

Quick Review

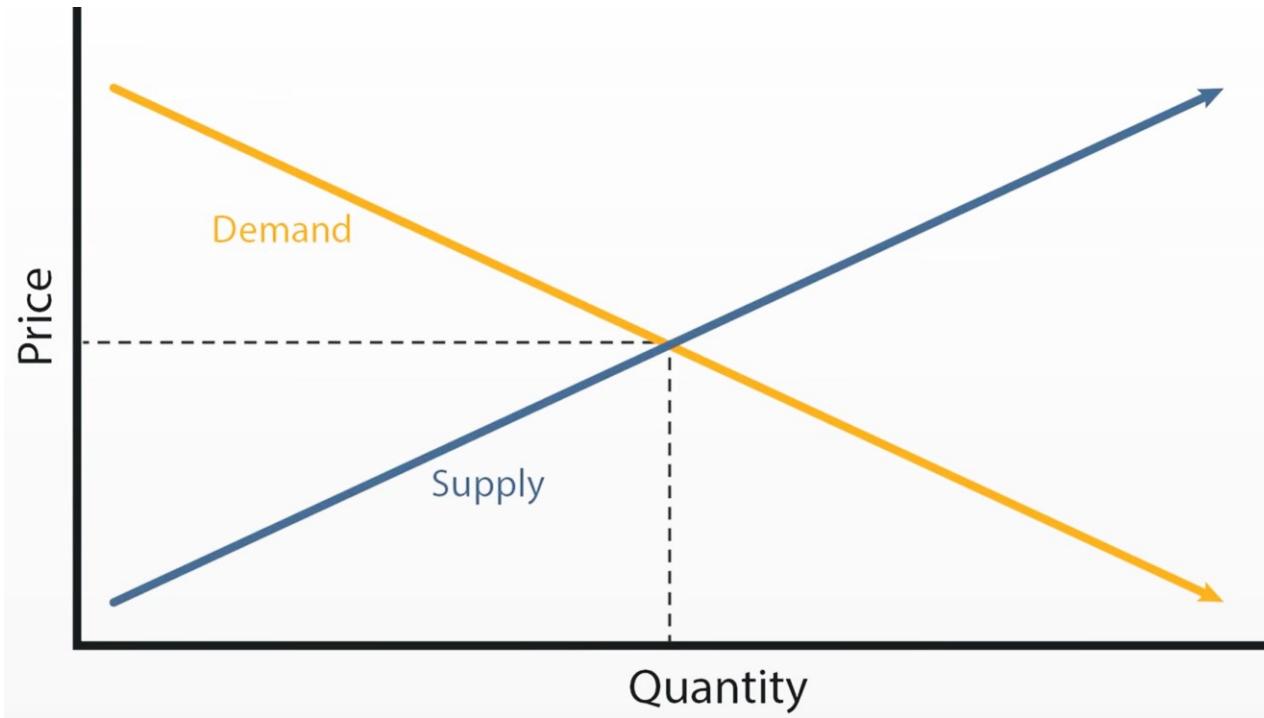
- Agglomeration is the external economies of scale that come when firms and people locate near one another together in cities and industrial clusters.
- 3 types of agglomeration economies:
 1. Cost advantages
 2. Labor market advantages
 3. Knowledge spillovers
- There are also agglomeration dis-economies caused by longer commuting time and insufficient land spaces

The Demand and Supply for Housing and Urban Space

RE420: URBAN AND REGIONAL ECONOMICS

Demand for Housing

Econ 101: Demand & Supply Curves

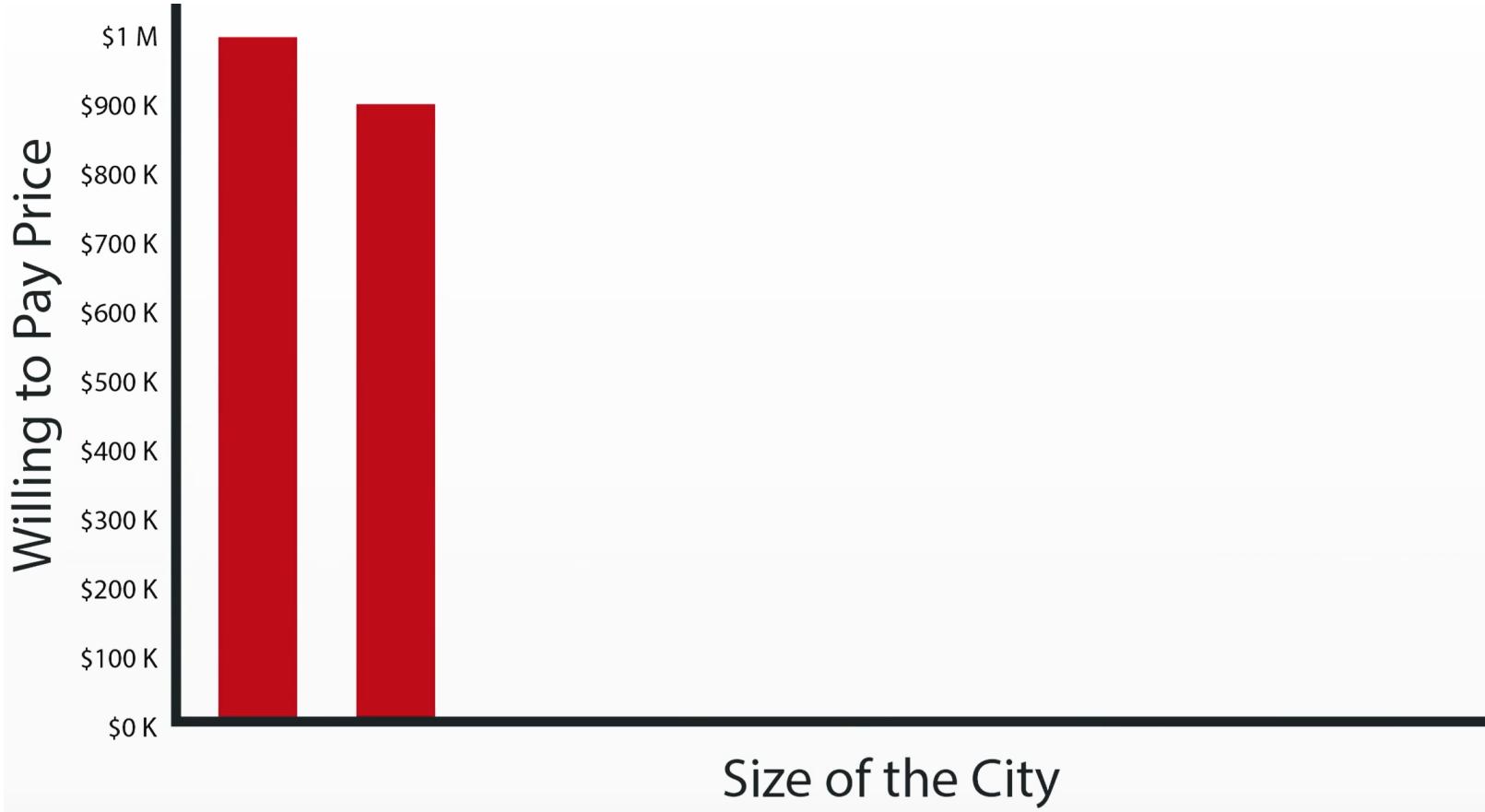


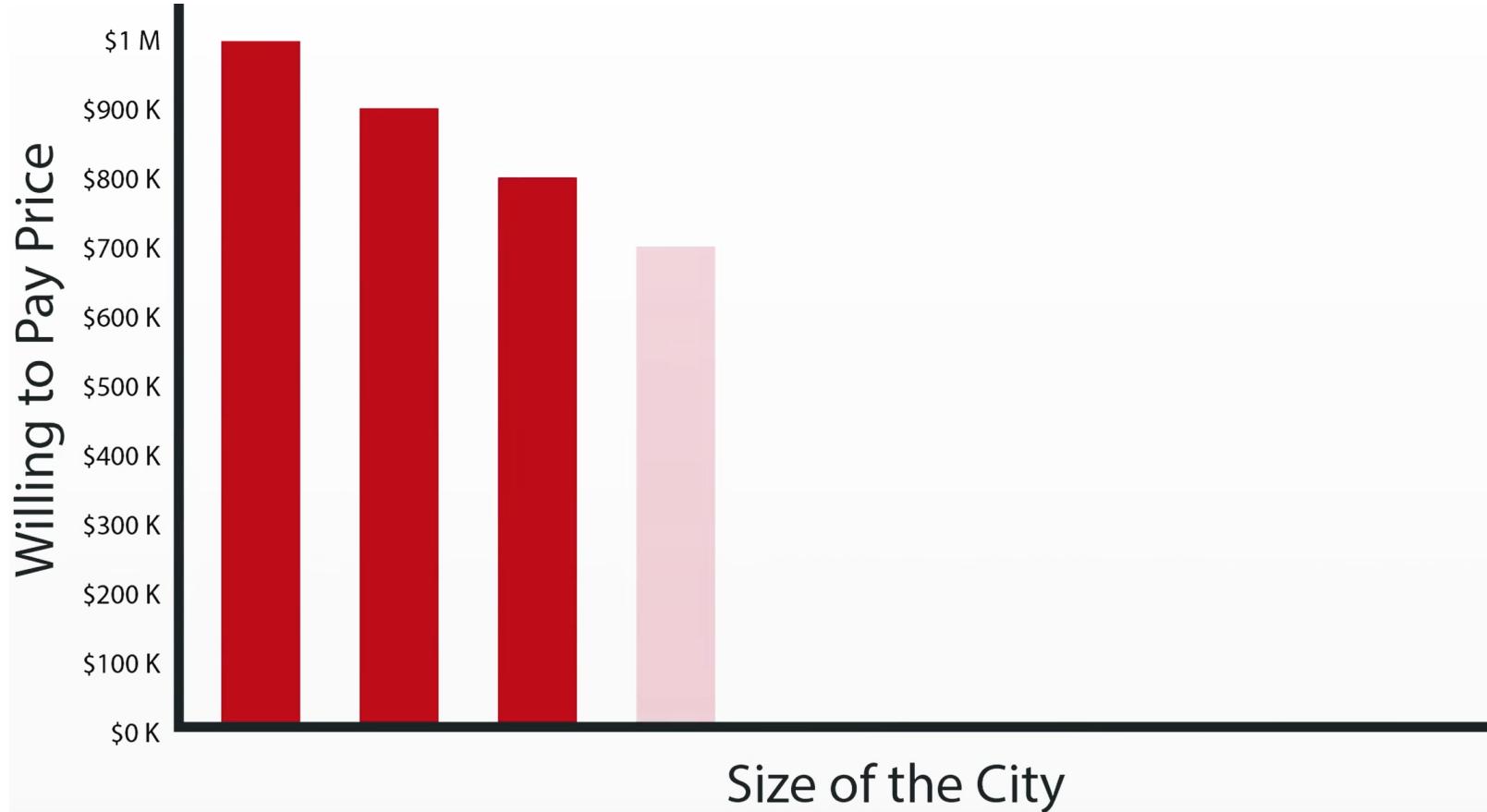
Assumptions

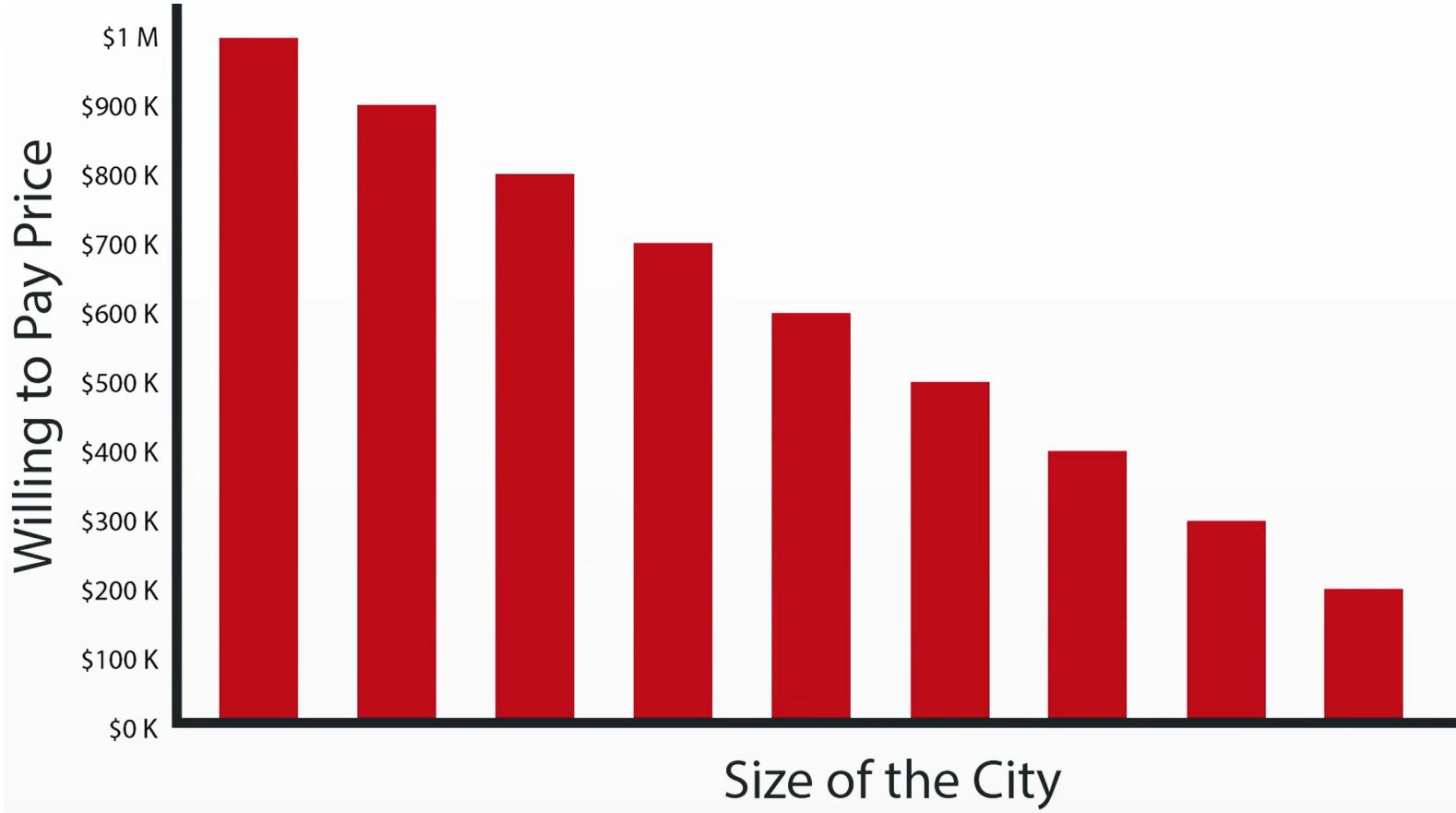
- Everyone in the city faces the same house
- Everyone in the city faces the same community
- Infinite number of people who might potentially live in the city
- Wages and non-wage benefits/costs (amenities) do not vary by the size of the city
 - That is, ignore agglomeration economies/dis-economies

