ECON 4730/5730

Basic Economic Concepts

College of Business
Department of Economics

Basic Economic Concepts

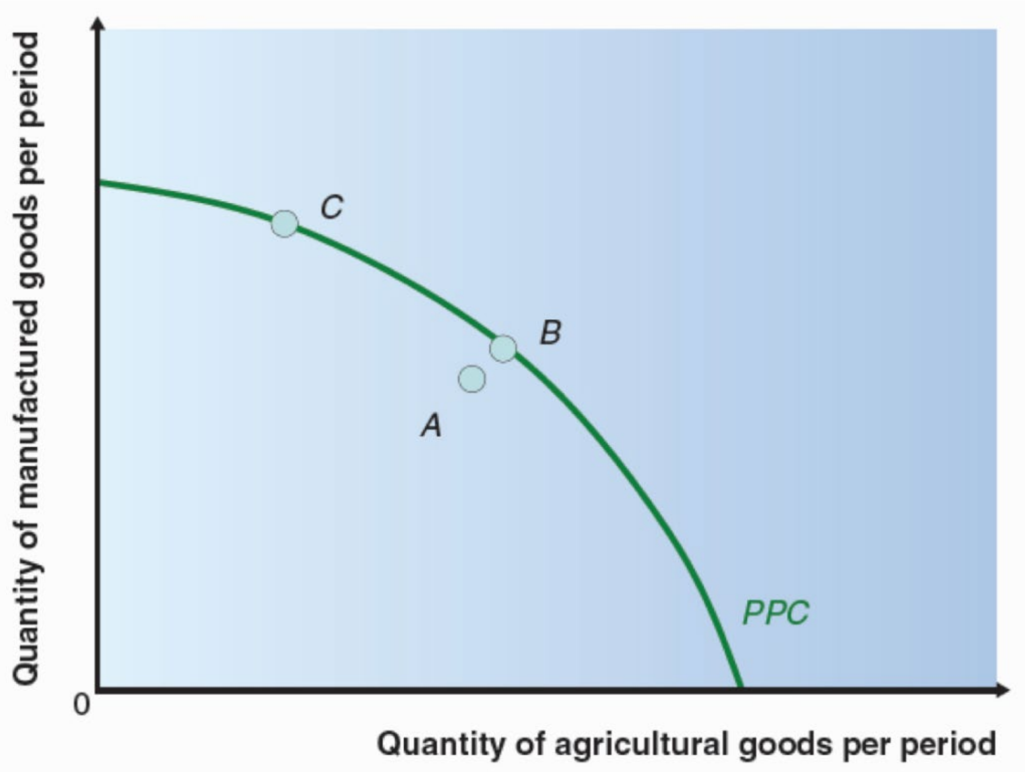
- This course covers economic development and the effectiveness of government programs.

- The focus is on Wyoming, but the methods apply to other regional or local economies.

College of Business
Department
of Economics

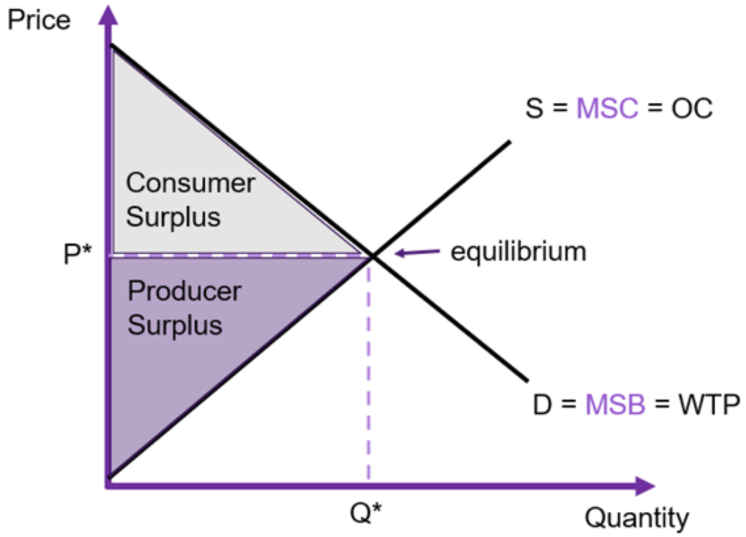
Basic Economic Concepts

- Let's start with the definition of economic efficiency.
- Production is efficient if you cannot increase the welfare of one group without decreasing the welfare of another group (i.e., Pareto efficiency).
- Economic efficiency does not imply that resources are allocated in a socially optimally manner.
- To determine optimality, we need a social welfare function (e.g., a function of consumer and producer surplus).



Basic Economic Concepts

- A common way to evaluate investments, public and private, is Cost-Benefit Analysis (CBA).
  - Costs: Private (e.g., Fixed/CAPEX, Variable/OPEX), External, Opportunity Costs, Intangible
  - Benefits: Willingness to Pay, Consumer Surplus, Producer Surplus, Value Added, Jobs



Basic Economic Concepts

- A variation of CBA is Return on Investment (ROI) analysis.
- ROI analysis reframes net benefits (benefits less costs) in percentage terms.
- Example:
  - Let's say a company invests \$1 million in a project.
  - The present-value return (benefit) is \$1.5 million.
  - ROI = $\frac{(\$1.5\ million - \$1\ million)}{\$1\ million} \times 100 = 50\%$
  - The benefit-cost ratio is 1.5, which can also be interpreted as the multiplier effect.

$$\text{Return on Investment (ROI)} = \frac{\text{Net Return}}{\text{Cost of Investment}}$$

Basic Economic Concepts

- Costs and benefits often happen in the future.
- Time value of money suggests that future costs and benefits have a lower value in the future.
- Consider the discount rate, ρ.
- Consider a stream of current and future benefits $(B_0, B_1, B_2, B_3, \ldots)$.
- The net present value of the benefits is … $NPV = \sum_{t=0}^{\infty} (\frac{1}{1+\rho})^t B_t$.
- Often the true discount rate is unknown and replaced with a market interest rate, r.

Basic Economic Concepts

- The first welfare theorem of economics states … if a perfectly competitive market is in equilibrium and there's complete information, then resources will be allocated efficiently.
- Sometimes known as the proof of Adam Smith's "*Invisible Hand*" principle.
- However, markets fail for several reasons:
  - Externalities: negative and positive
  - Market power: (natural) monopoly, oligopoly, monopolistic competition
  - Public goods: non-rivalrous & non-excludable
  - Incomplete information
- Market failures imply there may be a role for government intervention.
- CBA or ROI analysis is important to evaluate government programs/intervention.