points assigned to the i -th parameter

WEIGHTS

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$$w_k = \frac{2(n - k + 1)}{n(n + 1)}$$

ADVANTAGES AND DISADVANTAGES

Advantages

- Multi-criteria evaluation is more substantiated

Disadvantages

- Difficult to use
- Results depend on the preferences of the decision-makers
- Results can be manipulated