The Power of Microeconomics

Lecture Ten:

The Capital Market, Interest, and Profits

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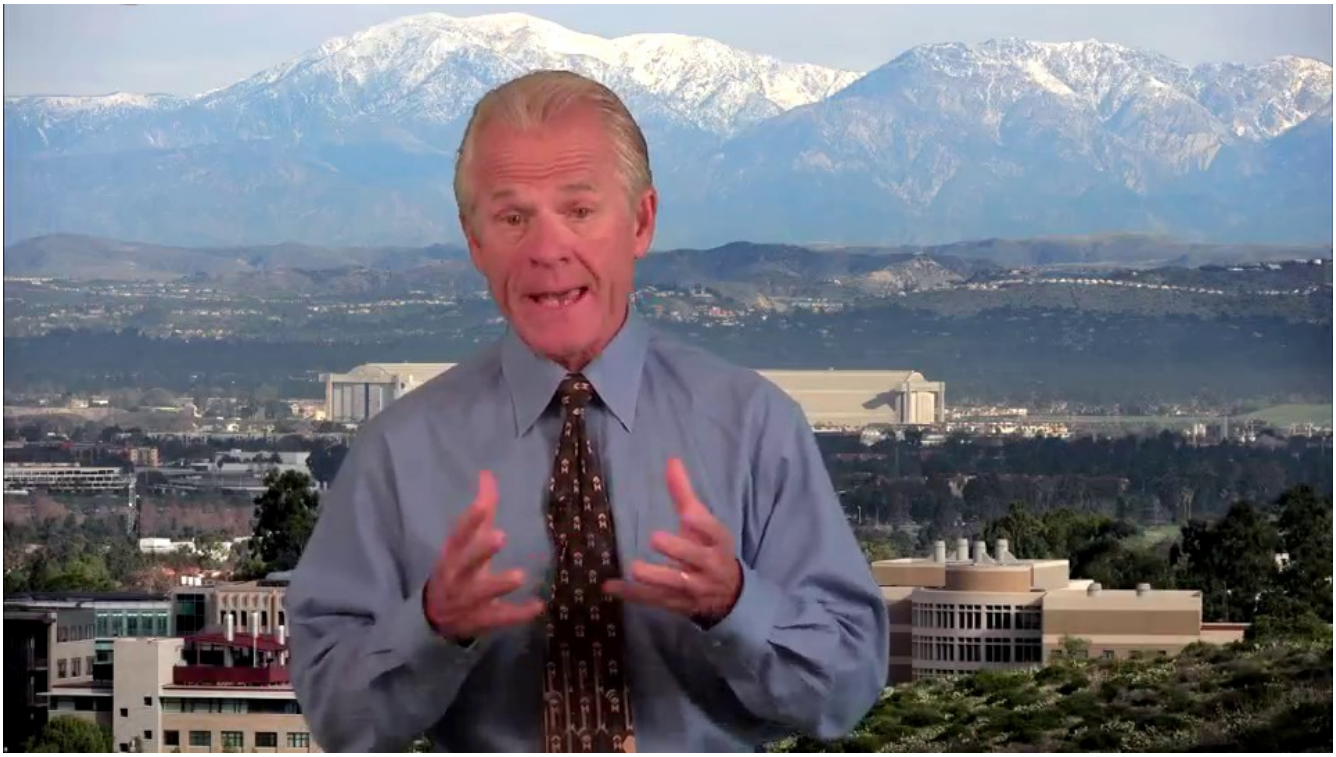
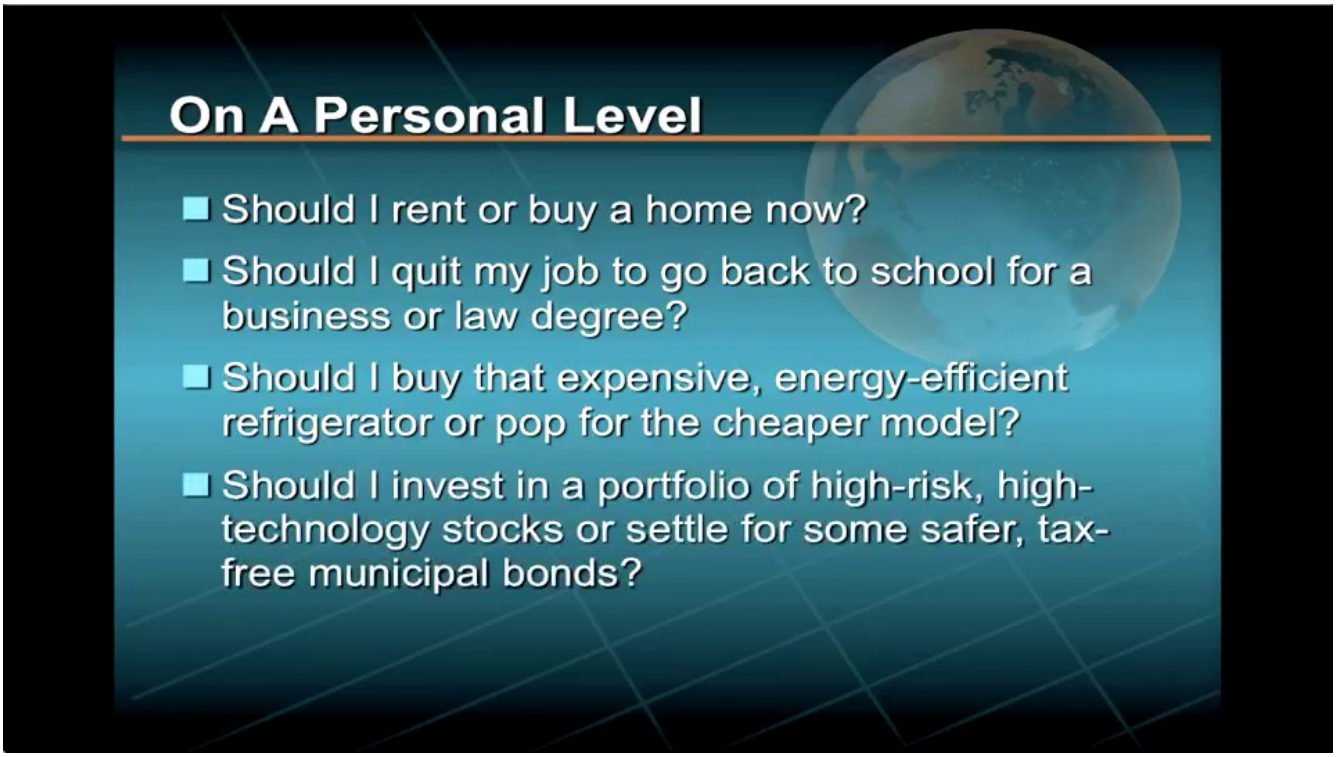


