

Chapter 10 Lecture - A Locationally Fixed, Multipurpose Resource: Land

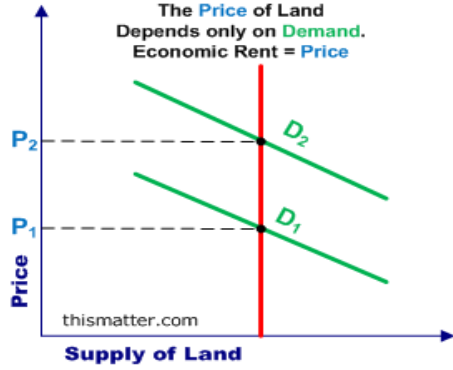
Econ 2675 – Environmental Economics

Chapter 10 Lecture - A Locationally Fixed, Multipurpose Resource: Land



Economic Rent

The **Price** of Land
Depends only on **Demand**.
Economic Rent = **Price**

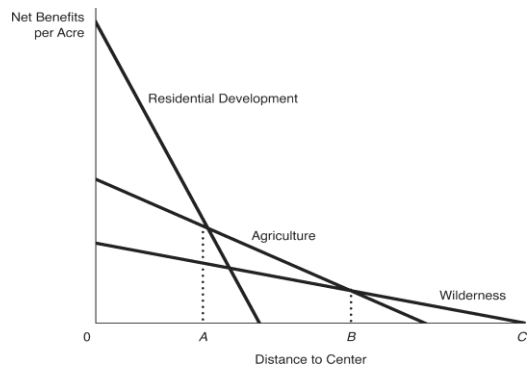


The Economics of Land Allocation

Land Use

- In general, markets tend to allocate land to its highest valued use.
- The diagram on the next slide exhibits the relationship between net benefits and location to market places for three types of land uses.
 - A bid rent function expresses the maximum net benefit per acre that could be achieved by that land use as a function of the distance from the center.

The Allocation of Land



Chapter 10 Lecture - A Locationally Fixed, Multipurpose Resource: Land

The Economics of Land Allocation

Land Use conversion

- Conversion occurs whenever the underlying bid rent function shifts.
- The U.S. and other countries has experienced rapid increase in urban land area over time.
- Main sources of land conversion include:
 - Increasing urbanization and rapid industrialization
 - Rising productivity of the agricultural land

5

The Economics of Land Allocation

• Agricultural Land: A Closer Look

- Irrigated acreage has been rising.
- The value of agricultural land should increase with the increased prices of food.
 - Corn and ethanol

- Irrigated land faces challenges in growth.
 - Limited replenish water supply
 - Contamination of water

• The Rise of Organic Food

- The markets have not only been affected by shifts in agricultural land use, they have also been affected by the type of agricultural being practiced.
- Organic cropland is the fastest growing sector.

6

Sources of Inefficient Use and Conversion

• Sprawl and Leapfrogging

- Sprawl occurs when land use in a particular area is inefficiently dispersed.
- Leapfrogging refers to a situation in which new development continues not on the very edge of the current development, but further out.
- The Public Infrastructure Problem: Inefficiently low internalized can create inefficient favors over more distant locations, such as low marginal cost of driving and free parking.

7

Sources of Inefficient Use and Conversion

• Incompatible Land Uses

- One traditional remedy is zoning
 - Zoning involves land use restrictions enacted via an ordinance by local government to create districts (zones) that establish permitted and special land uses.
 - One limitation of zoning is that it promotes urban sprawl.

• Undervaluing Environmental Amenities

- Net benefits from positive externalities may be undervalued by land owners. **How does this affect the MB curves for the land?**
- One remedy involves direct protection of the assets by regulation or statute

8

Chapter 10 Lecture - A Locationally Fixed, Multipurpose Resource: Land

Sources of Inefficient Use and Conversion

The Influence of Taxes on Land-Use Conversion

- Taxes can create incentives to convert land from one use to another, even when such conversions would not be efficient.
- The Property Tax Problem
 - A property tax has two components: the tax rate and the tax base. The tax base is determined by either the market value or an assessor.
 - When this tax does not reflect the current activity's use funded by the revenue from that tax, a bias can be created against land-intensive activities.
 - Considering the estate tax, tax-driven liquidity might dominate land conversion, instead of efficiency consideration

9

Sources of Inefficient Use and Conversion

Special Problems in Developing Countries

- Insecure Property Rights
 - Lack of clear property rights can introduce both efficiency and equity problems.
- The Poverty Problem
 - Poverty may constrain choices of sustainable use of land.
- Government Failure
 - It occurs when the public policies have the effect of distorting land use allocation.

10

Innovative Market-Based Policy Remedies

- Conservation Easements
 - It is a legal agreement between a landowner and private or public agency that limits uses of the land in order to protect its conservation value.
 - Conservation easements can be either sold or donated.
 - It allows the bundle of rights to be treated as separable transferable units.
- Land Trusts
 - A conservation land trust is a nonprofit organization that actively works to conserve land using a variety of means.
 - A community land trust focuses on using land for housing and community service, rather than land conservation.

11

Environmental Problems of Modern Cities



12