Econ 330: Urban Economics

Lecture 7

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April 19th, 2021

Lecture 6: Neighborhood Choice, P1

Checklist

1) **Introduction to Amenities**

2) **Sorting for Public Goods**

3) **Neighborhood Sorting Model**:

Schedule

This week:

- Nothing due. Read ToTC chapter 5 & 6

Upcoming:

- HW2: April 30th (Friday, not Sat)
- Midterm: May 3rd -- more details next week

So Far

We have a fairly simple model™ of residential choice (rental prices). What factor(s) in the model influences housing demand?

- Bid-Rent curve for housing only includes commuting costs.

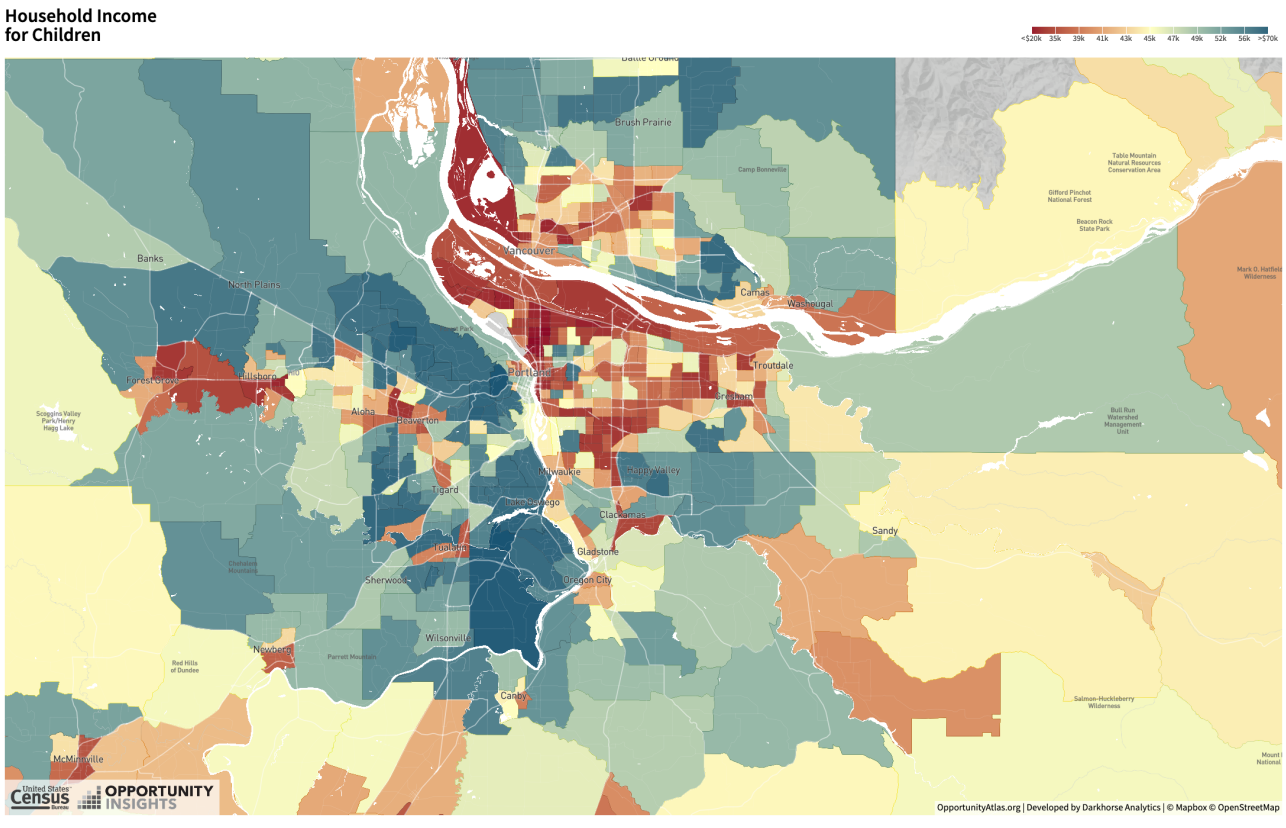
Question: Is this all you consider when deciding where to live?

