

EC 202 Week 5

Session 5A

In modern industrial societies, investment decisions are made primarily by firms

- Households decide how much to save; and in the long run, savings limit or constrain the amount of investment that firms can undertake
- Financial markets exist to direct savings into profitable investment projects



Firms have an incentive to expand in industries that earn positive profits – that is, a rate of return that is above normal – and in industries in which economies of scale lead to lower average costs at higher levels of output

- Positive profits in an industry stimulate the entry of new firms
- The expansion of existing firms and the creation of new firms require investment in new capital

Expected benefits: potential investors evaluate the expected flow of future proactive services that an investment project will yield

Expected costs: potential investors also compare the project with the possible alternative uses of the funds required to undertake the project

- They consider opportunity costs
- At a minimum, funds for a project could earn interest in financial markets

If the expected benefits from making an investment exceed the expected costs of the necessary investment, then the firms should undertake the project

- $E[\text{benefits}] > E[\text{costs}] \rightarrow$ undertake the project

If the expected benefits from making an investment fall short of the expected costs of the necessary investment, then the firm should NOT undertake the project

- $E[\text{benefits}] < E[\text{costs}] \rightarrow$ don't undertake the project

The present discounted value (PDV) or present value (PV) of an amount of F dollars to be paid t years in the future is the amount you need to pay today, at current interest rates, to ensure that you end up with F dollars t years from now

- The PV is the current market value of receiving F dollars in t years

Compound interest formula:

$$PV \cdot (1+r)^t = F$$

$$PV = \frac{F}{(1+r)^t}$$

If the present value of an expected stream of earnings from an investment exceeds the present value of the cost of the investment necessary to undertake it, then the investment should be undertaken

- PV benefit > PV cost → undertake the project

If the present value of an expected stream of earnings falls short of the present value of the cost of the investment, then the financial market can generate the same stream of income for a smaller initial investment, and the investment should not be undertaken

- PV benefit < PV cost → don't undertake the project

Expected rate of return: the threshold interest rate where the firm is indifferent between investing or not

- The annual rate of return that a firm expects to obtain through a capital investment

The expected rate of return on an investment project depends on:

- The price of the investment
- The expected length of time the project provides additional costs savings or revenue
- The expected amount of revenue from each year

If the expected rate of return of a project is greater than the prevailing interest rate, then the investment should be undertaken

- Expected rate of return > r → undertake the project

If the expected rate of return of a project is less than the prevailing interest rate, then the investment should NOT be undertaken

- Expected rate of return < r → don't undertake the project

If the expected rate of return of a project is equal to the prevailing interest rate, it doesn't matter what the firm does

The demand for loanable funds to purchase new capital depends on the interest rate

- When the interest rate is low, firms are more likely to invest in new plant equipment

The interest rate determines the direct cost (interest on a loan) or the opportunity cost (alternative investment) of each project