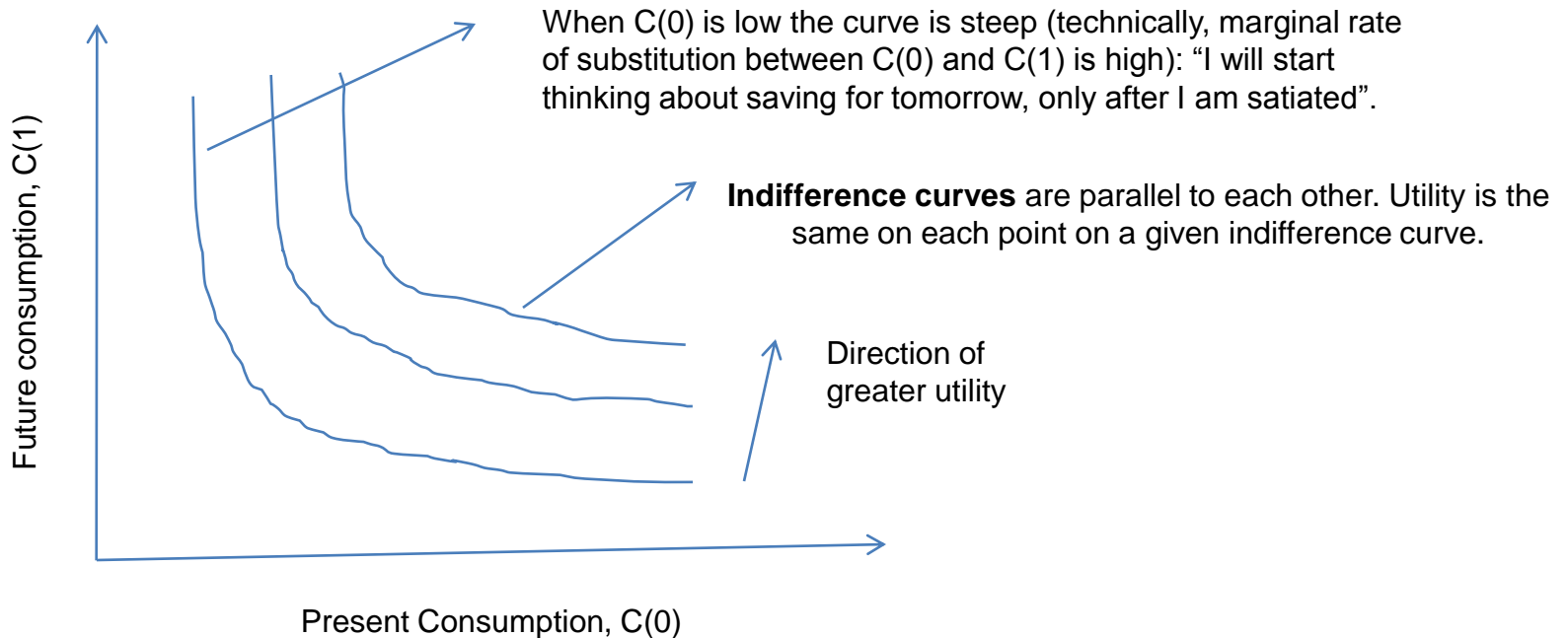


Foundations for interest rates

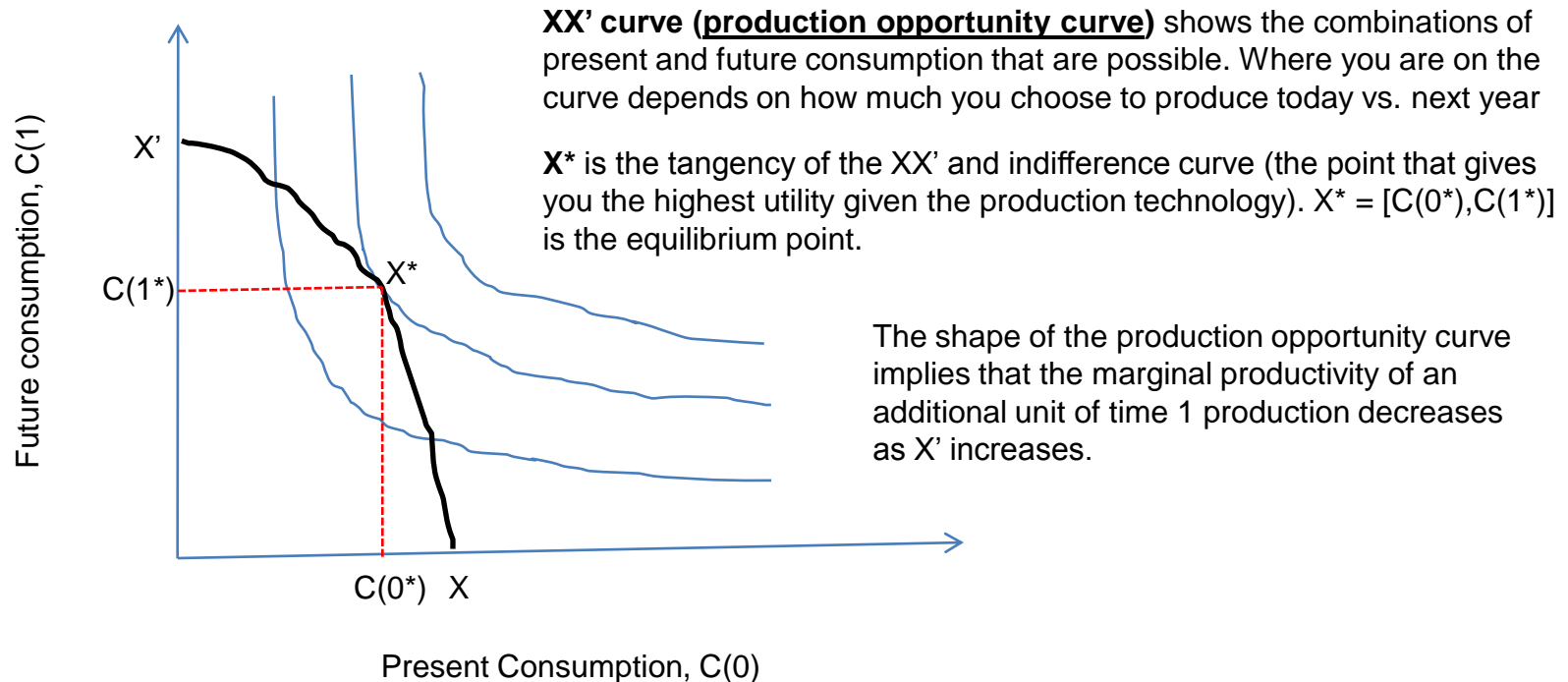
The individual choice with no trade

- Consider an individual with a two-point time horizon (now and one year from now). Suppose, the individual is concerned only with a single commodity (e.g., corn).
- What is the individual's preference for present consumption vis-à-vis future consumption?



