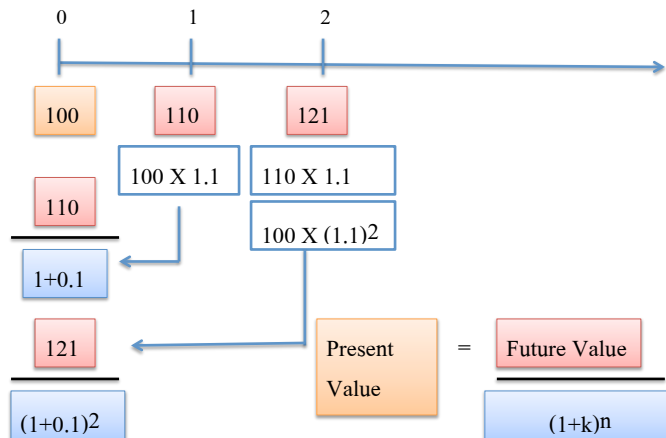


Chapter 3. National Income and Equilibrium Determination : Investment and Interest Rate

1. Investment and Interest Rate

- Autonomous investment is a part of investment that does not depend on National Income (Y).
- Autonomous investment is determined by many factors such as real interest rate, business taxes, technological advancement.
- Investment : pay today and receive returns in the future.
- “Time Value of Money”
- 1 baht at different time has different value
- \$1 received today is worth more than \$1 received tomorrow : Why?
- “Opportunity Cost”
- We cannot compare \$ (amount) received at different time directly
- We need to compare the value at “the same time”



- Example 1. You invest by buying machine at Year 0 = 100 Baht. Suppose your machine last only two years. At year 1, you have a return = 0 Bahts. At year 2, you have a return 121 Bahts. Please find IRR or MEC.

- We calculate the rate of returns on investment this way because it takes into account the concept of present value.
- Investment Decision :
 1. $MEC > r$
 2. $MEC = r$
 3. $MEC < r$
- Net Present Value (NPV) = Present Value of Returns from Investment - Cost
- $NPV = \frac{R_1}{1+r} + \frac{R_2}{(1+r)^2} + \dots + \frac{R_n}{(1+r)^n} - \text{Cost}$
- Investment Decision :
 1. $NPV > 0$
 2. $NPV = 0$
 3. $NPV < 0$
- Marginal Efficiency of Capital (MEC) or Internal Rate of Return (IRR) is the discount rate that makes $NPV = 0$.
- MEC, IRR is the rate of returns on Investment.
- MEC : The rate of return on one additional unit of physical capital.
- Marginal efficiency of investment (MEI) : The function relates the quantity of desired investment to the rate of interest.