



LECTURE TEN - PART TWO

Let's Understand "Depreciation"

- A very important concept in the analysis of capital.
- Both investment and depreciation are **flow** concepts, meaning that they are measured per unit of time.
- This is in contrast to capital which is a **stock** concept, meaning that capital is measured at a given point in time.

Depreciation

- An estimate of the loss in the dollar value of a capital good due to obsolescence or wear and tear during a period of time.
- Corporations are allowed to treat depreciation as an expense on their taxes just like other expenses like labor costs and raw materials.

Depreciation and Investment

- When depreciation over a period of time exceeds investment over the same period of time, the capital stock will decrease whereas if investment exceeds depreciation, the capital stock will increase.

Question!

- Suppose the firm ends its fiscal year with a capital stock of \$1,000,000.
- Over the course of the current year, the firm invests \$100,000 in new plant and equipment.
- At the same time, it incurs depreciation of \$200,000.

Question

What is its capital stock at the end of the current year?

Answer

\$900,000

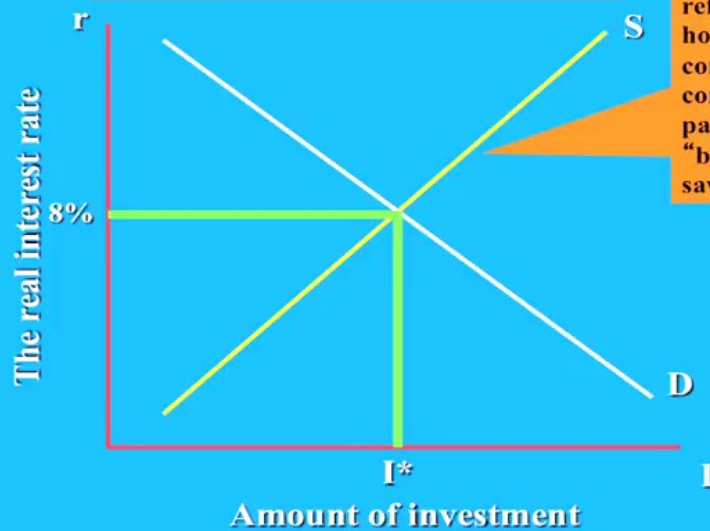
Interacting Variables

- Now that we understand both the interest rate and the rate of return, let's next come to understand how the **interaction of these two variables** determine investment decisions in a market economy.

The Theory of Loanable Funds

- Firms will demand **loanable funds** to invest in new projects so long as the rate of return on capital is greater than or equal to the interest rate paid on funds borrowed!
- Let me demonstrate this for you by first introducing the **theory of loanable funds**.

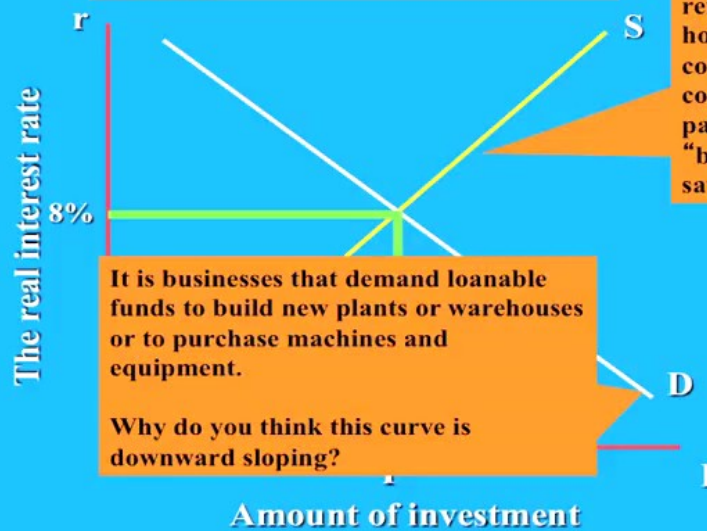
The theory of loanable funds is based on the assumption that households supply funds for investment by abstaining from consumption and accumulating savings over time.