- What factors influence neighborhood decision choices? **Discuss**

A few examples

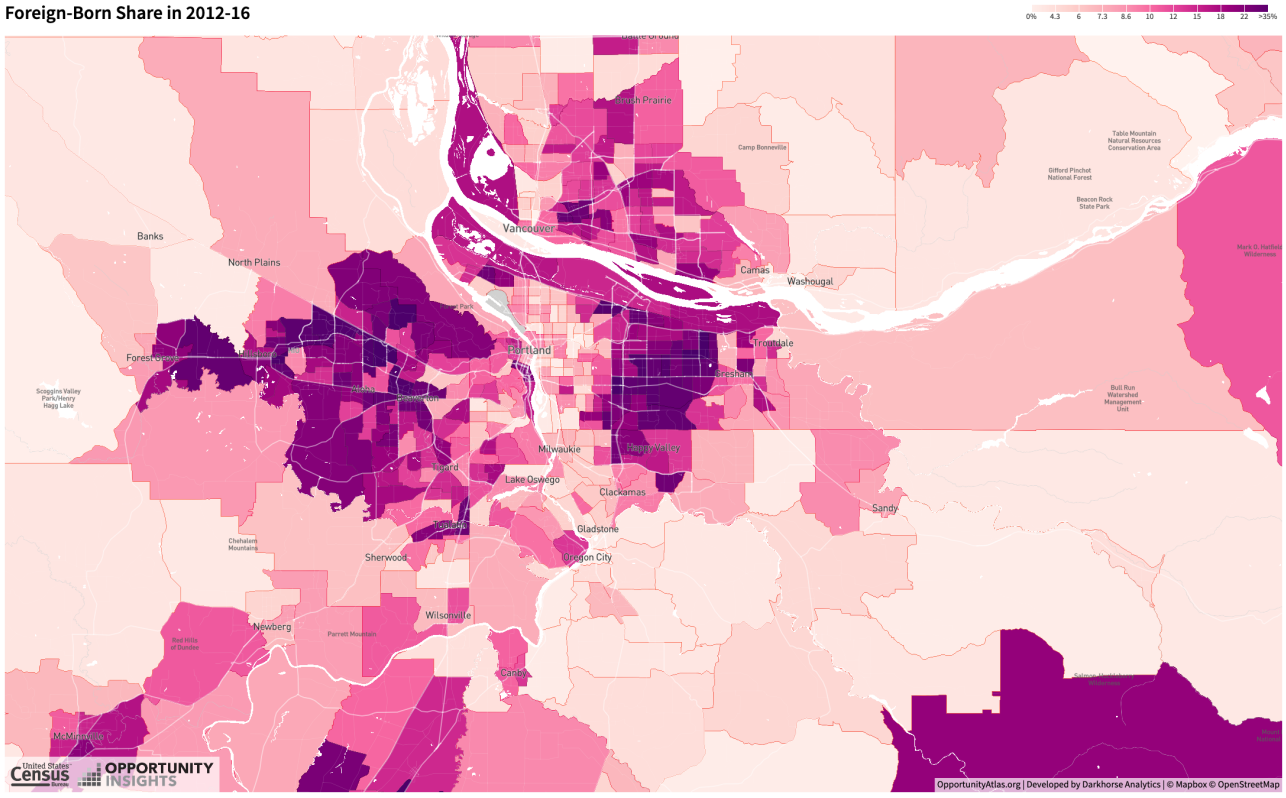
- Schools
- Demographics
- Crime Rate
- Air Quality