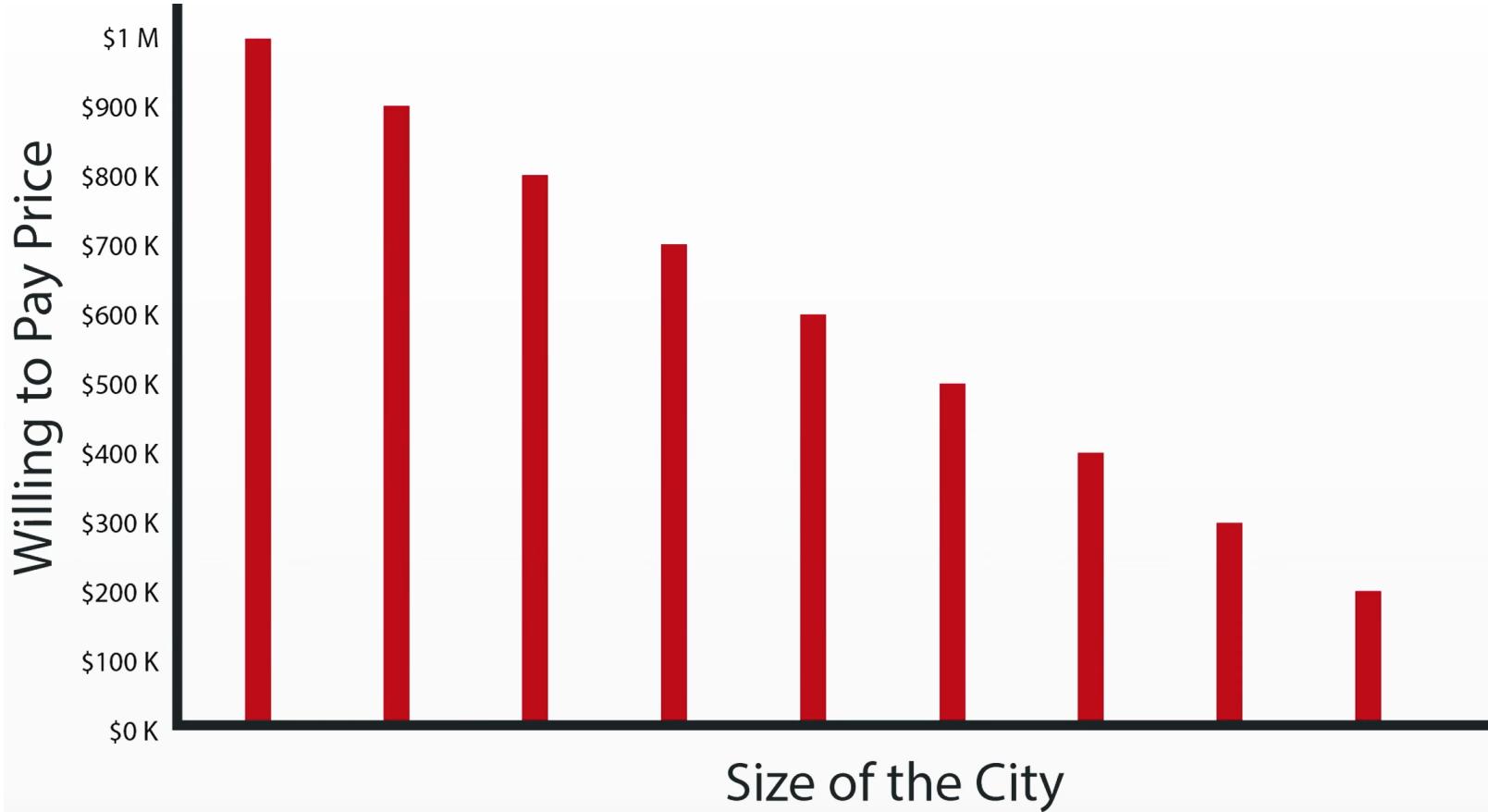




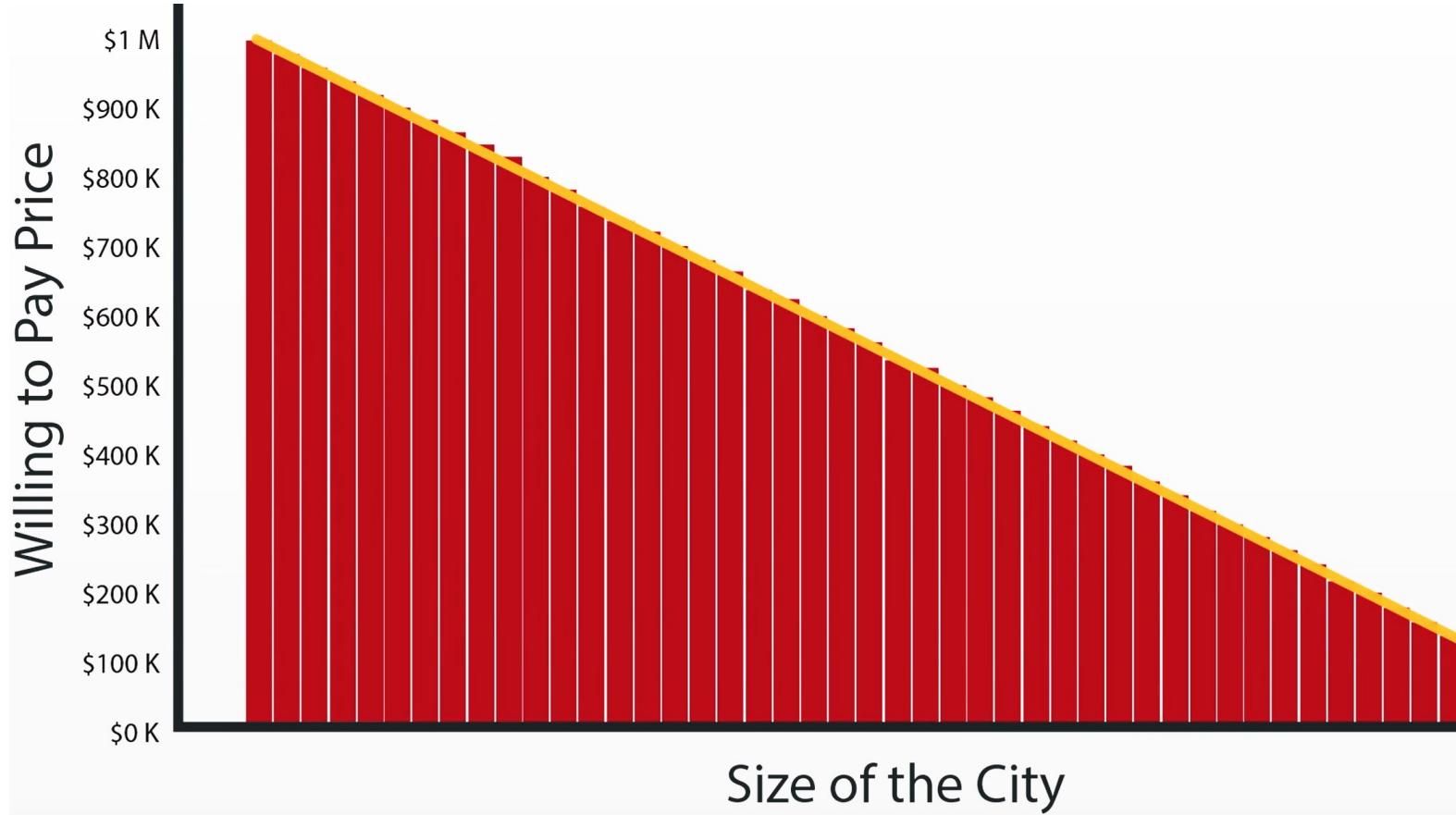


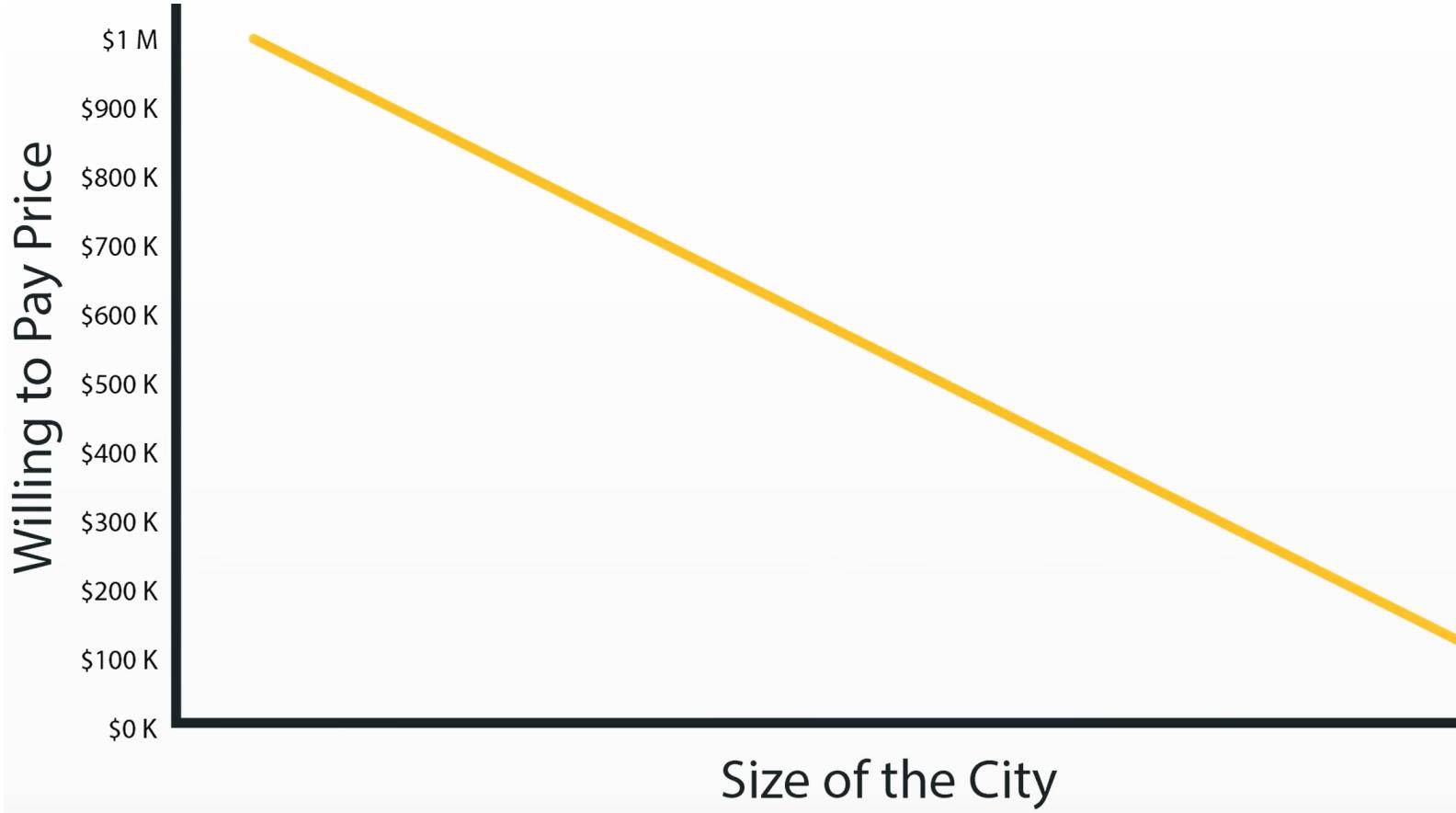


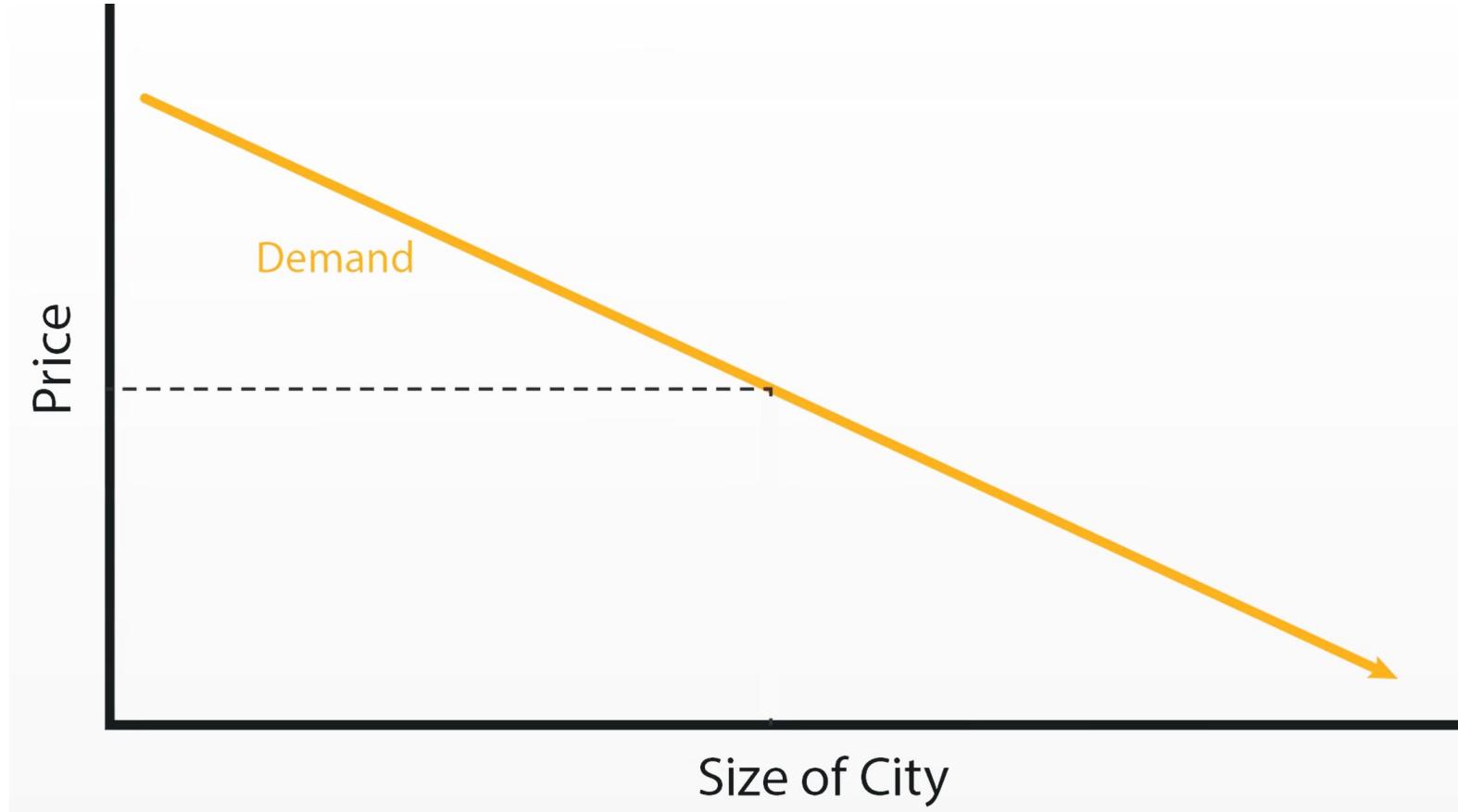


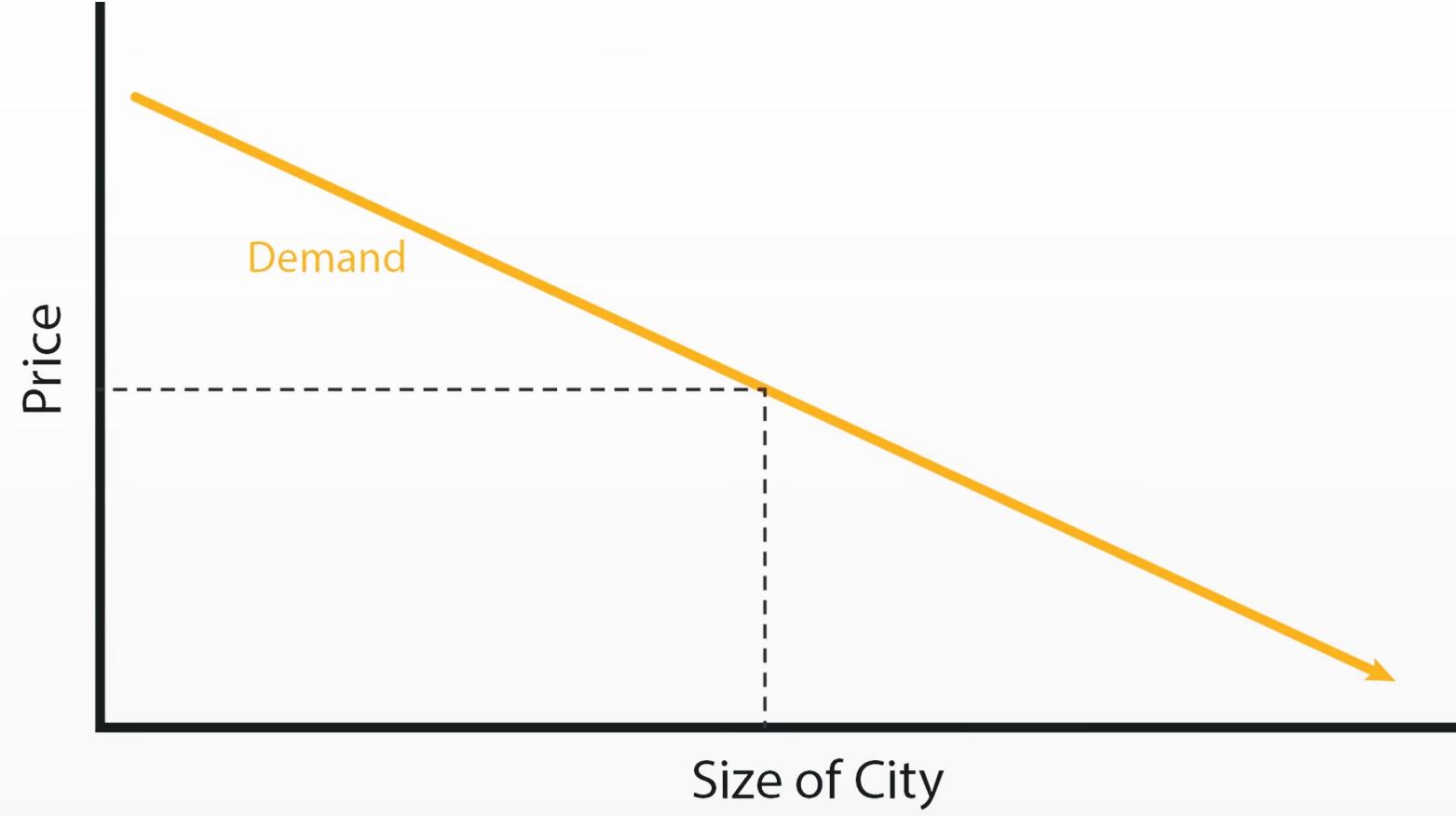


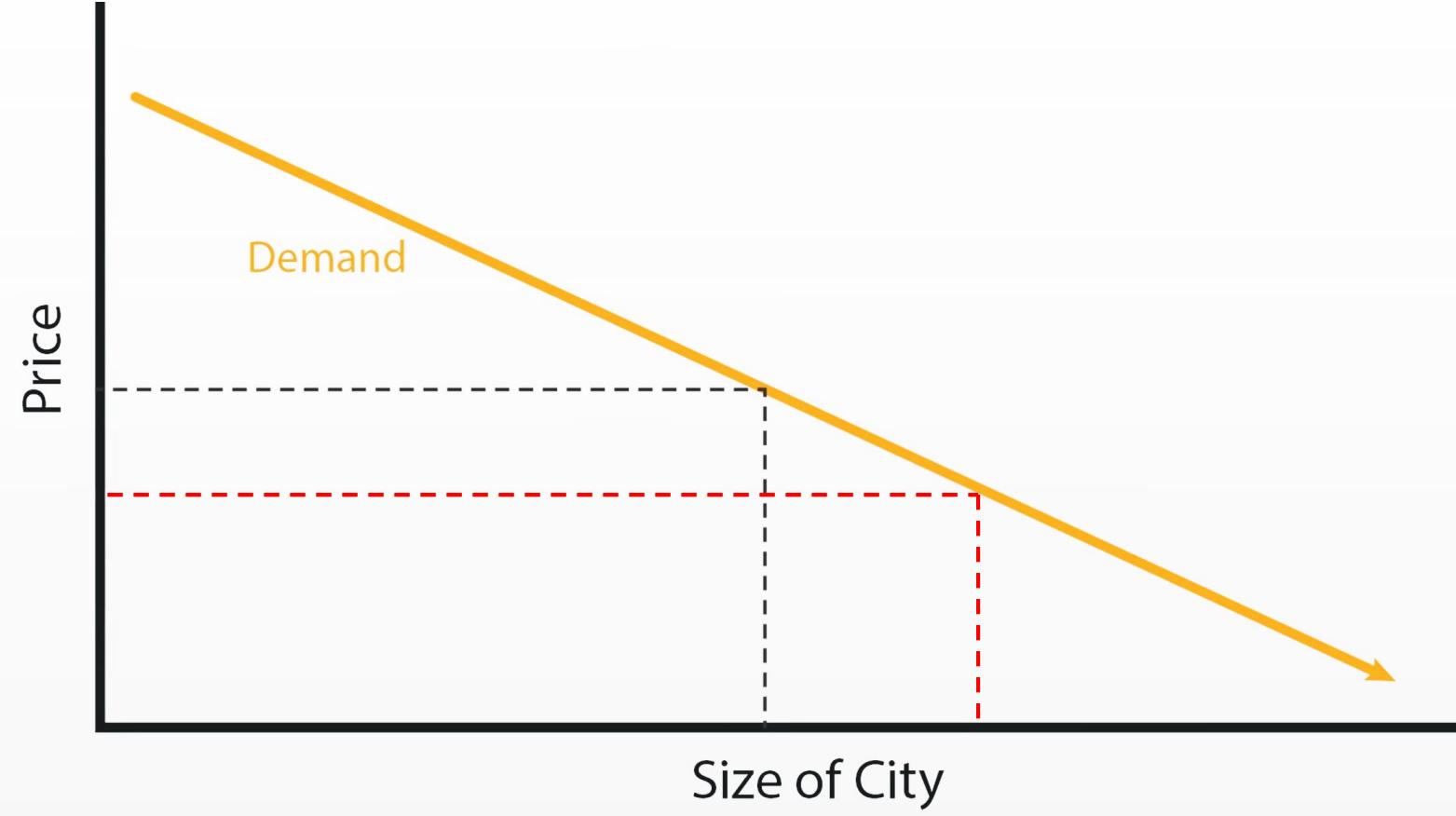


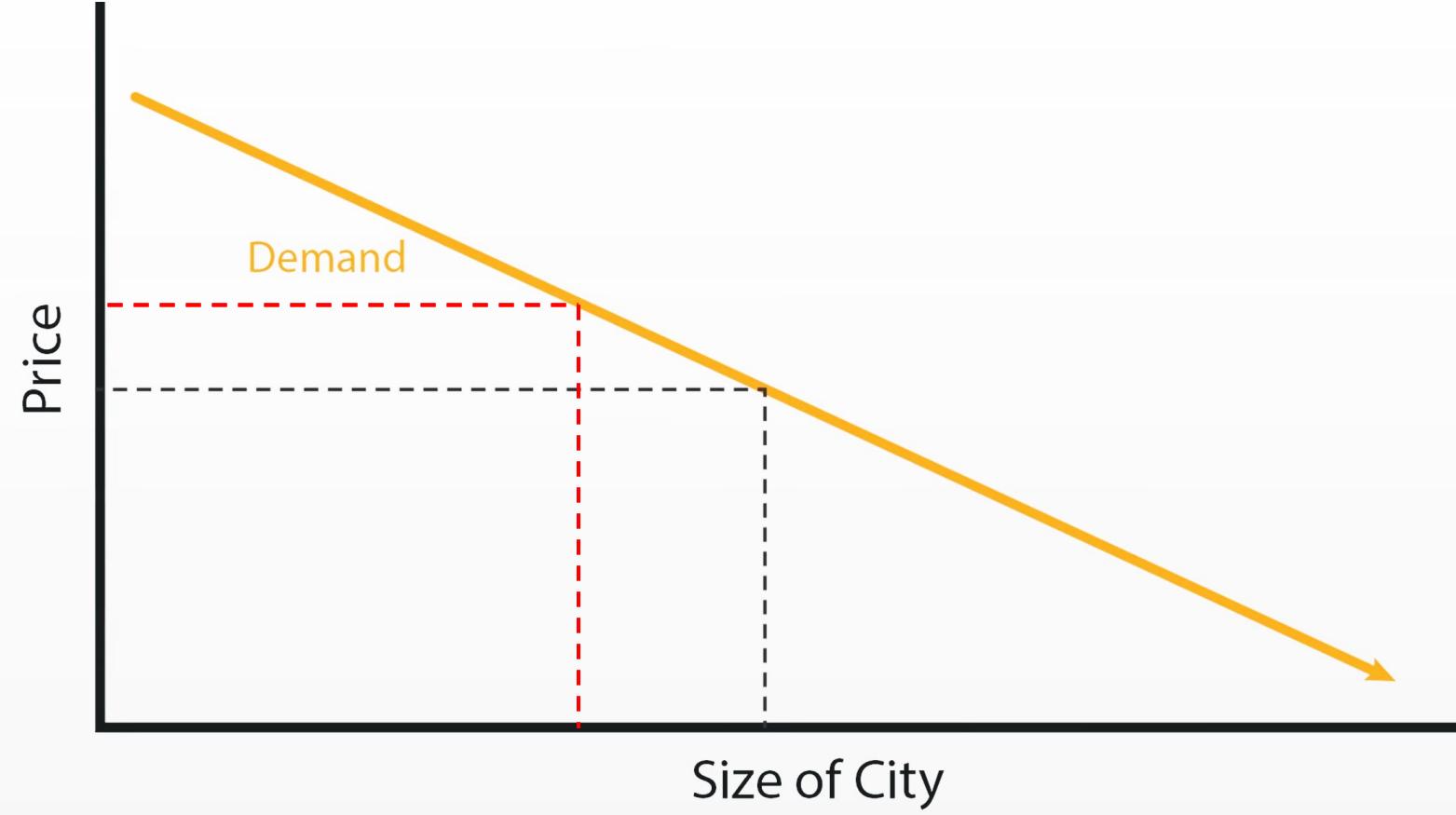










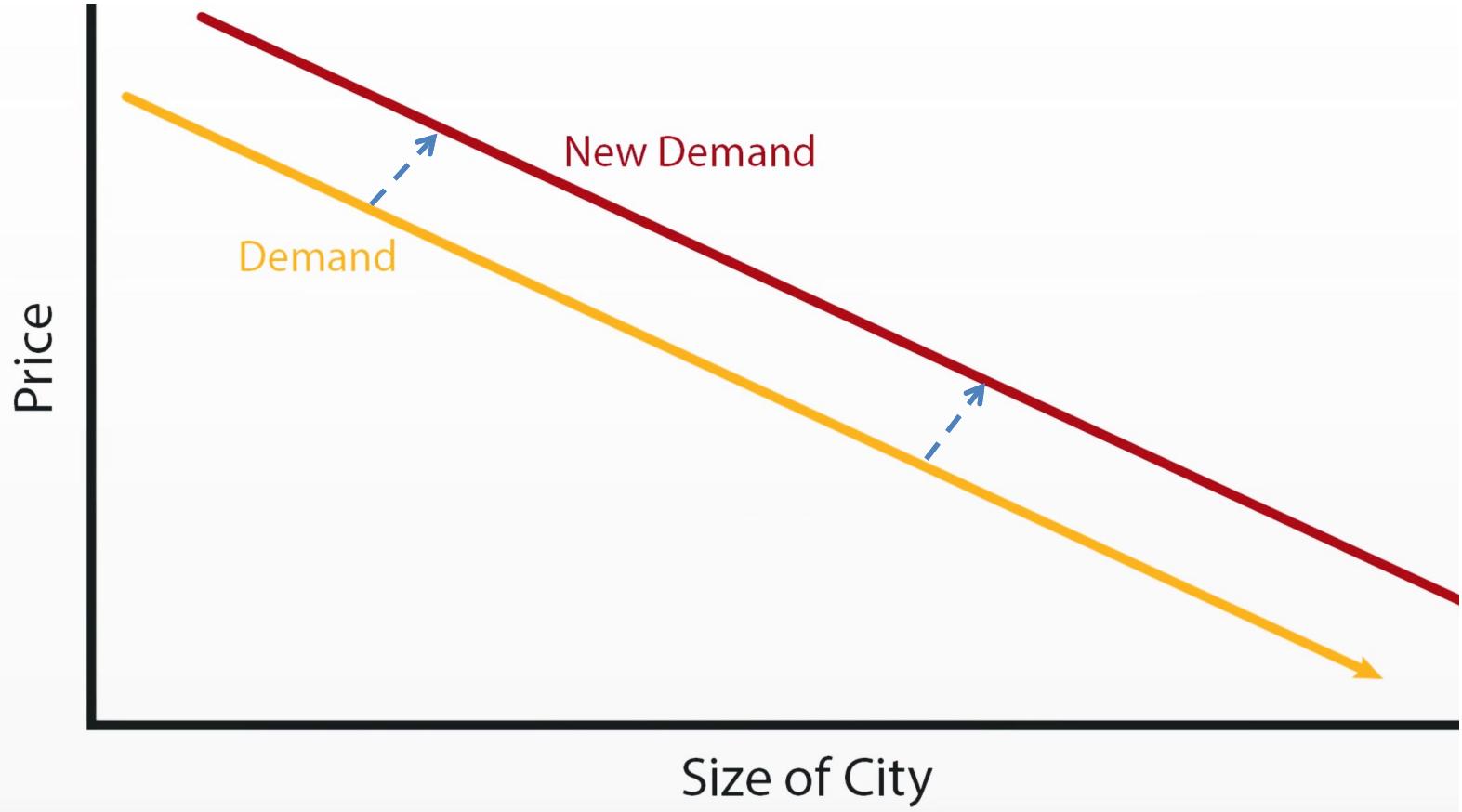


