

Topic 9: Enterprise Investment Policy


1. Essence of investments and their classification.
2. State role in the investment policy.
3. The concept of money in time. Concept about compounding and discounting.
4. *Net Present Value and Other Investment Criteria*
5. Sources of financing investment .

Didactic purposes:

- * Definition and concept of "investments".
- * Classification of investments.
- * Concept explanation of "change of money cost in time".
- * Understanding of enterprise investment strategy .
- * Calculation of simple and difficult percentage.
- * Comparison of assessment methods of the investment project efficiency.

- * **Keywords:** investments, investment activity, portfolio investments, direct investments, annuity, venture capital, simple percentage, difficult percentage, net present value, payback period, internal rate of return.

- * Companies invest in lots of things. Some are *tangible assets*—that is, assets you can kick, like factories, machinery, and offices.
- * Others are *intangible assets*, such as patents or trademarks. In each case the company lays out some money now in the hope of receiving even more money later.
- * Individuals also make investments. For example, your college education may cost you \$20,000 per year. That is an investment you hope will pay off in the form of a higher salary later in life. You are sowing now and expecting to reap later.

- 
- * Investments are capital investments in all forms (money, shares, cars, equipment, trademarks, licenses, property rights) with the purpose of ensuring capital growth in the forthcoming period, obtaining the current income or the solution of social tasks.
 - * Investment activity is capital investments along with set of actions for investments realisation.

- * Individuals and legal entities (banks, insurance companies, investment funds), as well as state and international organisations can be *subjects* of investment activity.

Objects of investment activity are:

- * 1. Newly created and modernised fixed assets.
- * 2. Securities.
- * 3. Target monetary deposits (deposit - the purpose is money accumulation).
- * 4. Scientific and technical products.
- * 5. Property and intellectual property rights.

Investments are classified as follows:

1) *According to types:*

- Physical investments (real assets) are investments in production buildings, cars, equipment.
- Monetary assets investments (financial and portfolio investments) are investments in securities.
- Intangible fixed assets investments - development of trademarks, acquisition of licenses.

2) *According to investment period:*

- * Short-term investments (up to one year).
- * Long-term investments (over a year).

* 3) *According to the form of capital investments:*

- * • for creation of new fixed assets.
- * • for expansion of fixed assets.
- * • for reconstruction of fixed assets.
- * • for modernisation.

* 4) *According to sorts:*

- * • Direct investments are investments for authorised enterprise capital, as well as for increase in both production and non-production fixed assets.
- * • Risky investments (venture capital) - investments for new activities connected with big risk (investments for development of new medicine).

- * • Portfolio investments - formation of a portfolio of securities. The portfolio can include securities of one type or various investment values. The main goal at formation of a portfolio consists in achievement of the most optimum combination between risk and income for investors. The method of decrease in risk of losses is considered to be the **portfolio diversification**, that is acquisition of various securities. The risk decreases because the low income of certain securities will be compensated by the high income of others.
- * • Annuity is type of investments which bring a certain income to the investor within regular time periods. Generally they are capital investments for insurance and pension funds. Annuity is an annual contribution of money for the sake of accumulation of a certain sum in the future. An example is accumulation of the depreciation fund.

2. State role in the investment policy.

- * Investment activity of the enterprise considerably depends on the state policy, as one of the leading roles in investment process belongs to the state.
- * The state should be interested not only in direct participation in investment process, but also in stimulation of internal and external investors.
- * The state role in investment activity especially increases in conditions of investment crisis and investments decrease into economy. Recovery from the crisis and revival of investment process depends on reasonableness and equation of decisions on the taxation and granting tax privileges to investors.

The state intervention in investment process has two aims:


- * 1. The sector subdivision – as a rule the state, independently chooses economic sector for investments, depending on some factors:
 - * • perspective of development,
 - * • necessity of this production for national market,
 - * • existence of export potential.
- * 2. Final results.

Thus, investment strategy of the state should include the following directions:

- * 1. Improvement of investment climate for national and foreign investors.
- * 2. Ensuring growth of investment activity of private sector.
- * 3. Suppression of inflation and decrease in percentage for the long-term bank credit.
- * 4. High-grade protection of rights and interests of investors and shareholders by means of legislation improvement.

3. The concept of money in time. Concept about a compounding and discounting.

- * Companies pay for their investments by raising money and in the process assuming liabilities.
- * For example, they may borrow money from a bank and promise to repay it with interest later. You also may have financed your investment in a college education by borrowing money which you plan to pay back out of that fat salary.
- * All these financial decisions require comparisons of cash payments at different dates.
- * Will your future salary be sufficient to justify the current expenditure on college tuition?
- * How much will you have to repay the bank if you borrow to finance your education?

- 
- * In this material we take the first steps toward understanding the relationship between the value of dollars today and that of dollars in the future. We start by looking at how funds invested at a specific interest rate will grow over time.
 - * We next ask how much you would need to invest today to produce a specified future sum of money, and we describe some shortcuts for working out the value of a series of cash payments.