Map 1



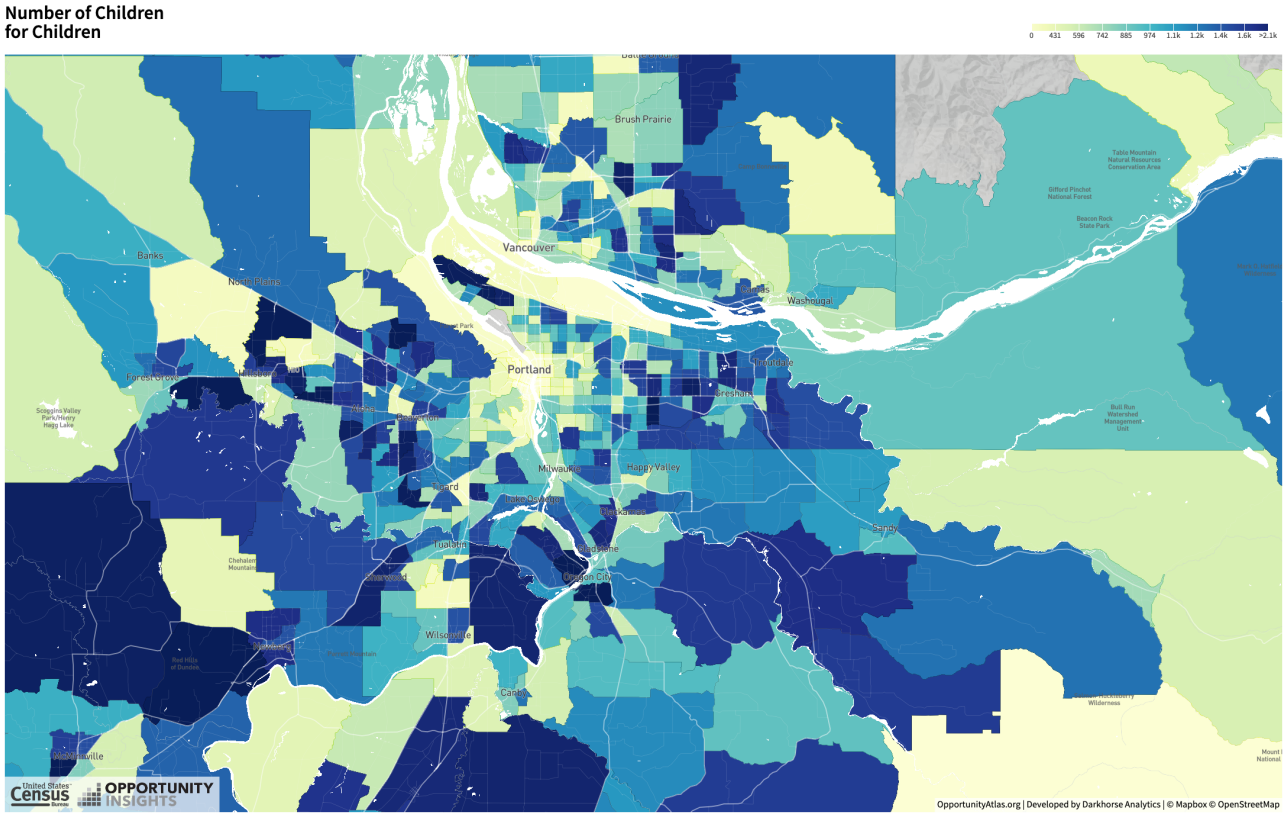
Source: Oppurtunity Atlas

Map 2



Source: Oppurtunity Atlas

Map 3



Source: Oppurtunity Atlas

Amenities

Defn An *amenity* is a **location-specific** consumption good

- These can vary across cities, within cities
- Some shared by individuals, can be different for low and high income

More examples

- Beaches
- Parks
- Restaurants

Amenities

Let's refine our language a bit. Two definitions:

1) **Exogenous Amenities** are **location-specific** consumption good that exist **are not** influenced by where people decide to live

- Exogenous means "deteremined outside of the model." Think about exogenous variables as given.