Factors Shifting the Demand Curve

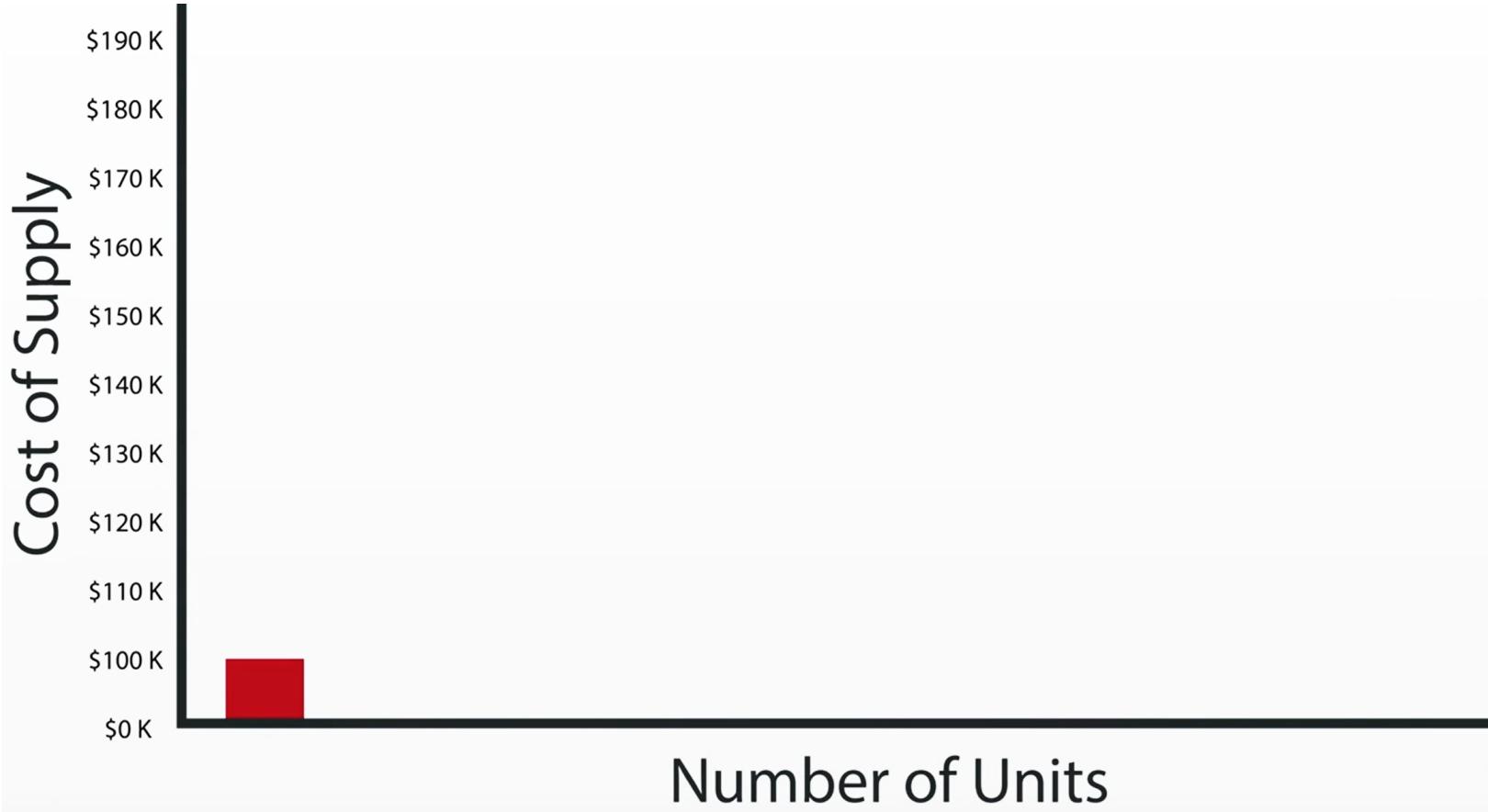
- Note that the demand curve illustrates the relationship **b/w housing prices and demand**
 - Given that all else being constant, the price increase (decrease) will make housing demand decrease (increase)
- Which factors beyond price affect housing demand?

