

## The Central Place Model

The central place model is designed to answer two questions

1. How many cities will develop in a region?
2. Why are some cities larger than others?

### Assumptions of the Central Place Model

1. The region has 3 products - pizza, CDs (music stores), and jewelry (jewelry stores)
2. Population per square mile is uniform throughout the region; total regional population is 80,000
3. Perfect substitutes - for each product, the good provided by one store is a perfect substitute for the good of the other stores. So there is no comparison shopping
4. Single-purpose shopping trips - each consumer buys one good on each shopping trip. So no one-stop shopping for compliment goods
5. Ubiquitous inputs - all inputs are available at all locations at the same price
6. All consumers have the same per capita demand for a given product
7. The goods have different per capita demands and scale economies
  - (a) Jewelry: scale economies are large relative to per capita demand. Each jewelry store requires a population of 80,000 so a single store serves the entire region
  - (b) CDs: scale economies are moderate relative to per capita demand. Each music store requires a population of 20,000, so there are 4 stores in the region
  - (c) Pizza: scale economies are small relative to per capita demand. Each pizza parlor requires a population of 5,000 so there are 16 pizza parlors in the region

### Hierarchy of Cities

<u>Type of City</u>	<u>Number of Cities</u>	<u>Population-Each City</u>	<u>Total Population</u>
L	1	20,000	20,000
M	2	10,000	20,000
S	<u>8</u>	5,000	<u>40,000</u>
	11		80,000