2) **Endogenous Amenities** are **location-specific** consumption goods that **are** influenced by location decisions of individuals

- Endogenous means "determined within the model." The model here is that of individual location choices

Examples

Exogenous Amenities

- Weather
- Proximity to Beaches and *federally* protected natural areas (why not local?)
- Proximity to Mountains

Endogenous Amenities

- School Quality and Quantity
- Crime
- Air Quality (probably both)
- Parks

Checklist

1) **Introduction to Amenities** ✅

- Exogenous Amenities
- Endogenous Amenities

2) **Sorting for Public Goods**

3) **Neighborhood Sorting Intro**:

Amenities as Public Goods

Some amenities, like city parks, are *local public goods*. Does everyone care about these parks equally?

Probably not

Example:

- Consider a 3 citizen city each with differing demands (Max WTP) for parks
    - Saurabh has low demand, Sam has medium demand, Jenny has high demand
- Park Costs **$60 per acre** to build
    - One way to fund: **share the burden** equally via a *per capita tax* (each person pays 20 bucks p acre)

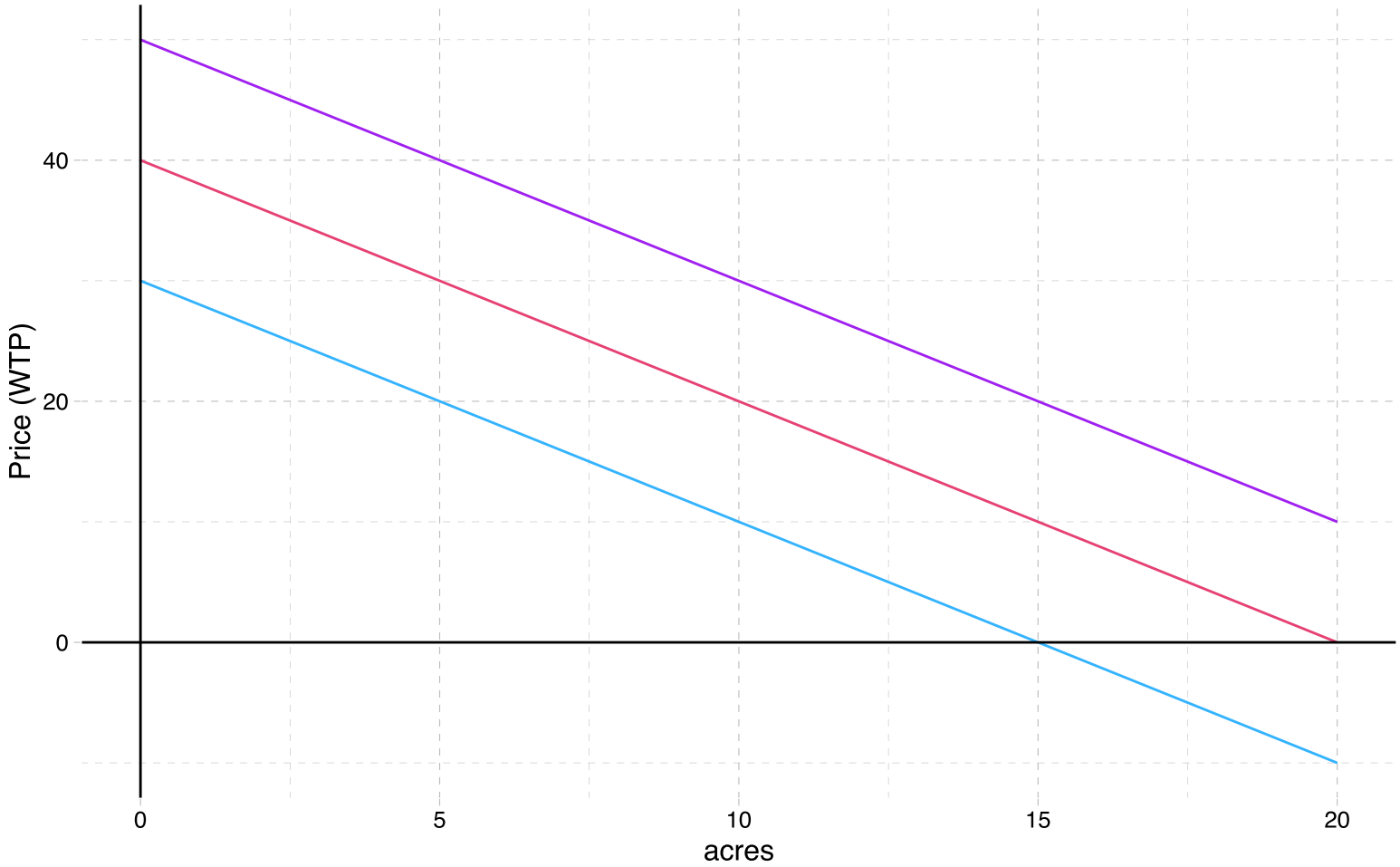
Some Math

Let's be a bit more specific. Suppose the demand curves for each person are given by:

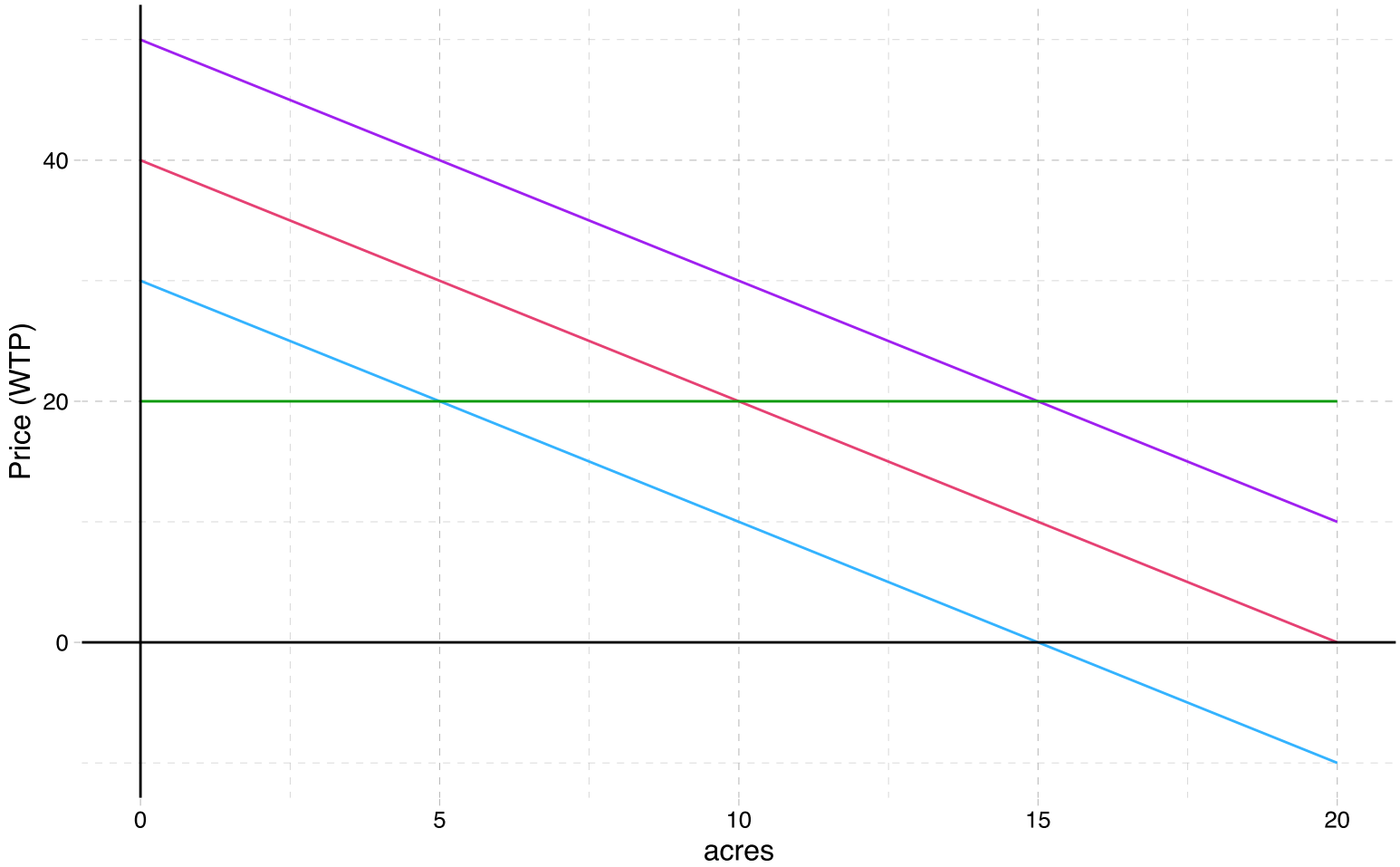
- **Saurabh** : $P = 50 - 2 * \text{acres}$
- **Sam** : $P = 40 - 2 * \text{acres}$
- **Jenny** : $P = 30 - 2 * \text{acres}$