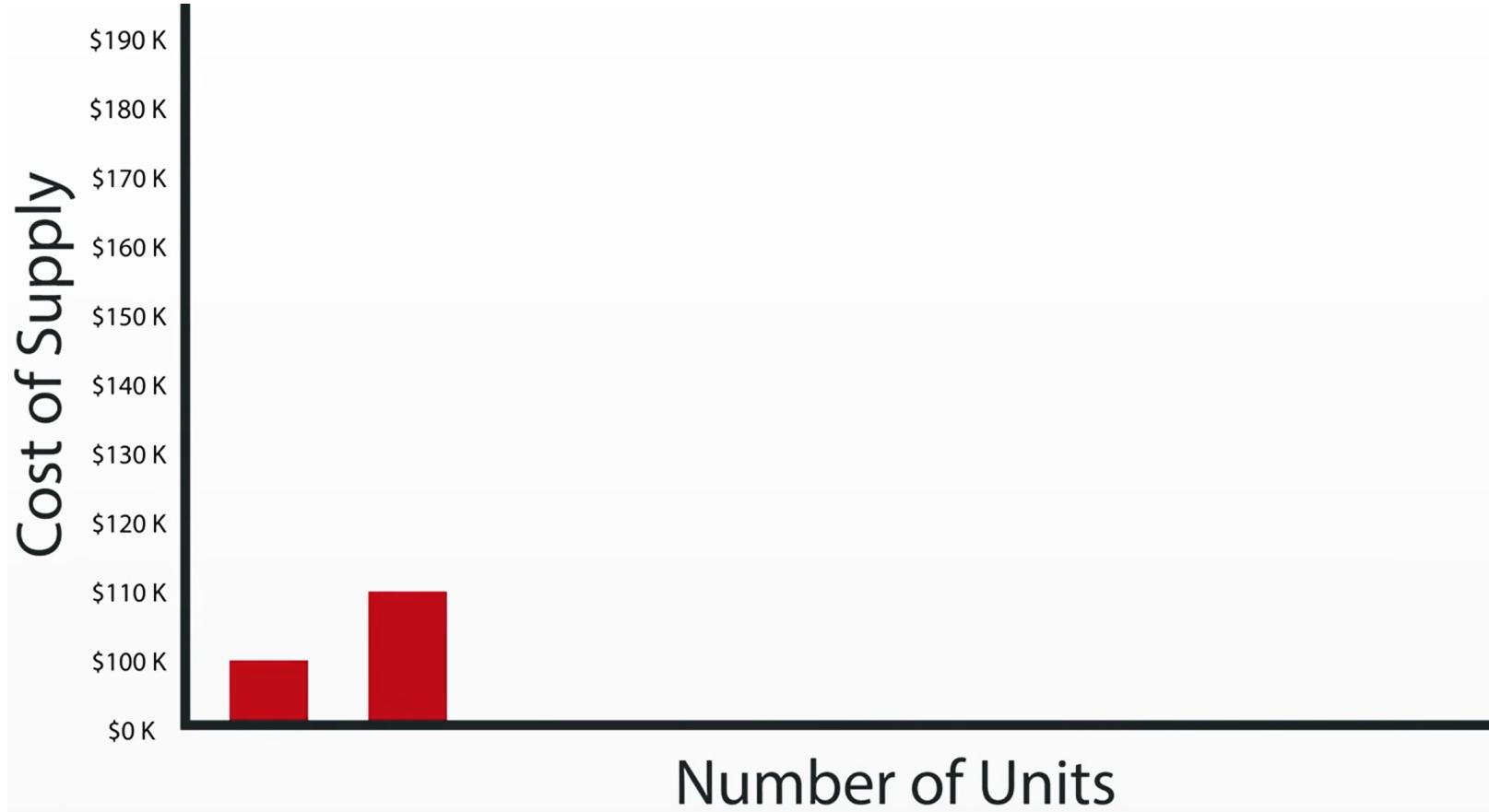
Factors Shifting the Demand Curve

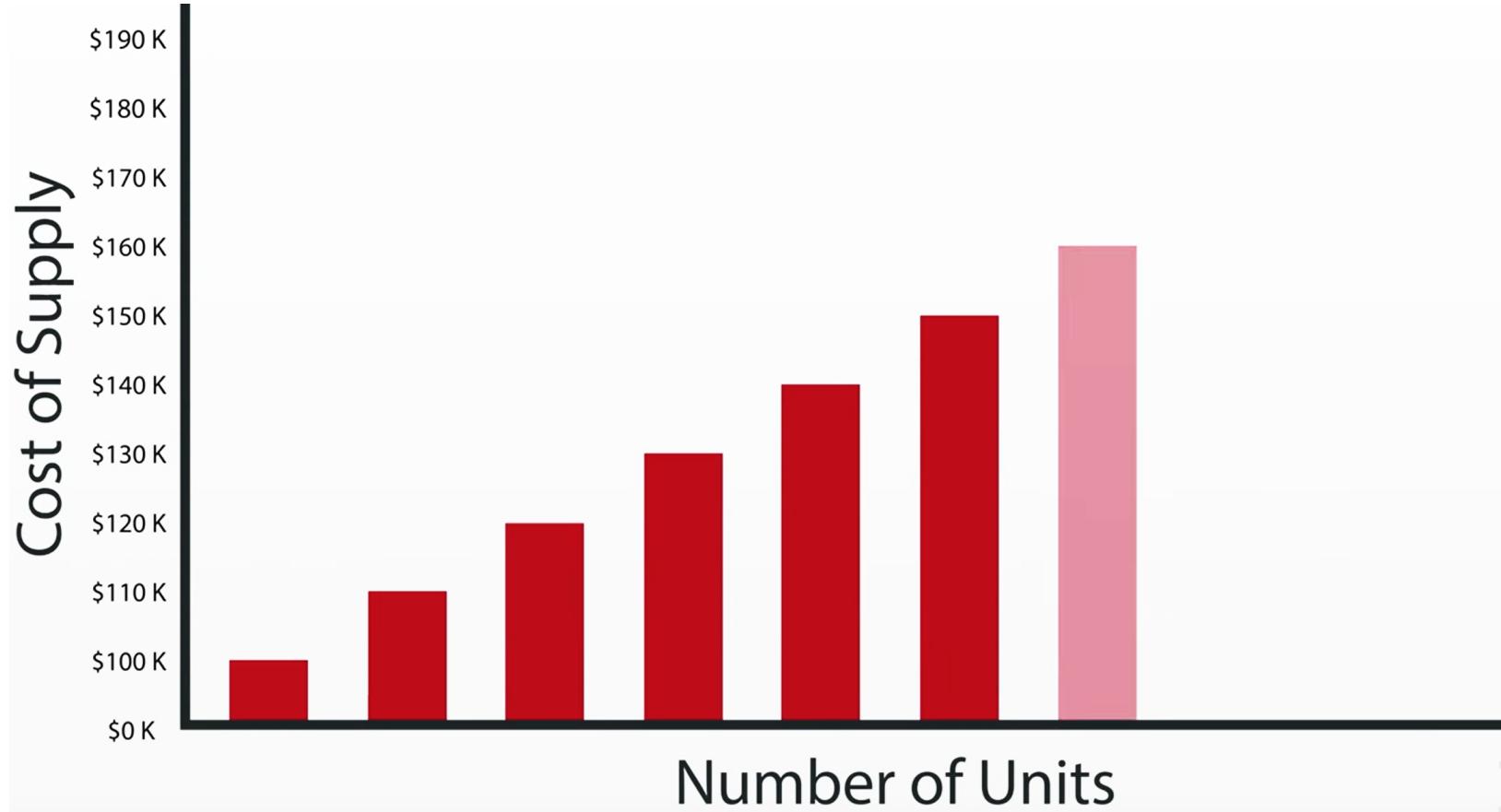
- Note that the demand curve illustrates the relationship **b/w housing prices and demand**
 - Given that all else being constant, the price increase (decrease) will make housing demand decrease (increase)
- Which factors beyond price affect housing demand?
 - Job opportunities
 - Safety
 - Weather
 - Culture and vibe
- What happens to the demand curve when factors other than price change?
 - The entire demand curve shifts