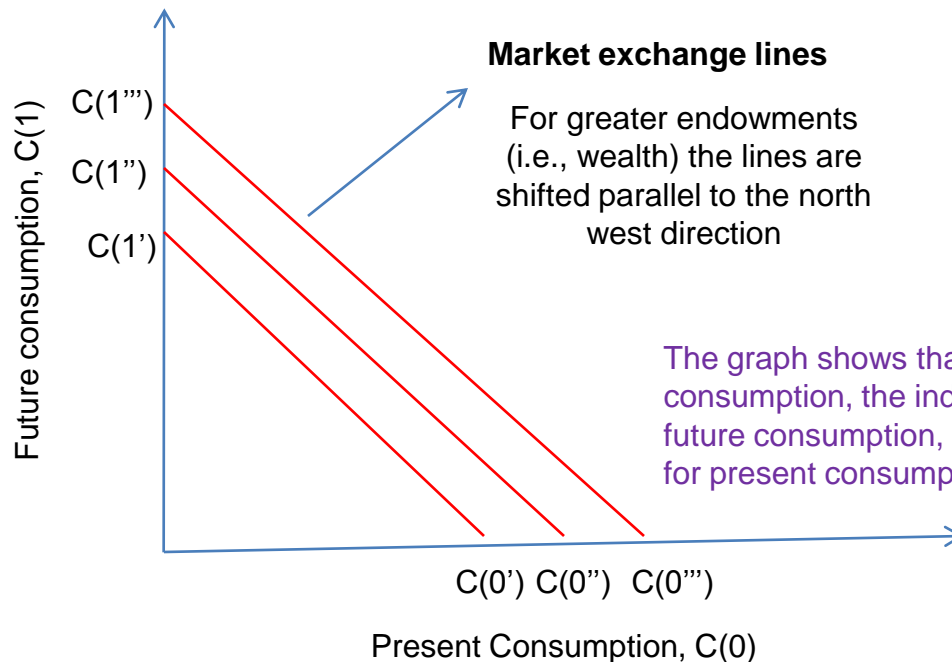
The individual choice (cont'd)

- Suppose corn harvest cannot be saved until next year because it perishes. It cannot be traded for something else (e.g., money) either.
- What you have to decide now is what fraction of the corn seeds (i.e., your endowment) you want to utilize for production now vs. next year.



