4. **Methods of an assessment of investment projects.**

The investment analysis provides use of a certain system of analytical methods which allow to come to the most reliable conclusion.

Them treat:

1. CALCULATION of the PERIOD of PAYBACK of INVESTMENTS - consists in definition of that term which is required for compensation of the sum of initial investments. The payback period of investments is equal to the relation of the sum of initial investments to the sum of monetary receipts from implementation of the investment project.

$$Т_{ок} = ПИ / ДП$$

$$PP = IC / CF$$

This formula is applied, when the sums of monetary receipts are equal on years.

If the sums of monetary receipts are not equal on years, the payback period is defined by an accruing result, that is consecutive summation of the year sums of monetary receipts until the result is not becomes equal to the sum of initial investments.

If term of accumulation of the sum, equal to initial investments, is not multiple to an integer, it is necessary:

1) To find the cumulative sum of monetary receipts for a period integer at which it appears the closest to size of initial investments, but it is less than it.
2) To define, what part of investments remained yet not covered with monetary receipts.
3) To divide this uncovered rest into size of monetary receipts in the next whole period.

The received result will characterise that share of this period which in the sum with the previous periods forms a payback period.

Positive sides:

- Simplicity and ease of calculation.
- This indicator quite precisely signals about degree of riskiness of the project.

Shortcomings of this indicator:

- Does not show distinction of value of money in time.
- Internally means identical level of annual monetary receipts.
- Does not take into consideration monetary receipts behind a framework of the period of payback.

2. CALCULATION OF AVERAGE RATE OF RETURN ON THE INVESTMENT.

The method is focused on an assessment of investments on the basis of not monetary receipts, and there have arrived firms. This indicator represents the relation of average size of profit after the taxation to average size of investments.

$$R_{пр} = \frac{П_{н/о} * (1-k)}{(С_а^н - С_а^к) / 2} * 100\%$$

прибыль налогообл. — $П_{н/о}$; ставка налога — k; стоим актива на начало — $С_а^н$; стоим актива на конец — $С_а^к$

This indicator should be compared with standard for firm profitability levels, for example - with the average level of profitability to assets or standard level of profitability of investments if

firm for herself that has established in any program document. If settlement level of profitability exceeds standard, the project is estimated as accepted.

Positive sides:

- Simplicity of calculation,
- Availability of information.

Method shortcomings:

- Is based on accounting definition of the income, instead of on cash flows.
- Time of inflow and outflow of money is not considered.
- Information changes are not taken into consideration.
- The profit for the last year implementation of the project is estimated the same as profit for the first year.

3. CALCULATION OF NET CURRENT VALUE.

Net current value is a difference between the sum of monetary receipts and the sum of initial expenses for the project.

$$\underset{\text{net present value}}{NPV} = \frac{CF_1}{(1+r)} + \frac{CF_2}{(1+r)^2} + \ldots + \frac{CF_n}{(1+r)^n}$$

$$= \sum_{i=1}^{n} \frac{ДПi}{(1+r)^n} - ПИ$$

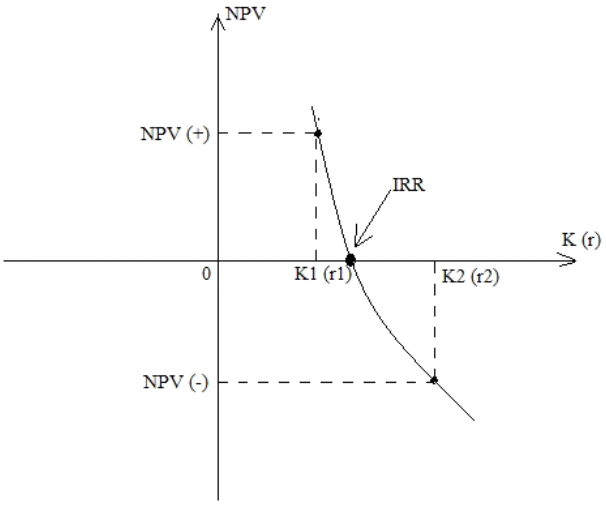
where: r-level of profitability of investment means which can be provided at their room in the public financial mechanism (banks, finance companies), that is is the choice price, or alternative cost of commercial strategy of the investment project.

If as a result of calculation it will turn out that

- > 0, the project it is necessary to accept NPV, as in this case value of the company and consequently, and welfare of her owners will increase.
- <0, the project it is necessary to reject NPV, as value of the company will decrease, and her owners will suffer losses.
- NPV=0, the project neither profitable and nor unprofitable, that is value of the company will not change, and welfare of owners remains at former level.

4. CALCULATION OF INTERNAL RATE OF RETURN.

For the investment project is a rate of discounting of the benefits which are equalised by the current cost of expectation of cash flows and the current cost of expected monetary outflows.



$$ПИ = \sum_{i=1}^{n} \frac{ДПi}{(1+r)^n} \quad IRR = K_{max} - (K_{max} - K_{min}) * \frac{NPV_{(+)}}{NPV_{(+)} + NPV_{(-)}}$$

Calculation of internal rate of return is connected with a trial and error method when using tables of the current cost. There are computer programs for calculation of internal rate of return. Advantage of these methods (the last two) is that discounting of cash flows gives the chance to isolate time difference in emergence of these streams, so, it is possible to state more objective assessment to investment projects. These methods allow to consider both size, and distribution in time of expected cash flows in every period of implementation of the project.