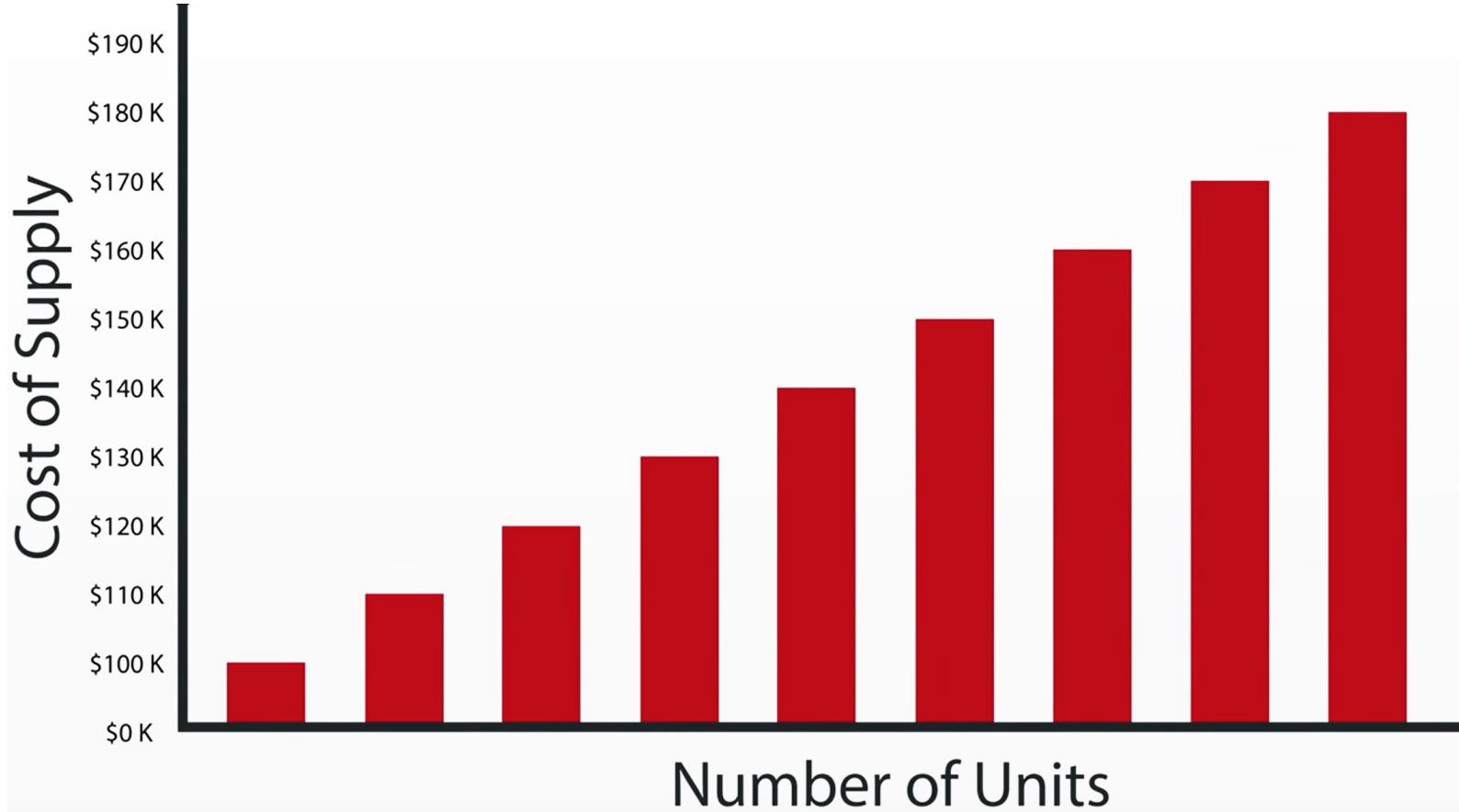


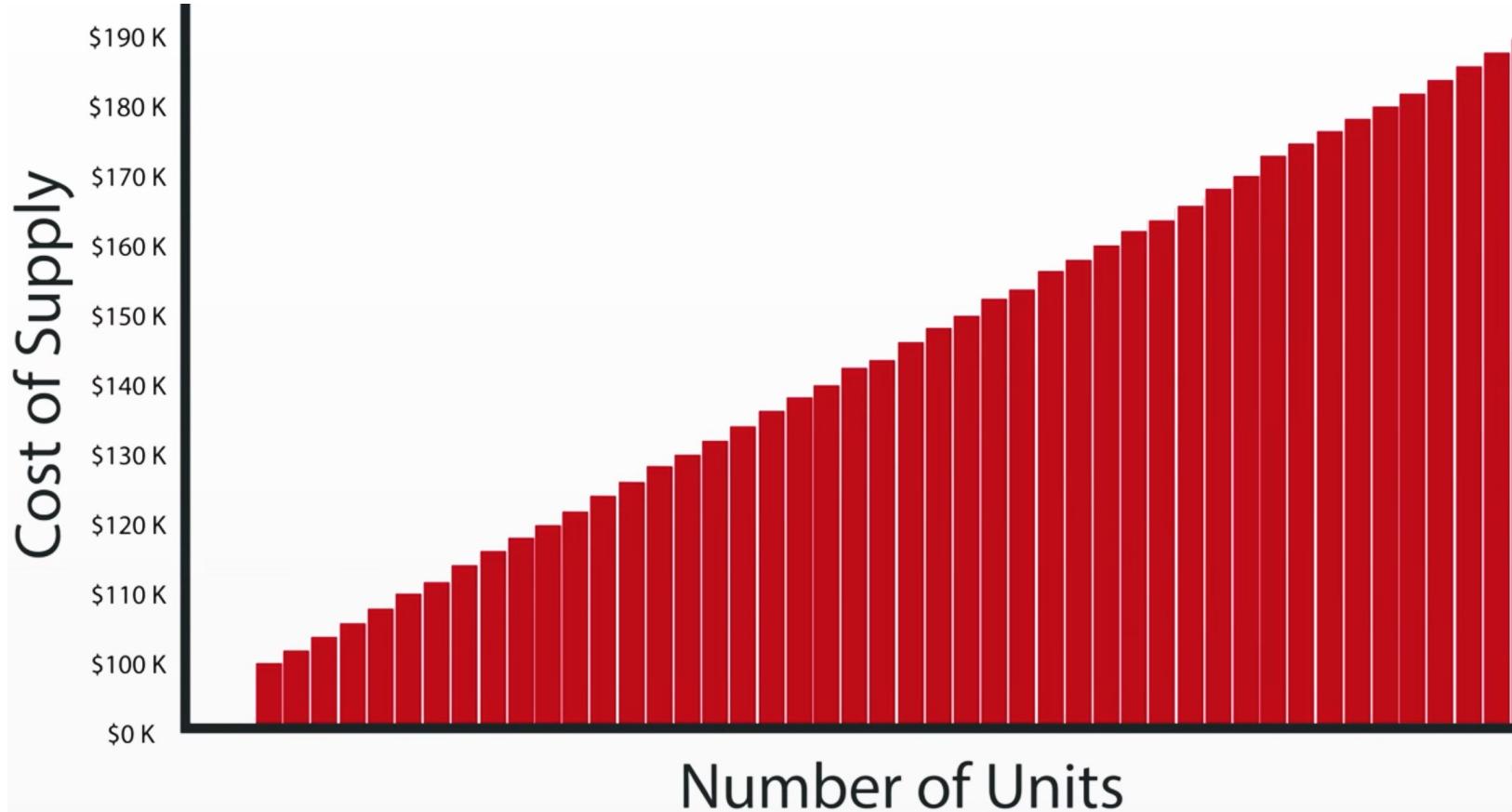
Supply for Housing

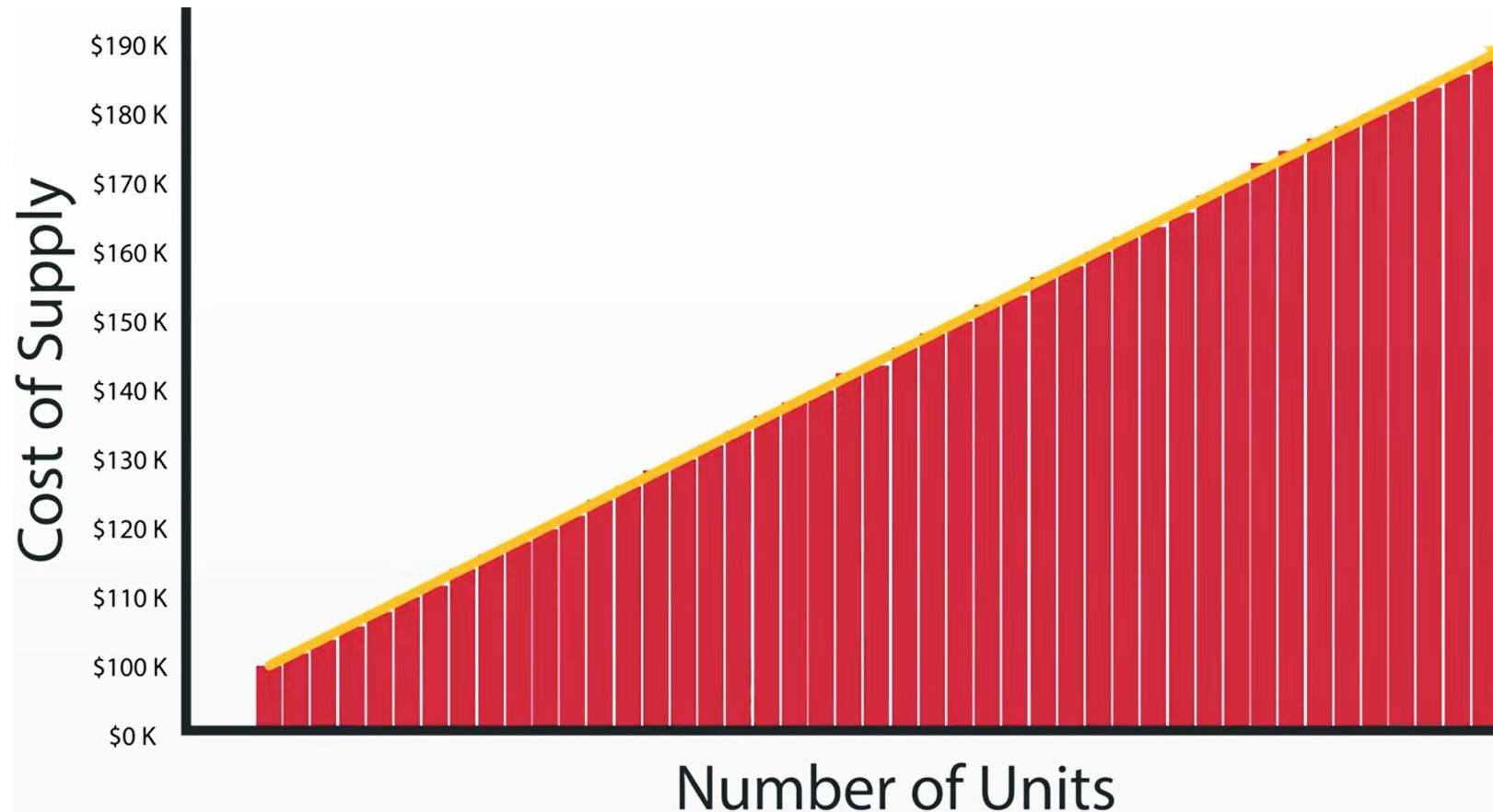


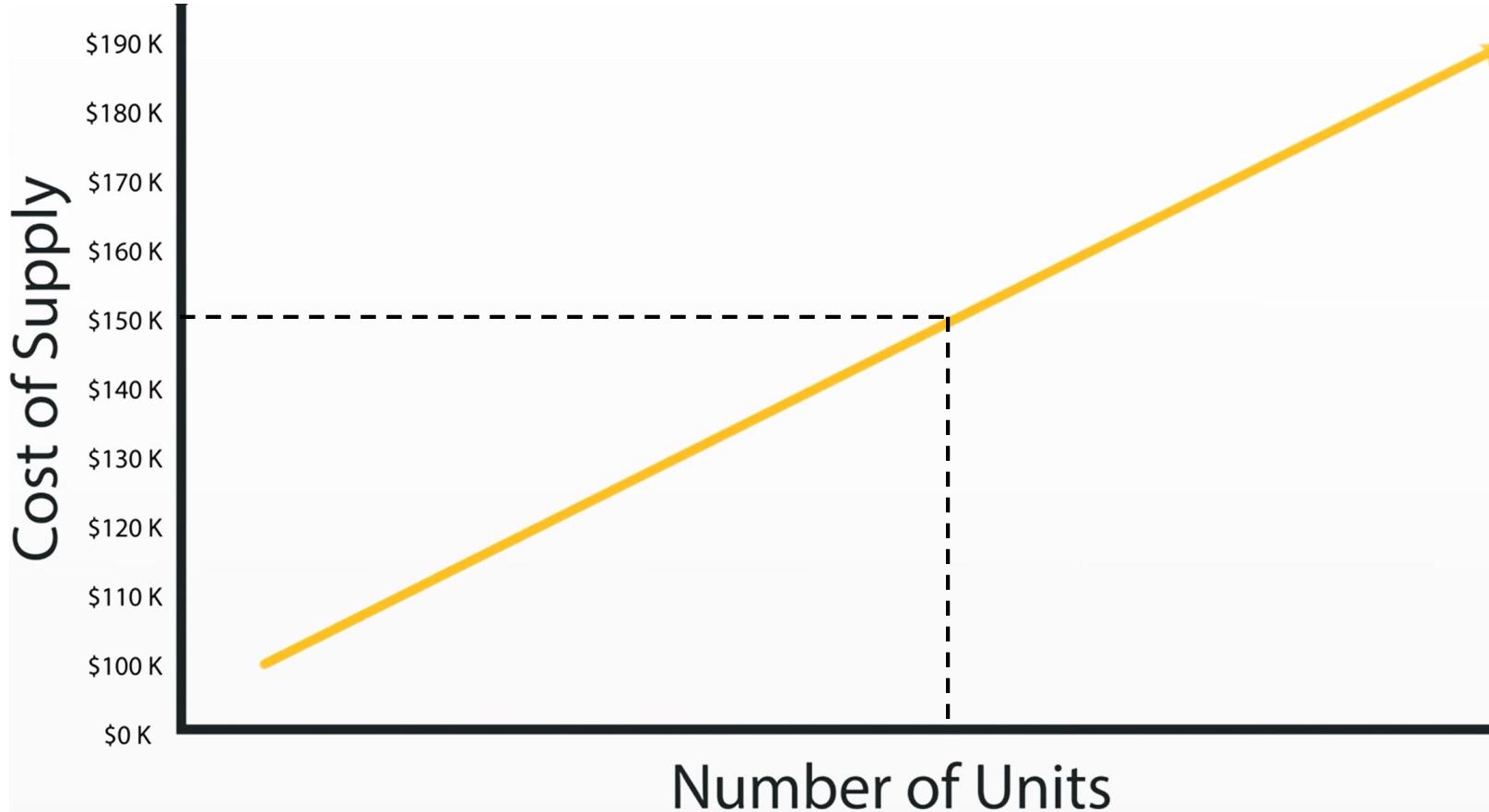


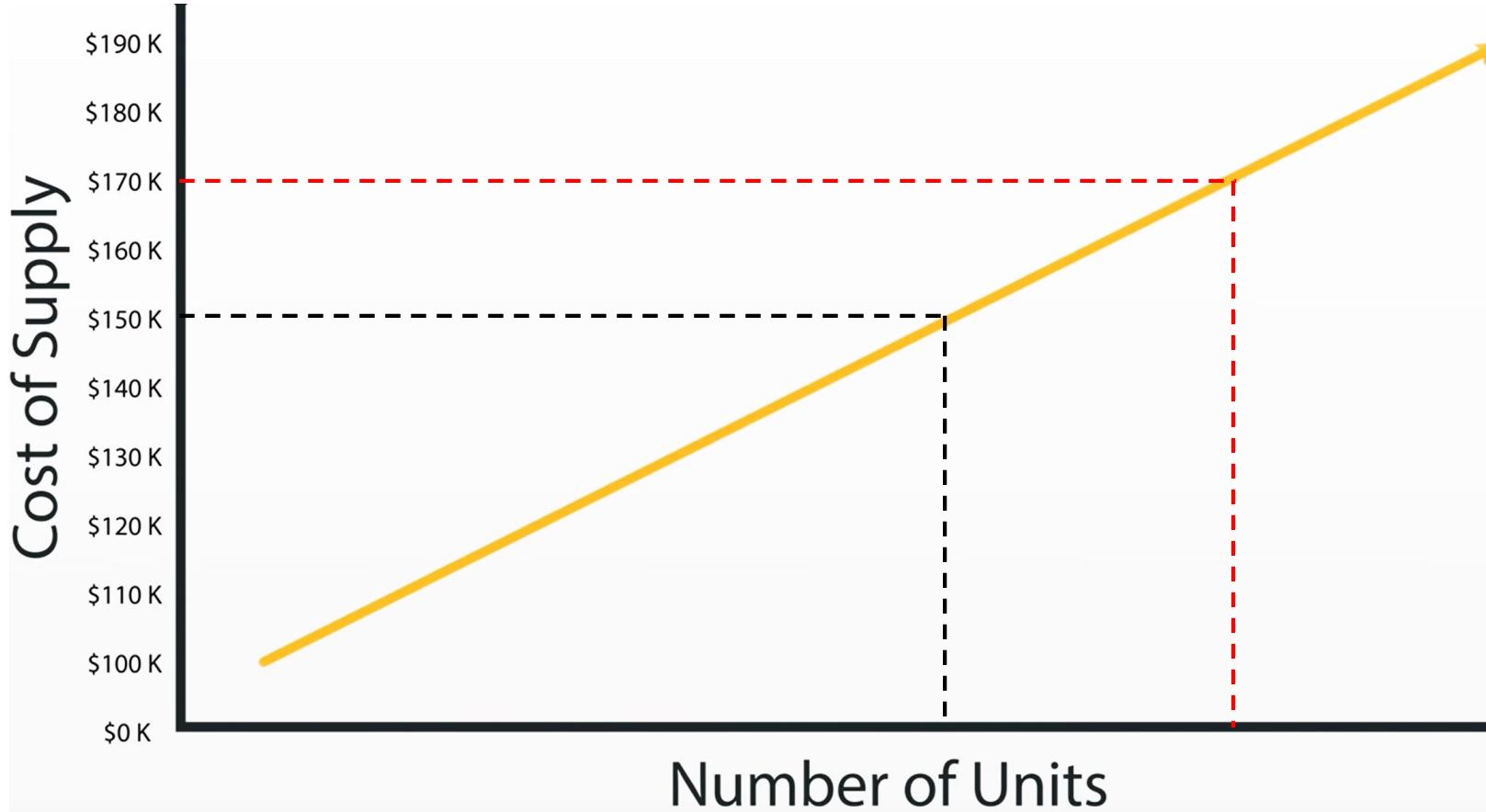


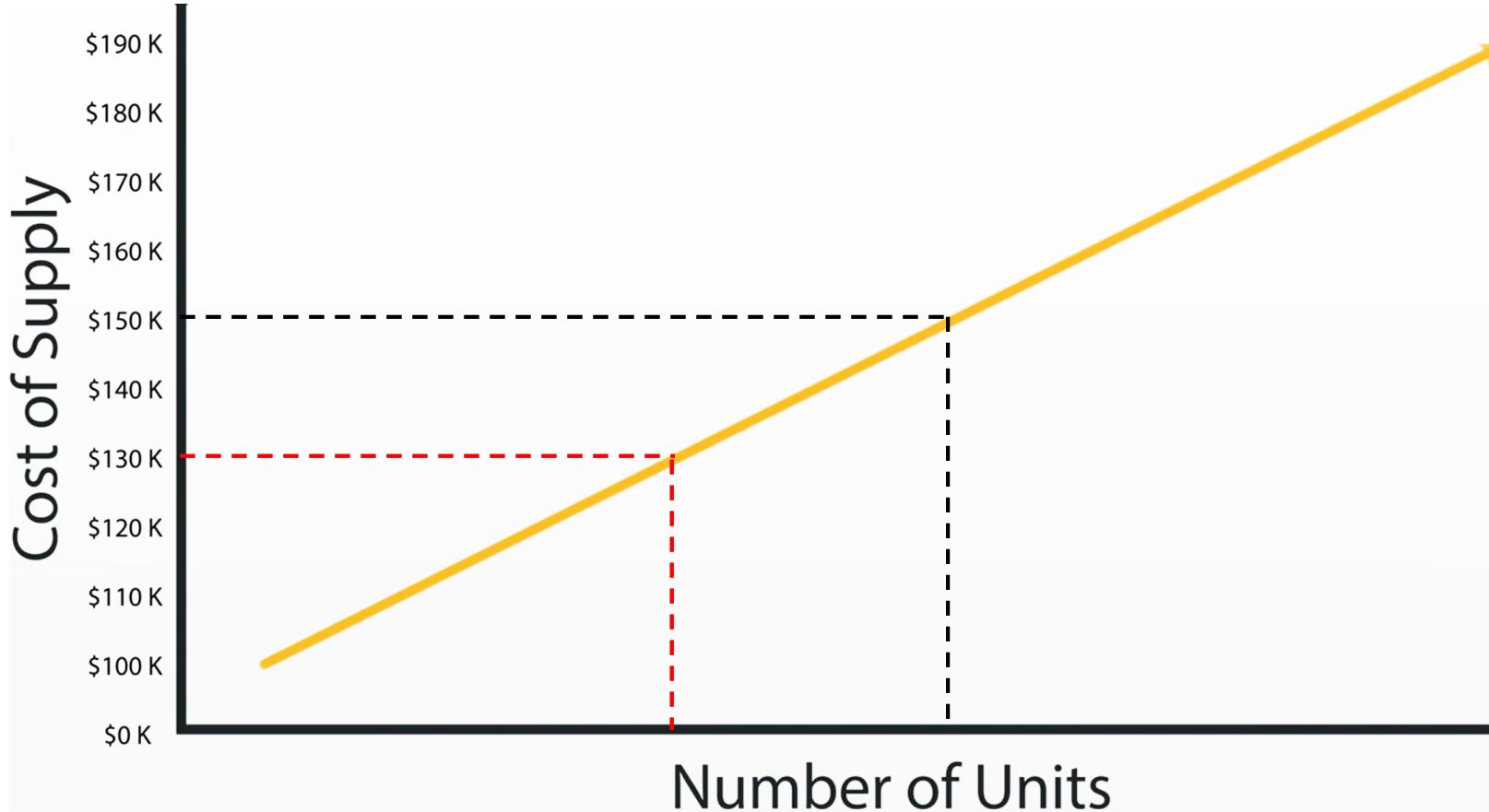










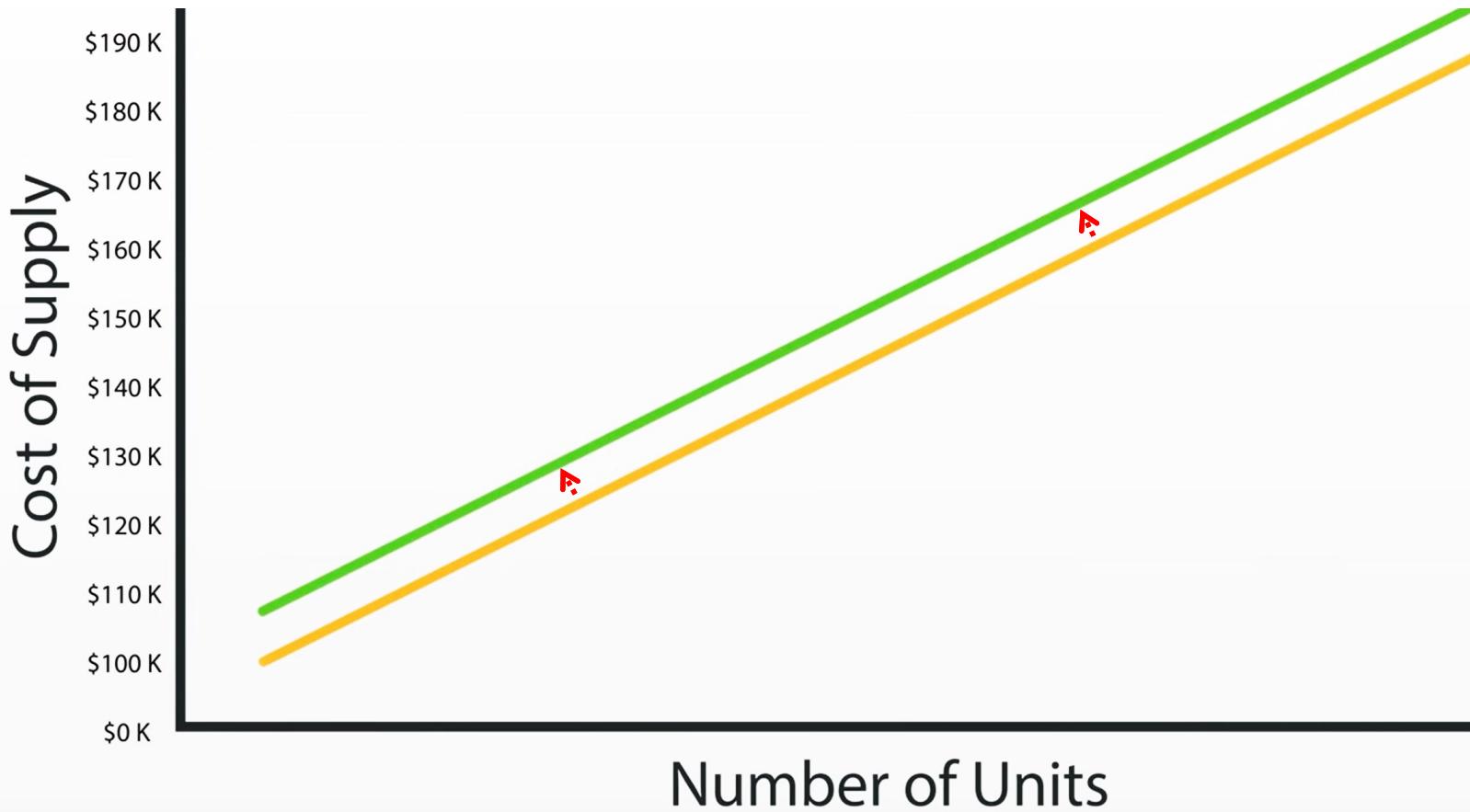


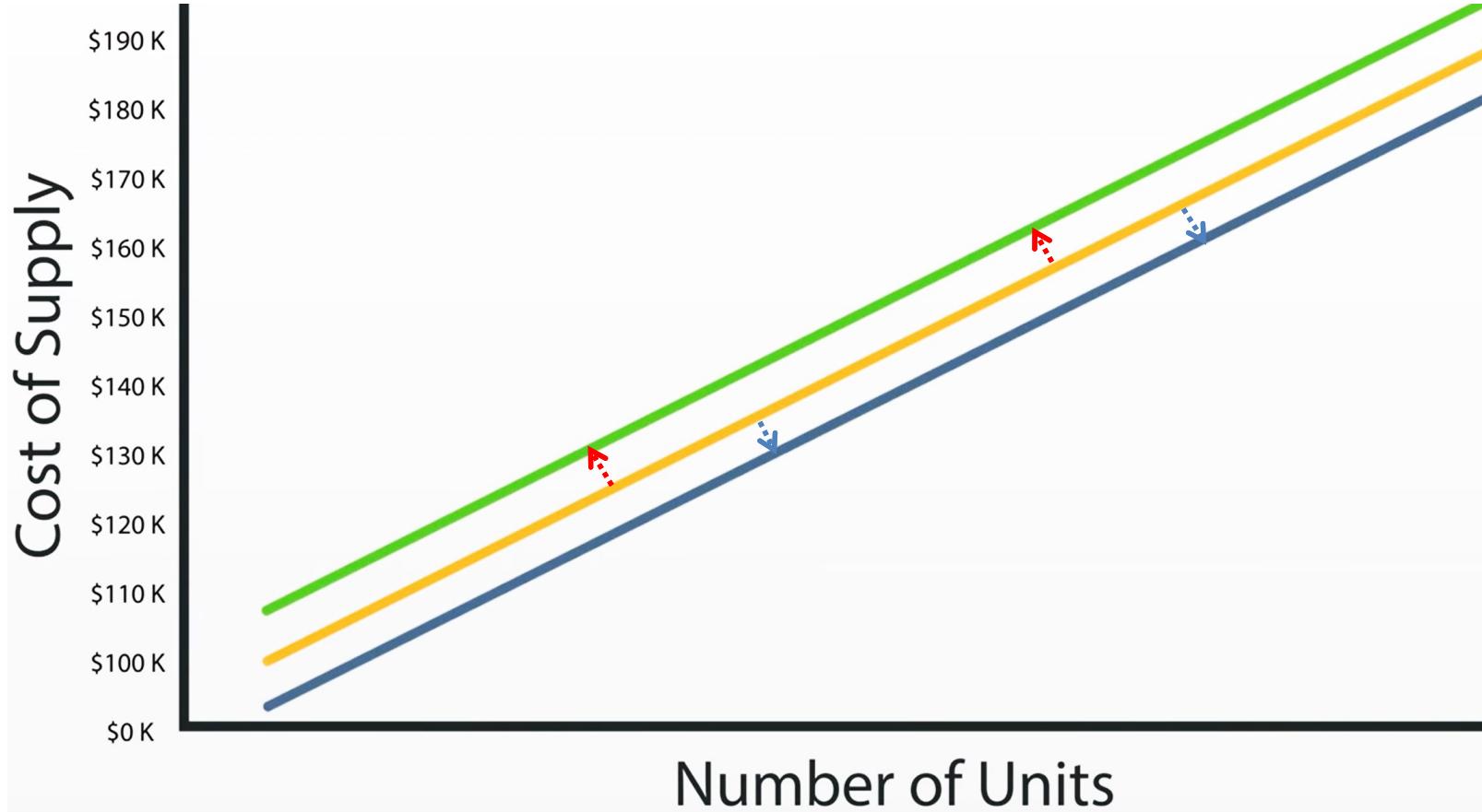
Factors Shifting the Supply Curve

- Note that the supply curve illustrates the relationship **b/w housing prices and supply**
 - Given that all else being constant, the price increase (decrease) will make housing supply increase (decrease)
- Which factors beyond price affect housing supply?

Factors Shifting the Supply Curve

- Note that the supply curve illustrates the relationship **b/w housing prices and supply**
 - Given that all else being constant, the price increase (decrease) will make housing supply increase (decrease)
- Which factors beyond price affect housing supply?
 - Construction cost
 - Zoning policies
 - Economic condition
 - Future expectation
- What happens to the supply curve when factors other than price change?
 - The entire supply curve shifts