Market exchange lines

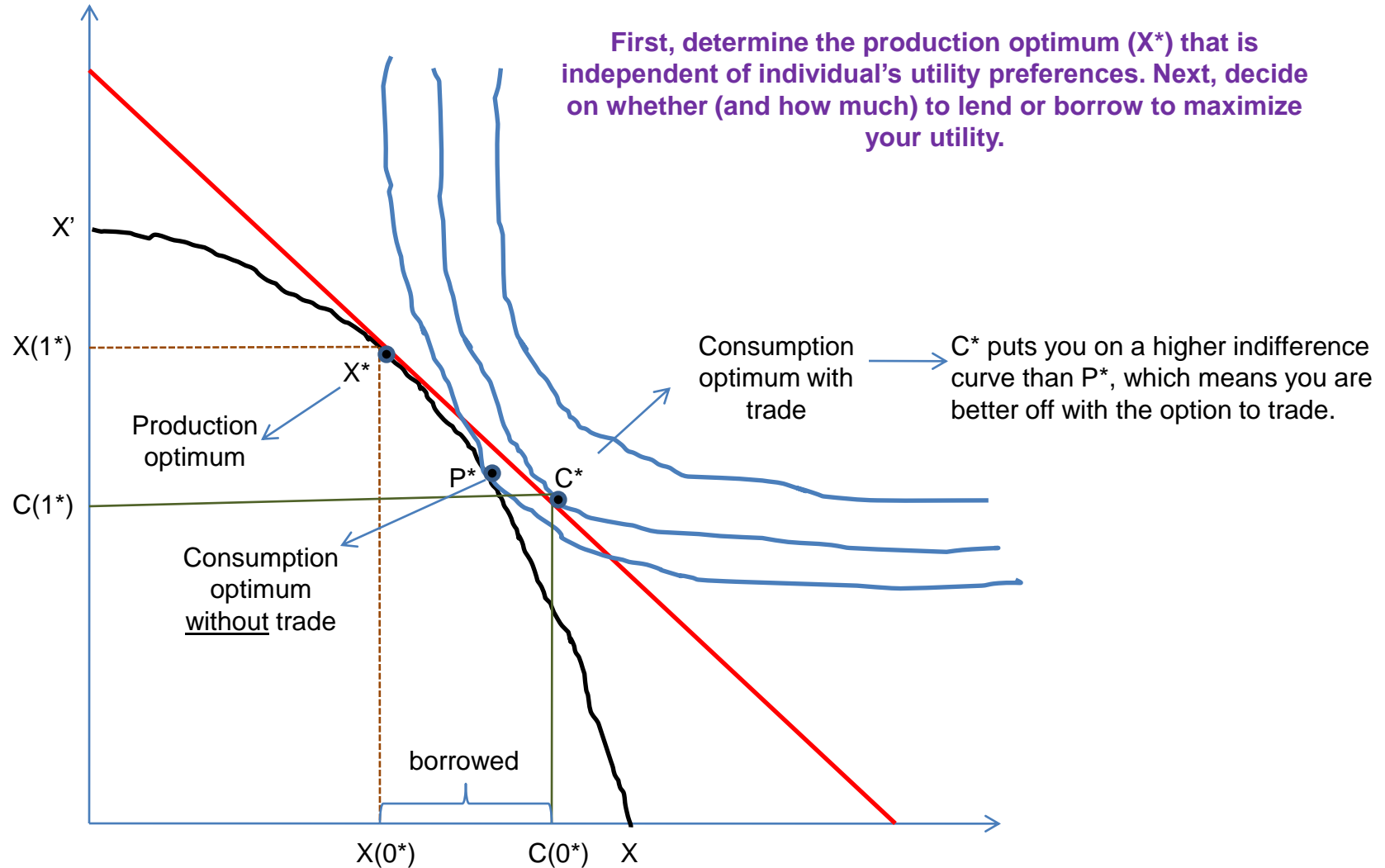
- What happens if there is a possibility for exchange? By exchange we mean opportunities for the exchange of present and future claims to consumption with other economic units.
- In general, this possibility allows the individual economic unit to obtain a higher level of present and future utility.



$$\text{Slope} = \frac{C(1')}{C(0')} = 1 + r$$

Rate of interest for the sacrifice of current consumption for future consumption: Lend 1 unit now to consume $1+r$ next year.

Optimum with trade



Market equilibrium

- Up until now we assumed a given value for the slope of the market exchange line. However, the market comprises many individuals and the equilibrium rate of interest is determined by their interaction.
- Suppose there are only two individuals: one lender and one borrower. However, the amount that the lender wants to lend is less than the amount that borrower wants to borrow (there is a disequilibrium).
- The only way to convince the lender to lend more is to pay a higher interest. However, if the rates are high the borrower wants to borrow less (which pushes down r). Consequently, both agents produce more and consume less at 0 , and the borrower has a lower utility with the higher r , and prices and quantities dynamically converge to an equilibrium. (HOMEWORK: Show this graphically)

Loanable funds theory of r