The upward sloping supply curve of loanable funds reflects the idea that households prefer present consumption to future consumption and must be paid an interest rate "bribe" to induce them to save rather than consume.

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It is businesses that demand loanable funds to build new plants or warehouses or to purchase machines and equipment.

Why do you think this curve is downward sloping?

Other Things Equal

- There will be more potential investments that will be profitable at lower interest rates than at higher interest rates.
- In the Ugly Duckling example, the company bought a used Ford for \$10,000, earned a net rental of \$1,200, and wound up with a 12% rate of return on its investment.

Example



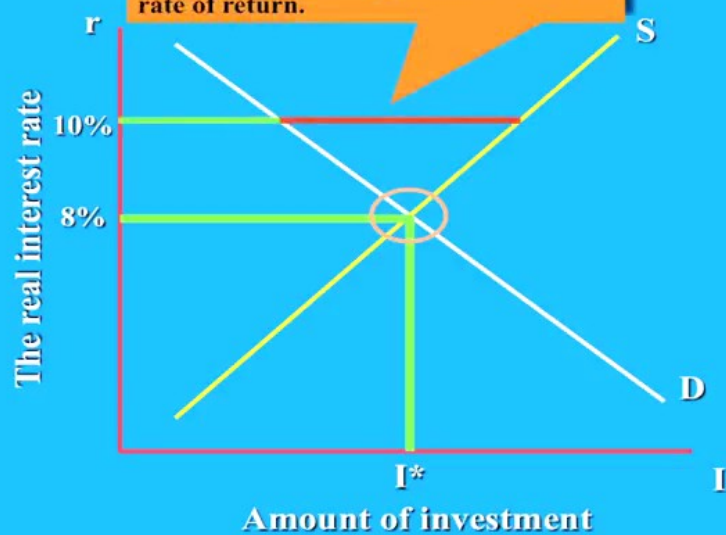
- Suppose the company wants to borrow some money from the market for loanable funds to buy an identical used Ford and it projects an identical rate of return on its investment.
- If the interest rate is 10 percent, it will surely borrow the money because the rate of return that it can earn using the funds exceeds that.
- However, suppose the interest rate is 15%.
- What will it do?

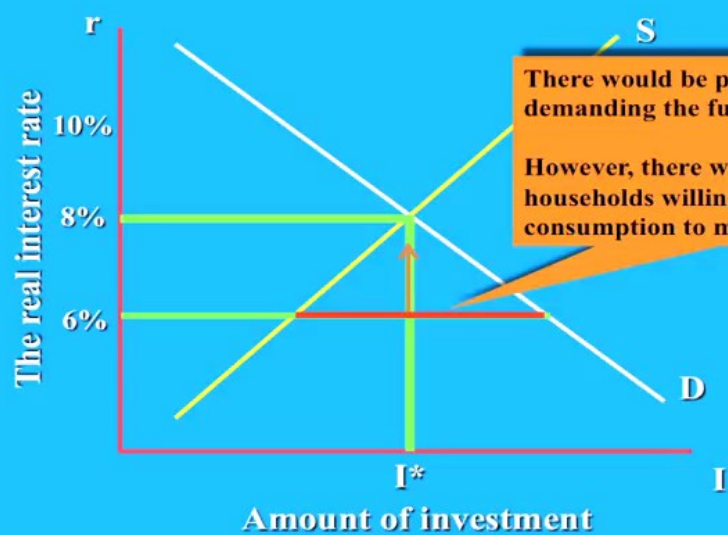
Pause the presentation now to answer this question.

It Won't Borrow Money

- It therefore won't make the new investment.
- This example not only shows us why the demand curve for loanable funds is downward sloping.
- It also helps explain equilibrium in the market where the supply of funds equals the demand for funds.

The supply of funds would exceed the demand for funds because not enough businesses could find investments capable of generating at least a 10% rate of return.





Two Interest Rate Functions

- It rations out society's scarce supply of capital goods for the uses that have the highest rates of return.
- It induces people to sacrifice current consumption in order to increase the stock of capital.