WISCONSIN
SCHOOL OF BUSINESS

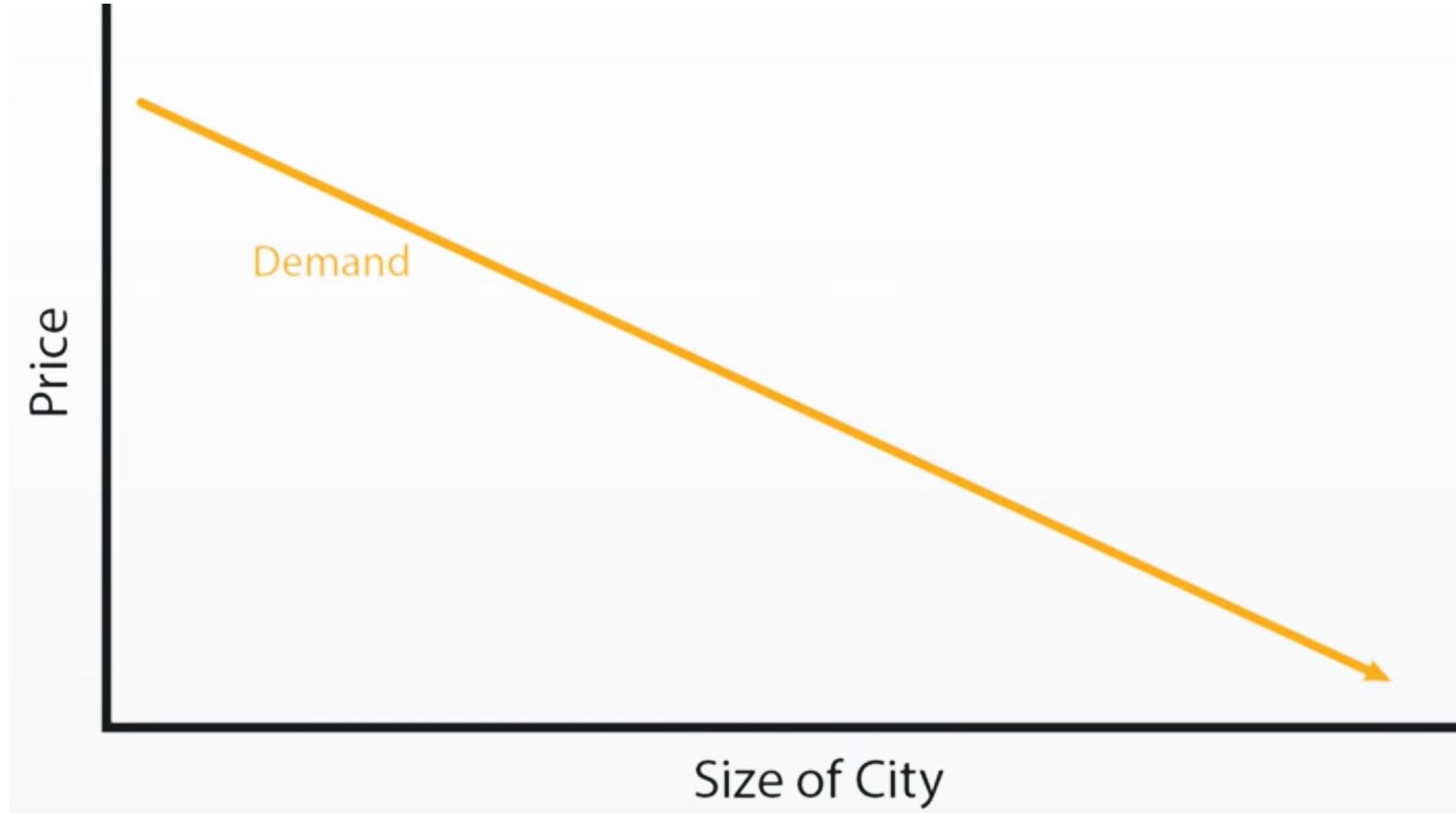
UNIVERSITY OF WISCONSIN-MADISON

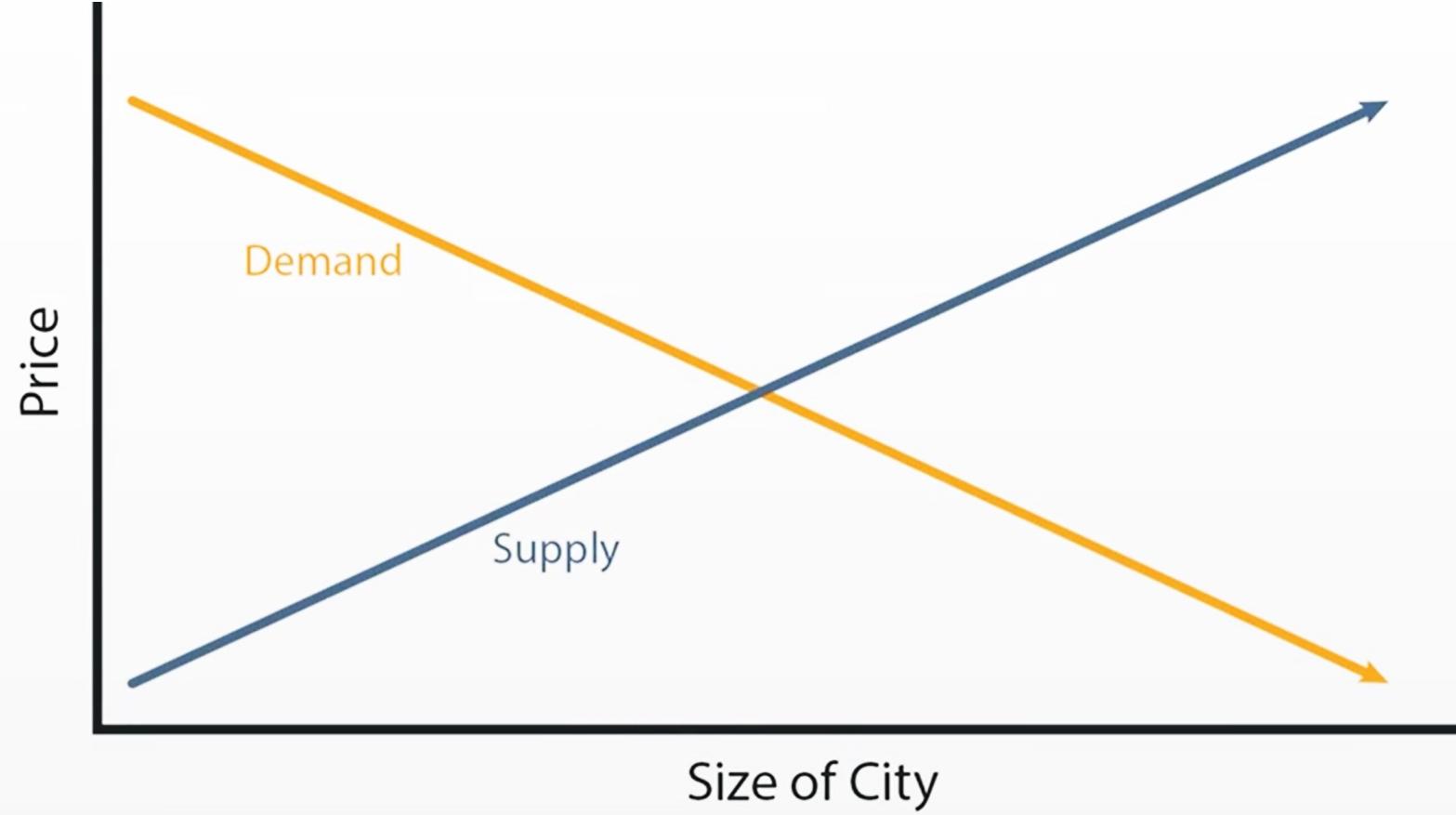
TOGETHER
FORWARD®

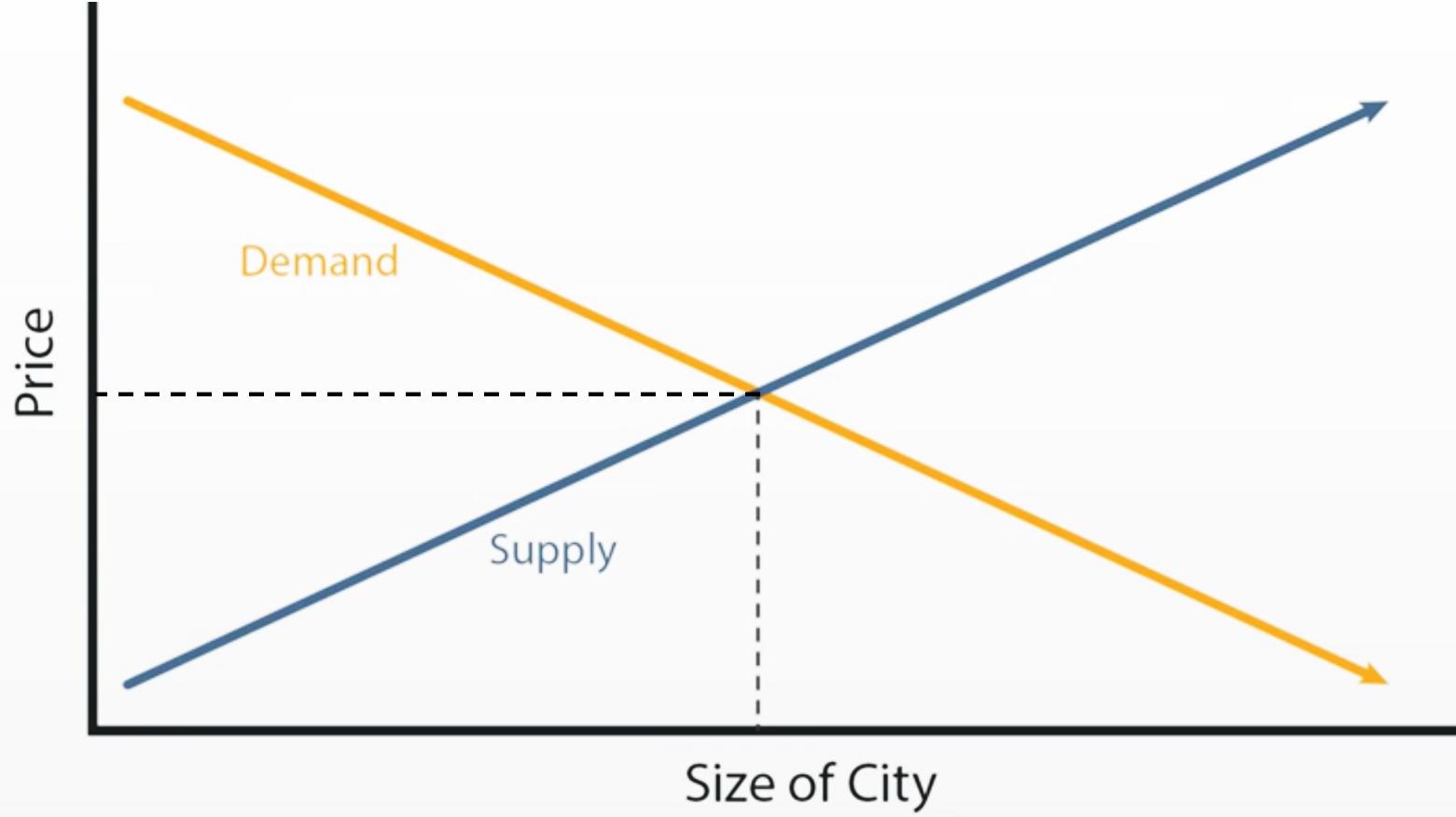
Heejin Yoon

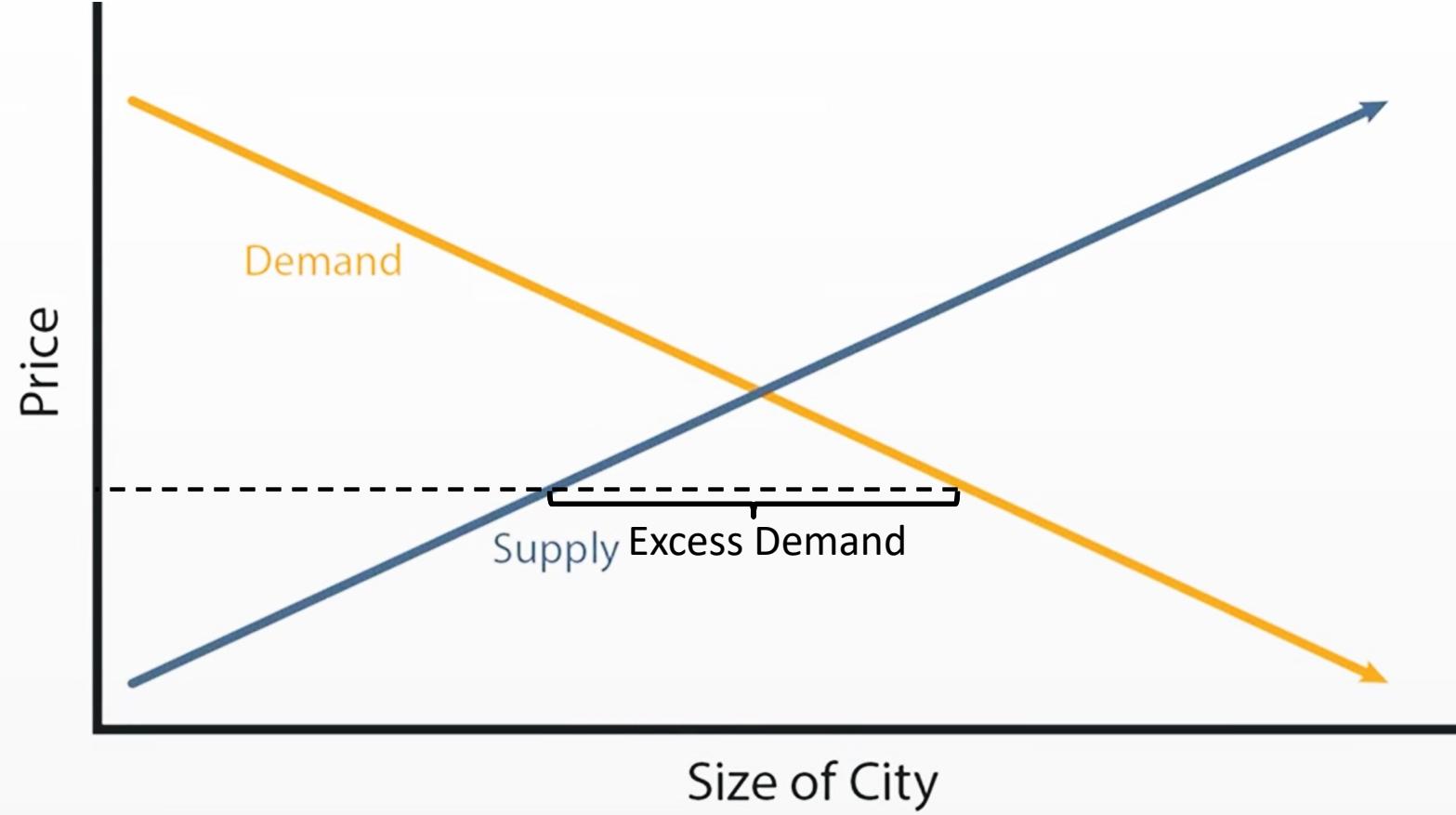
35

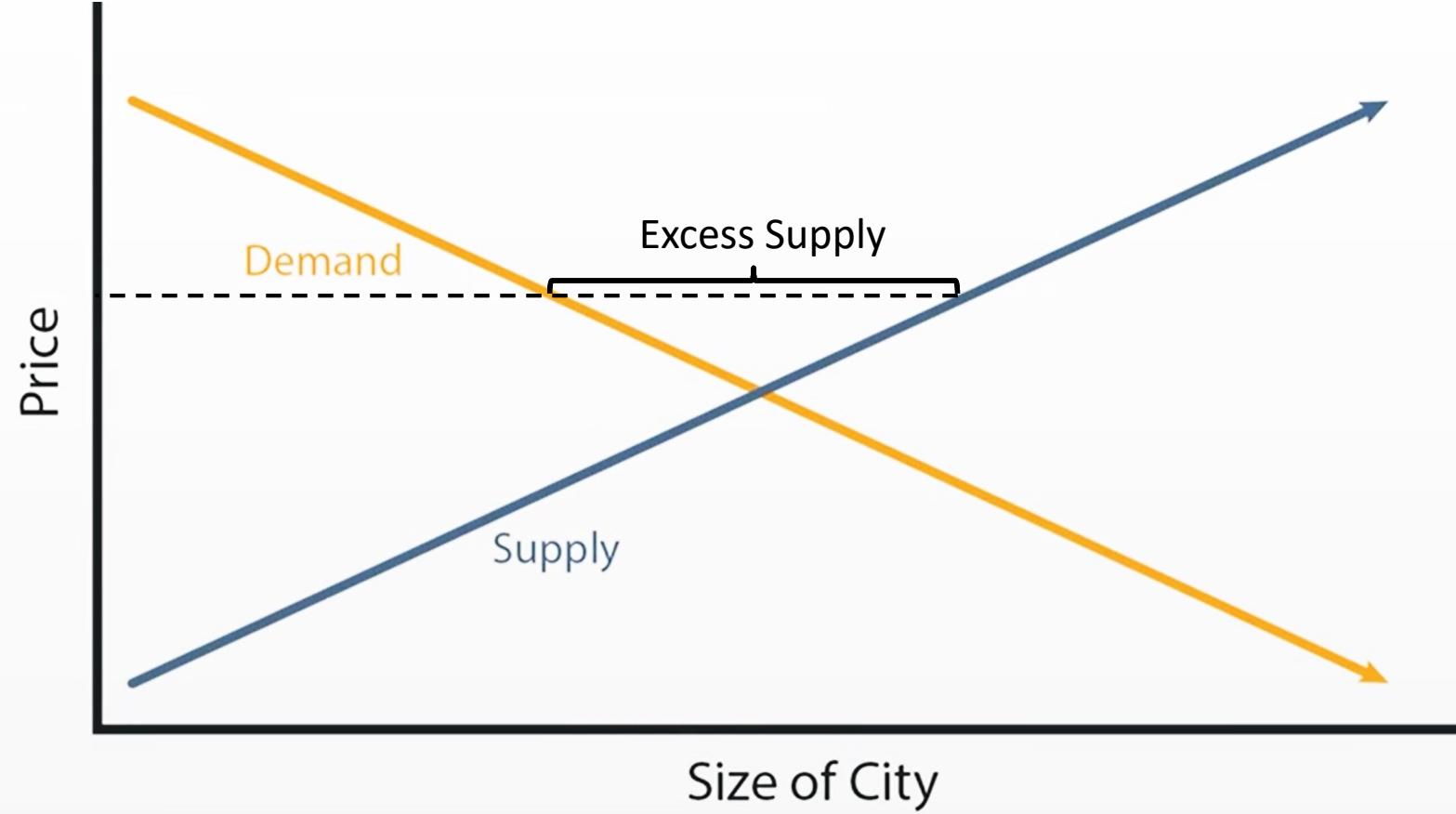
Demand & Supply for Housing

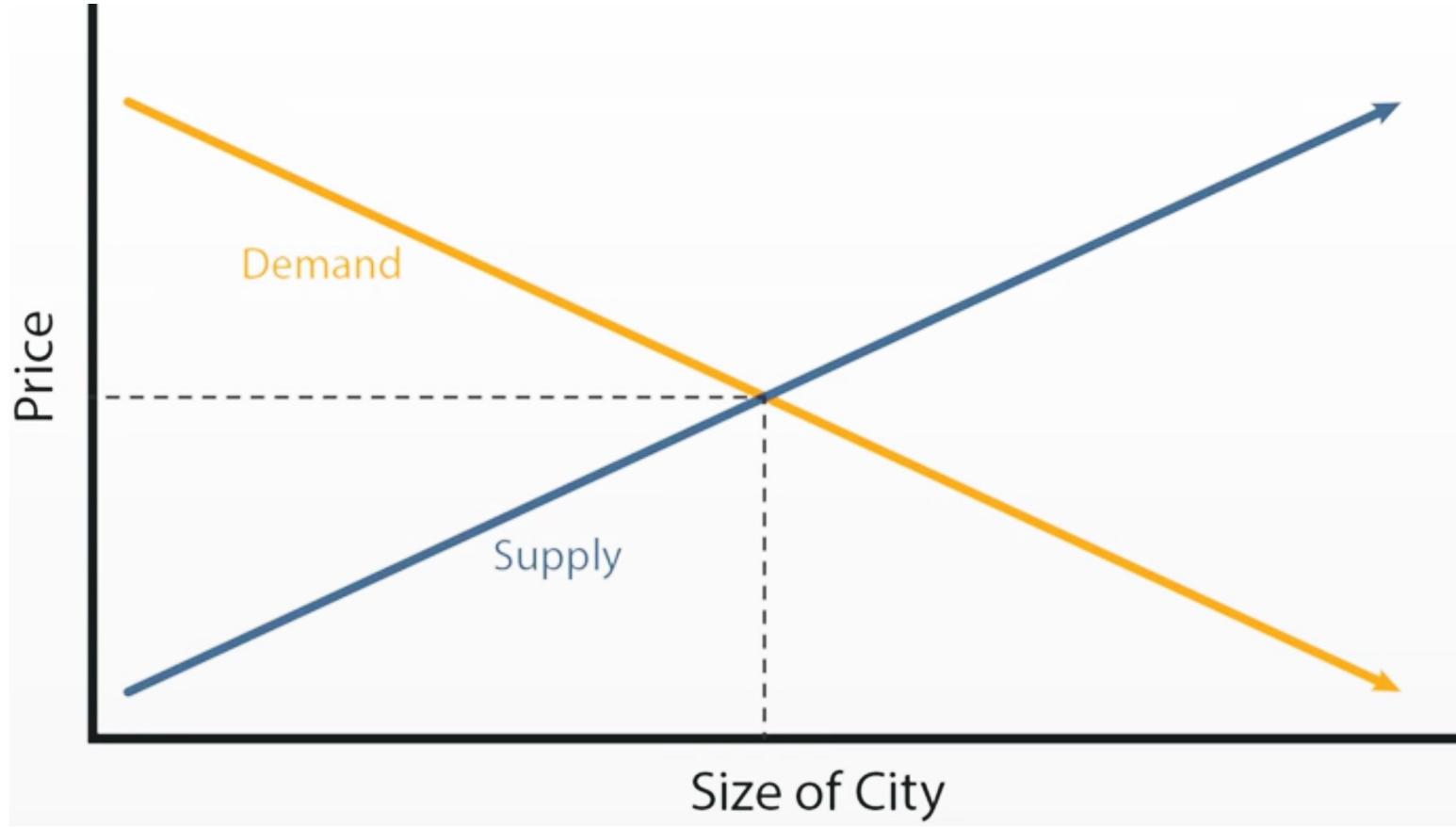


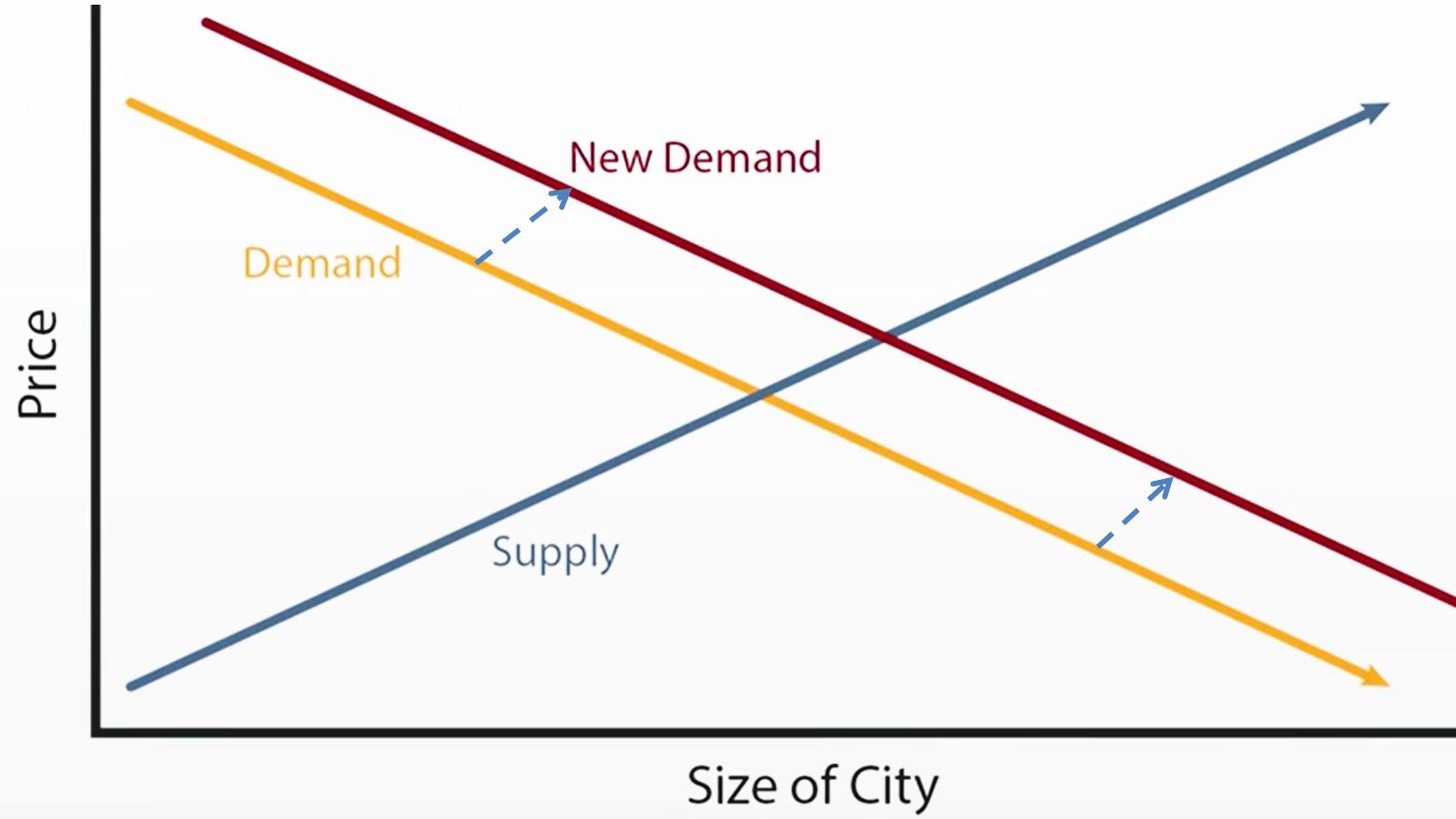


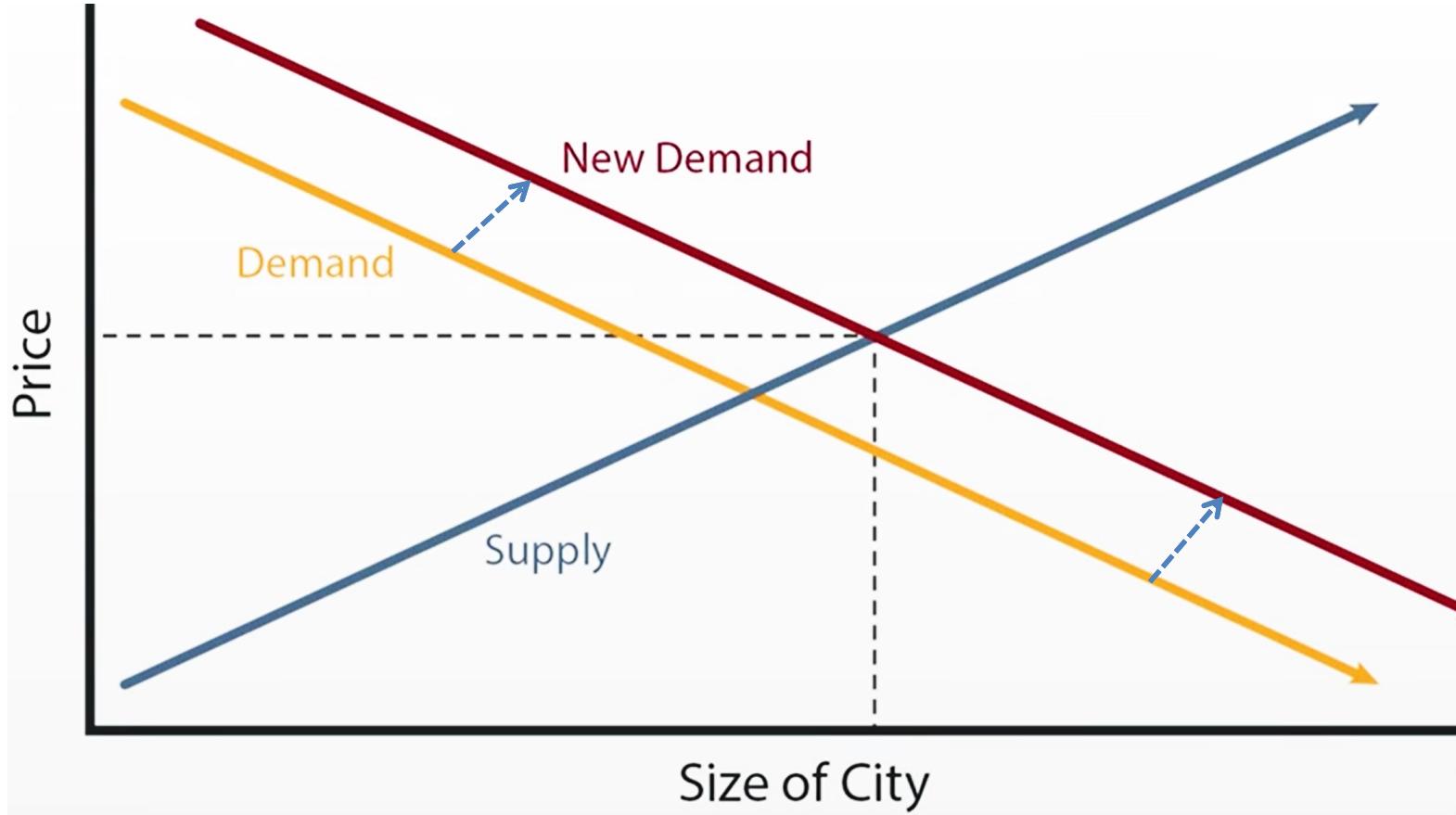












Practice Question

- Q1. In 2020, WSJ reported that a significant uptick in sales of laptops and iPads, attributing to the boost in remote working and learning due to the COVID-19 pandemic.
 - (a) An upward movement along the demand curve
 - (b) A rightward shift of the demand curve
 - (c) A downward movement along the demand curve
 - (d) A leftward shift of the demand curve