Q: Derive the number of acres of parks for each individual with a 20 dollar per person per acre tax

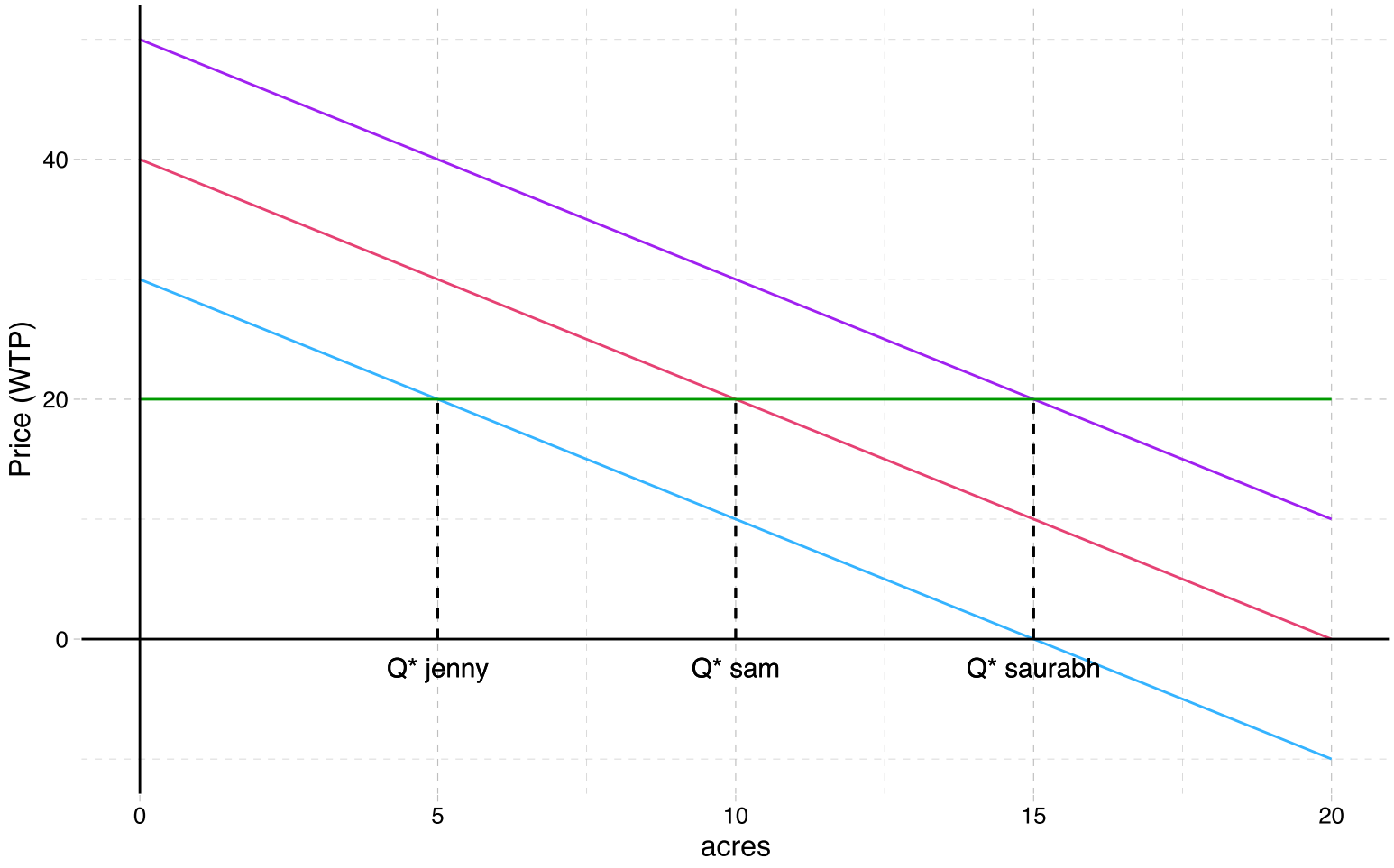
Amenities as Public Goods



Amenities as Public Goods



Amenities as Public Goods



Flat Tax

Tough decisions to make when deciding how much to build

- Any thoughts on how to allocate the resource?
  - How much do we charge people?
  - How much do we build?

Discuss

Majority Rule and Median Voter

One way to make the collective choice of how many acres of parks to build: **majority rule**

- Have a series of **binary elections** (multiple votes, each vote there is only one option)
- This election will always result in the winning option being the median voter (Sam)

What is the issue with this theory/model of park dev?

- We see variation in size of parks built **IRL**
- How do we rectify this?

A twist

Now suppose there is a city with **3 identical districts**, each with 3 citizens (Saurabh, Sam, Jenny)'s

- Each district votes on its own park
- Each citizen knows the preferences for parks of other citizens

Key Assumption: **Citizens pick which district to live**. What is the implication?

- Similar types sort into the same neighborhood
- Ie, Saurabh, and other low demand types recognize that if they move into the same district they have the highest chance of getting the level of parks they desire

A twist

So, we have 3 neighborhoods with *homogenous types*. What does this do?

Accomodate Diversity in Demand

- In this perfect world, everybody gets what they want. Is reality this simple?

Nope

Reality

Real Cities

- Usually, tax property - not a flax per capita tax