Factors of Production: Capital

- This is one of the most important and useful areas of microeconomics that we can master.
- By understanding the nature of capital markets, we can answer questions that have enormous application to both our personal and professional lives.

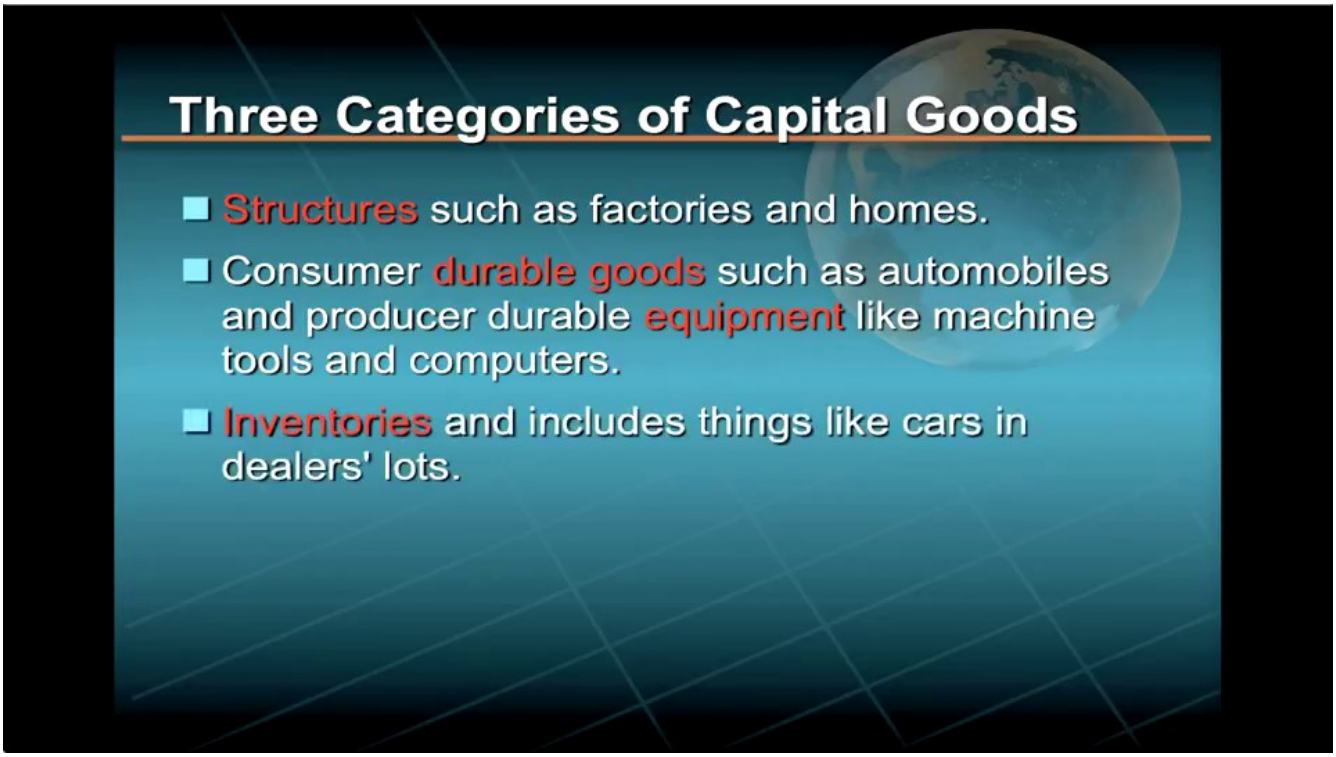

On A Personal Level
Should I rent or buy a home now?
Should I quit my job to go back to school for a business or law degree?
Should I buy that expensive, energy-efficient refrigerator or pop for the cheaper model?
Should I invest in a portfolio of high-risk, high-technology stocks or settle for some safer, tax-free municipal bonds?

At A Professional Level

- Capital analysis can help business executives answer questions like:
  - Should I invest in new plant and equipment?
  - Should I expand my firm?
  - How much inventory should I maintain?

Real and Financial Capital

- Provides a framework for evaluating new capital investments over time.
- Let's start by distinguishing between real capital – the bricks and mortar and machines.
- Financial capital – the stocks and bonds and other loanable funds -- used to finance real capital.


Three Categories of Capital Goods
Structures such as factories and homes.
Consumer durable goods such as automobiles and producer durable equipment like machine tools and computers.
Inventories and includes things like cars in dealers' lots.


Three Categories of Capital Goods
All three categories of capital are bought and sold in capital goods markets.
Example: IBM sells computers to businesses
The computers are used to improve the efficiency of payroll systems or production management.

Allocating Capital

- Should a country devote its investment resources to heavy manufacturing like steel or to information technologies like the Internet?

What Should They Do?

- Should Intel build a $4 billion factory to produce the next generation of microprocessors?
- Should Farmer Jones, hoping to improve his record-keeping, buy a customized accounting program or make do with one of the popular varieties available for around $100?
- This is where interest rates and the rate of return to capital comes in.

Capital Investment

- When we invest in capital, we are laying out money today to obtain a return in the future.
- In deciding upon the best investment to make, we need to know how much the money we will use is going to cost us -- that's the interest rate.
- We also need to know how much the investment will earn – that's the rate of return.

The Interest Rate

- The price paid for the use of loanable funds, where the term loanable funds is used to describe funds that are available for borrowing.

Key Definition

The interest rate is the amount of money that must be paid for the use of one dollar of loanable funds for a year.

Typically A Percent

- Because it is paid in kind, interest is typically stated as a percentage of the amount of money borrowed rather than as an absolute amount.
- It is less clumsy to say that interest is 12 percent annually then that interest is "$120 per year per $1000."

An Easy Comparison

- Stating interest as a percentage makes it easy to compare interest paid on loans of different absolute amounts.
- Example: By expressing interest as a percentage, we can immediately compare an interest payment of, say, $432 per year per $2880 and one of $1800 per year per $12,000.
- Both interest payments are 15% -- which is not obvious from the absolute figures.

The Rate of Return on Capital

- Is the additional revenue that a firm can earn from its employment of new capital.
- This additional revenue is usually measured as a percentage rate per unit of time -- the annual net return per dollar of invested capital -- which is why it is called the rate of return on capital.