After studying this material you should be able to

- * Calculate the future value to which money invested at a given interest rate will grow.
- * Calculate the present value of a future payment.
- * Calculate present and future values of streams of cash payments.
- * Find the interest rate implied by the present or future value.
- * Understand the difference between real and nominal cash flows and between real and nominal interest rates.

Future Values and Compound Interest

- * You have \$100 invested in a bank account. Suppose banks are currently paying an interest rate of 6 percent per year on deposits. So after a year, your account will earn interest of \$6:
Interest = interest rate \times initial investment = $.06 \times \$100 = \6
- * You start the year with \$100 and you earn interest of \$6, so the value of your investment will grow to \$106 by the end of the year:
- * Value of investment after 1 year = $\$100 + \$6 = \$106$

- * Notice that the \$100 invested grows by the factor $(1 + .06) = 1.06$. In general, for any interest rate r , the value of the investment at the end of 1 year is $(1 + r)$ times the initial investment:
- * Value after 1 year = initial investment $\times (1 + r)$
 $= \$100 \times (1.06) = \106
- * What if you leave this money in the bank for a second year? Your balance, now \$106, will continue to earn interest of 6 percent. So
- * Interest in Year 2 = $.06 \times \$106 = \6.36

- * You start the second year with \$106 on which you earn interest of \$6.36. So by the end of the year the value of your account will grow to $\$106 + \$6.36 = \$112.36$.
- * In the first year your investment of \$100 increases by a factor of 1.06 to \$106;
- * in the second year the \$106 again increases by a factor of 1.06 to \$112.36. Thus the initial \$100 investment grows twice by a factor 1.06:

Value of account after 2 years = $\$100 \times 1.06 \times 1.06 = \$100 \times (1.06)^2 = \$112.36$

- * If you keep your money invested for a third year, your investment multiplies by 1.06 each year for 3 years. By the end of the third year it will total $\$100 \times (1.06)^3 = \119.10 ,
- * scarcely enough to put you in the millionaire class, but even millionaires have to start somewhere.
- * Clearly for an investment horizon of t years, the original \$100 investment will grow to $\$100 \times (1.06)^t$. For an interest rate of r and a horizon of t years, the **future value** of your investment will be
- * **Future value of \$100 = $\$100 (1 + r)^t$**

- * Notice in our example that your interest income in the first year is \$6 (6 percent of \$100), and in the second year it is \$6.36 (6 percent of \$106).
- * Your income in the second year is higher because you now earn interest on *both* the original \$100 investment *and* the \$6 of interest earned in the previous year. Earning interest on interest is called *compounding* or **compound interest**.
- * In contrast, if the bank calculated the interest only on your original investment, you would be paid **simple interest**.



* Fundamental Corporate Finance P. 35

Present Values

- * Money can be invested to earn interest.
- * If you are offered the choice between \$100,000 now and \$100,000 at the end of the year, you naturally take the money now to get a year's interest.
- * Financial managers make the same point when they say that money in hand today has a *time value* or when they quote perhaps the most basic financial principle:

A dollar today is worth more than a dollar tomorrow.

- * We have seen that \$100 invested for 1 year at 6 percent will grow to a future value of $100 \times 1.06 = \$106$.
- * Let's turn this around: How much do we need to invest now in order to produce \$106 at the end of the year? Financial managers refer to this as the **present value (PV)** of the \$106 payoff.
- * Future value is calculated by multiplying the present investment by 1 plus the interest rate, .06, or 1.06. To calculate present value, we simply reverse the process and divide the future value by 1.06:

$$\text{Present value} = PV = \frac{\text{future value}}{1.06} = \frac{\$106}{1.06} = \$100$$

What is the present value of, say, \$112.36 to be received 2 years from now? Again we ask, “How much would we need to invest now to produce \$112.36 after 2 years?” The answer is obviously \$100; we’ve already calculated that at 6 percent \$100 grows to \$112.36:

$$\$100 \times (1.06)^2 = \$112.36$$

However, if we don’t know, or forgot the answer, we just divide future value by $(1.06)^2$:

$$\text{Present value} = PV = \frac{\$112.36}{(1.06)^2} = \$100$$

In general, for a future value or payment t periods away, present value is

$$\text{Present value} = \frac{\text{future value after } t \text{ periods}}{(1 + r)^t}$$

In this context the interest rate r is known as the **discount rate** and the present value is often called the *discounted value* of the future payment. To calculate present value, we discounted the future value at the interest r .



* Fundamental Corporate Finance P. 40

4. *Net Present Value and Other Investment Criteria*

* Fundamental Corporate Finance P. 341

5.Sources of financing investments.

- * *Investment activity can be financed for the account:*
- * **1)** Own financial resources: net profit, depreciation charges, reserves, the sums received from insurance companies in the form of compensation of losses.
- * **2)** Debt funds: bank credit, emission of bonds, investment leasing.
- * **3)** The investor's obtained financial funds: emission of actions, shares, investment allocations from the state and local budgets, foreign investments.