- Variation in property value also causes municipal formation (ie, **people sort on income**, *not just preference for public goods*)

Real People

- Care about a diverse set of things (not just parks). These usually don't overlap perfectly
- Also: people do not know **full set of preferences** of others
- **Reality**: Not everyone gets what they want! ☹

Checklist

1) **Introduction to Amenities** ✅

- Exogenous Amenities
- Endogenous Amenities

2) **Sorting for Public Goods**

- Demand for public goods
- Simple model with public goods and taxes

3) **Neighborhood Choice Intro**:

Neighborhood Sorting

I will motivate this with a question:

- Do you *fully* internalize the costs and benefits of where you decide to live?
- Put differently: Is your choice of a neighborhood free from externalities?

Short Answer: Nope. These externalities are different for adults and children

Neighborhood Sorting

Externalities for kids:

- Good/bad role models as adults
- Classmates in school: focused vs disruptive

Externalities for adults:

- Postive: job information, property valuation
- Negative: property values

In general: positive externalities increase with income and education level. Why?

Neighborhood Sorting

These externalities give rise to the following questions:

1. Who gets desirable neighbors?
2. Will there be segregated or integrated neighborhoods?
3. Will there be sorting or mixing with respect to income, age, race, or some combination of those factors?
    - Is this sorting *de jure*, *de facto*, or both? More on this next time
4. What are the implications for the price of land in various neighborhoods?

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