Example: Calculate the Rate of Return

- Say the company buys a used Ford for $10,000 and then rents it out for $2,500 per year.
- After calculating all the expenses associated with owning the car such as maintenance, insurance, and appreciation, and ignoring any changing car prices, Ugly Duckling earns a net rental of $1200 each year.
- So what is the rate of return?

Pause the presentation now if you want to do this exercise.

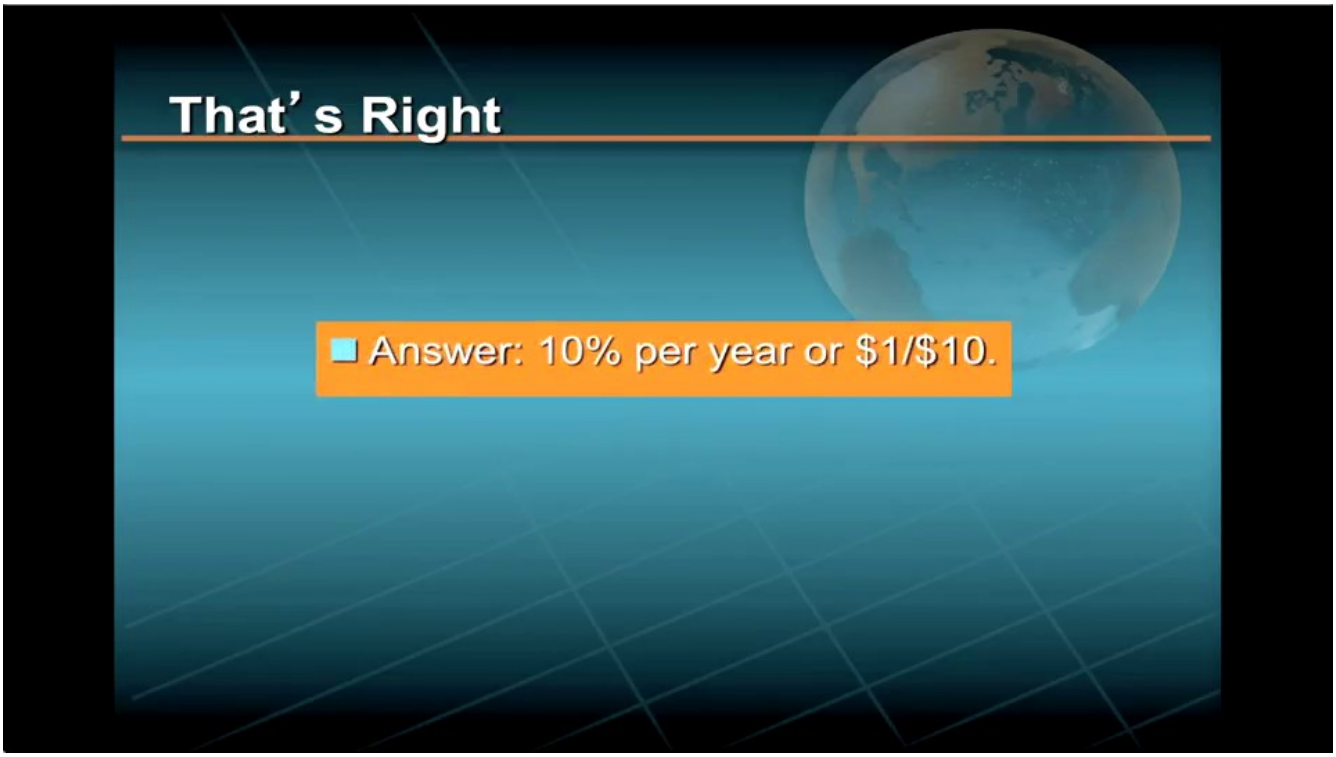
Answer: 12%!

- We calculate that simply by dividing the net rental of $1200 per year by the initial investment outlay for the Ford of $10,000.
- And note that the rate of return is a pure number per unit of time.
- That is, it has the following form: dollars per period divided by dollars.

Another Example

- Suppose I buy a bottle of grape juice for $10 and then sell it a year later as wine for $11.
- What is my rate of return on this investment assuming that I have no other expenses?

Pause the presentation now if you want to do this exercise.


That's Right
Answer: 10% per year or $1/$10.