Practice Question

- Q1. In 2020, WSJ reported that a significant uptick in sales of laptops and iPads, attributing to the boost in remote working and learning due to the COVID-19 pandemic.
 - (a) An upward movement along the demand curve
 - (b) A rightward shift of the demand curve
 - (c) A downward movement along the demand curve
 - (d) A leftward shift of the demand curve

Practice Question

- Q2. A sharp rise in the housing price leads many potential homebuyers to choose to rent, and the transactions of home purchases decline.
 - (a) A leftward shift of the demand curve
 - (b) A rightward shift of the demand curve
 - (c) A movement along the demand curve
 - (d) None of the above

Practice Question

- Q2. A sharp rise in the housing price leads many potential homebuyers to choose to rent, and the transactions of home purchases decline.
 - (a) A leftward shift of the demand curve
 - (b) A rightward shift of the demand curve
 - (c) A movement along the demand curve**
 - (d) None of the above

Practice Question

- Q3. A sharp drop in the rent price leads many potential homebuyers to choose to rent, and the transactions of home purchases decline.
 - (a) A leftward shift of the demand curve
 - (b) A rightward shift of the demand curve
 - (c) A movement along the demand curve
 - (d) None of the above

Practice Question

- Q3. A sharp drop in the rent price leads many potential homebuyers to choose to rent, and the transactions of home purchases decline.
 - (a) A leftward shift of the demand curve
 - (b) A rightward shift of the demand curve
 - (c) A movement along the demand curve
 - (d) None of the above

Elasticity of Housing Supply

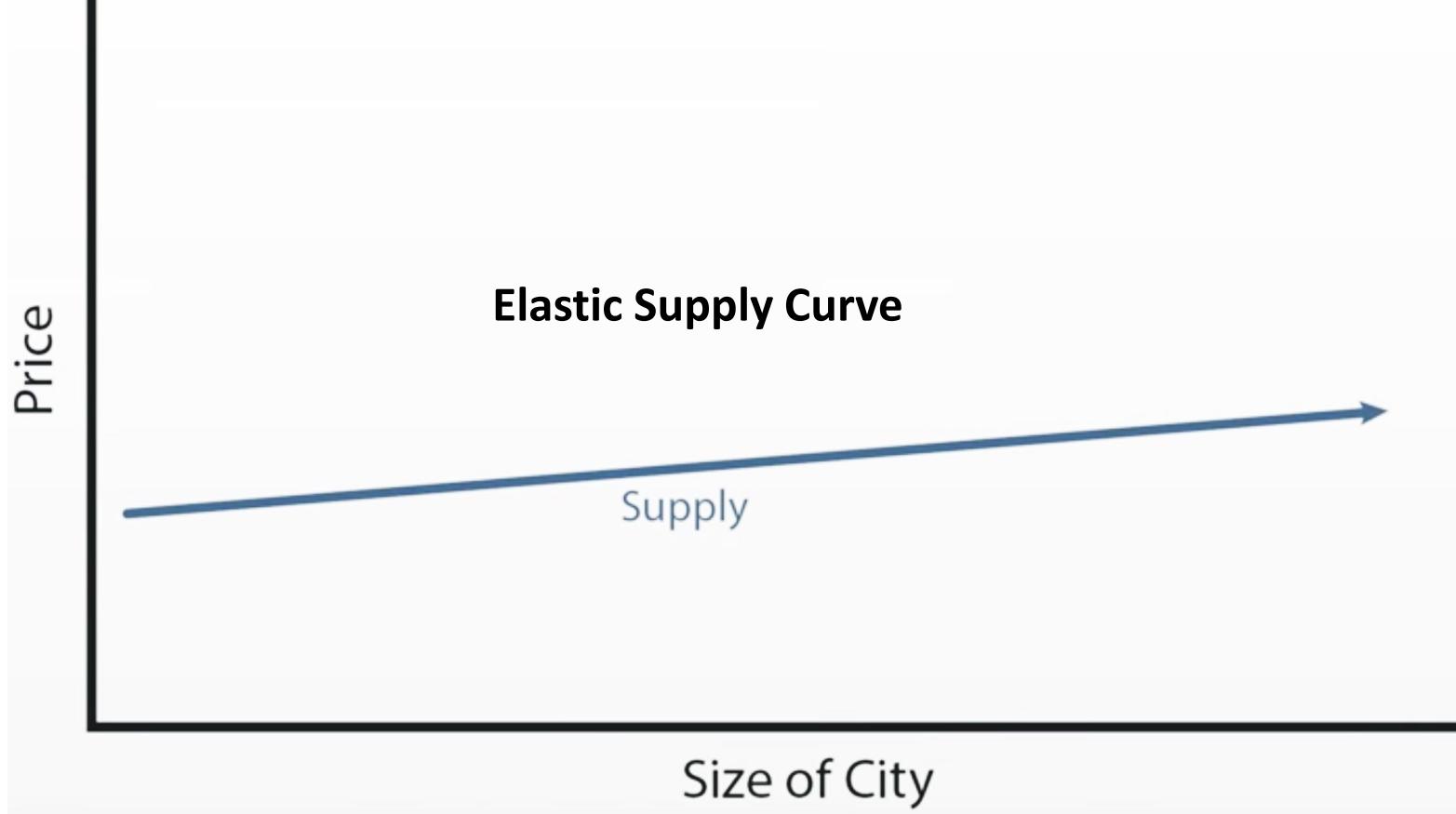
Housing Supply Elasticity

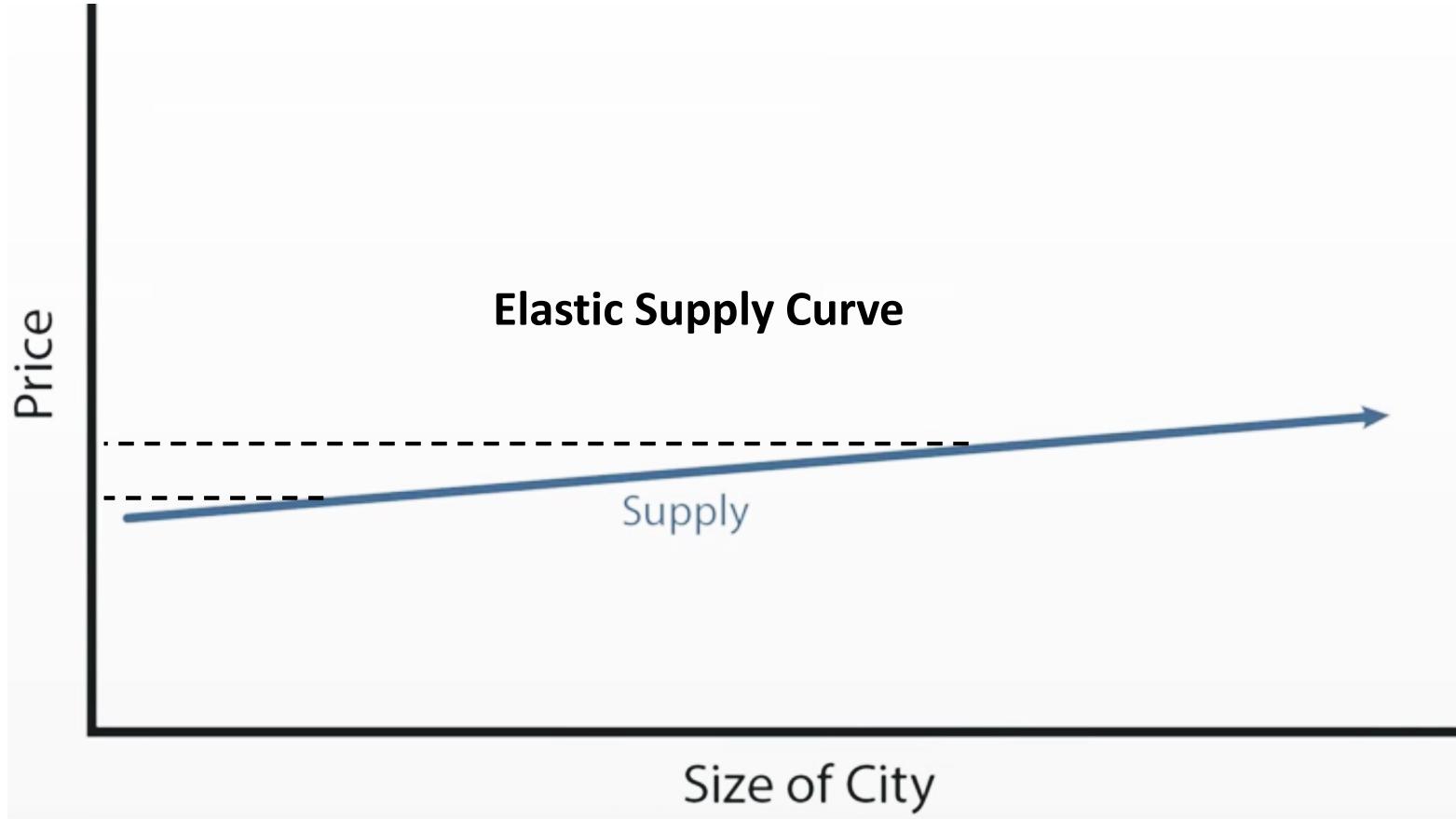
- **The elasticity of supply of housing** refers to how much the quantity supplied of changes when the price changes.

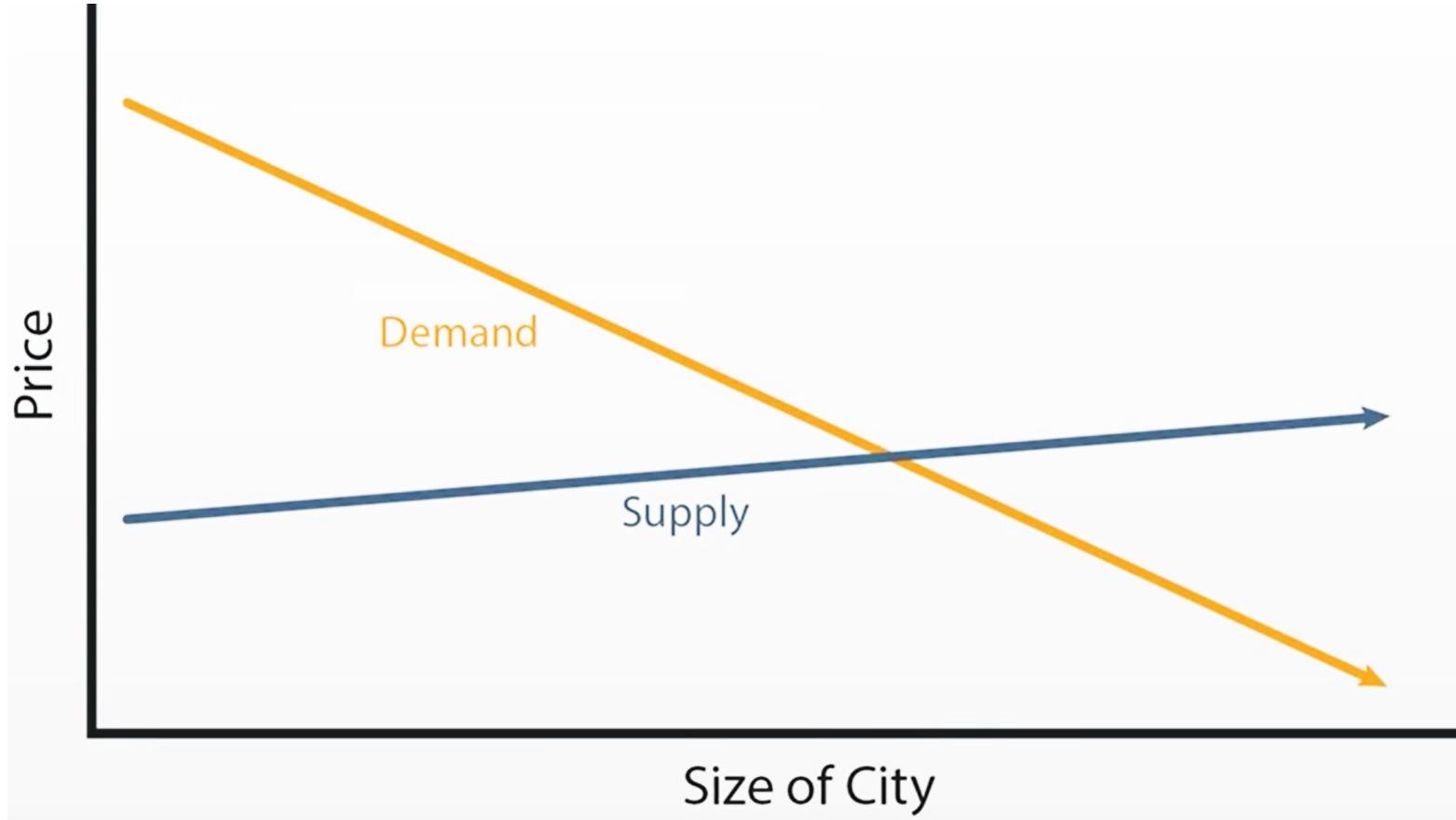
$$\text{Elasticity of Supply} = \frac{\% \text{ Change in Housing Supply}}{\% \text{ Change in Housing Price}}$$

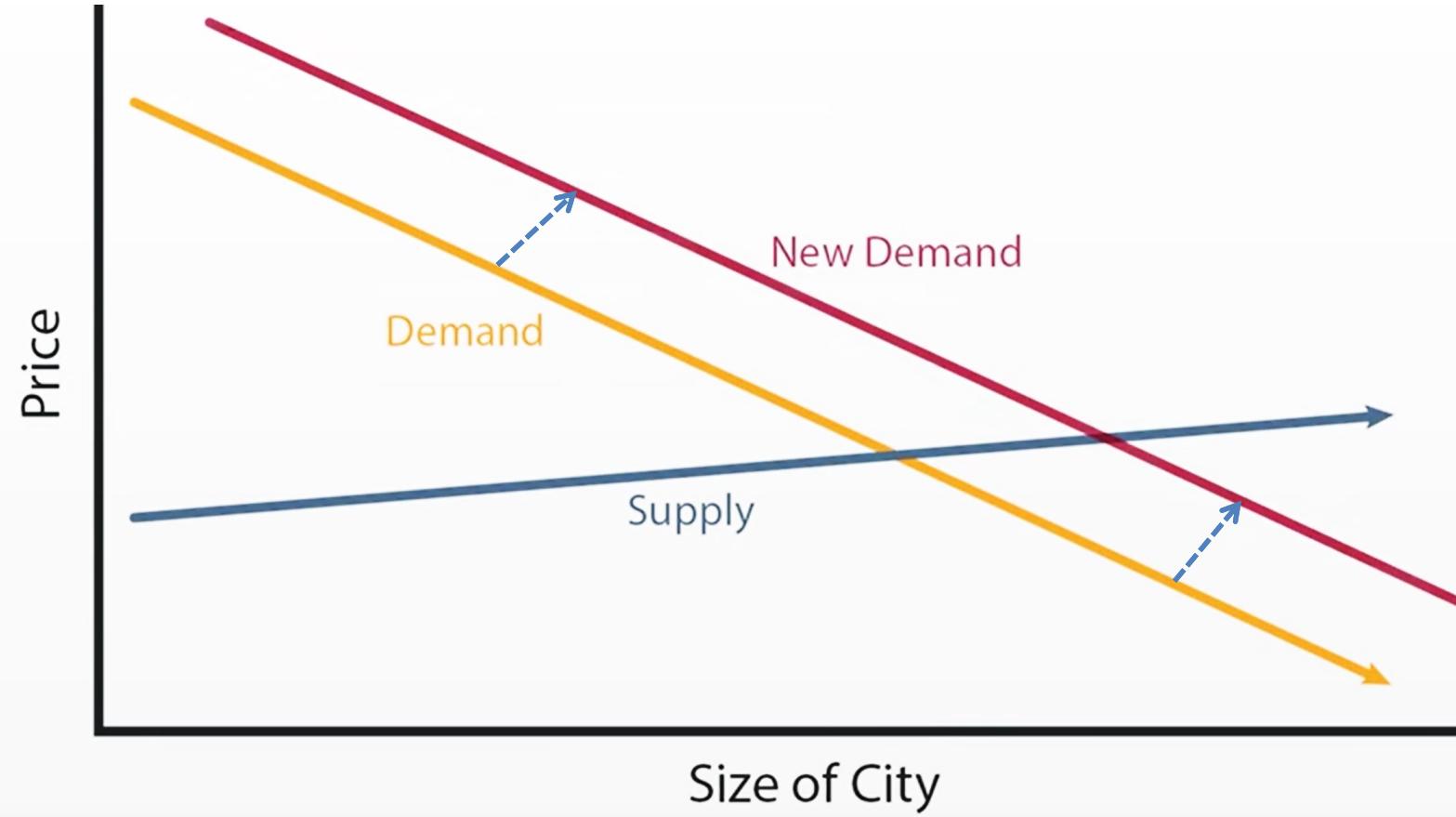
- **The elasticity of demand for housing** refers to how much the quantity demanded of housing changes when the price changes.

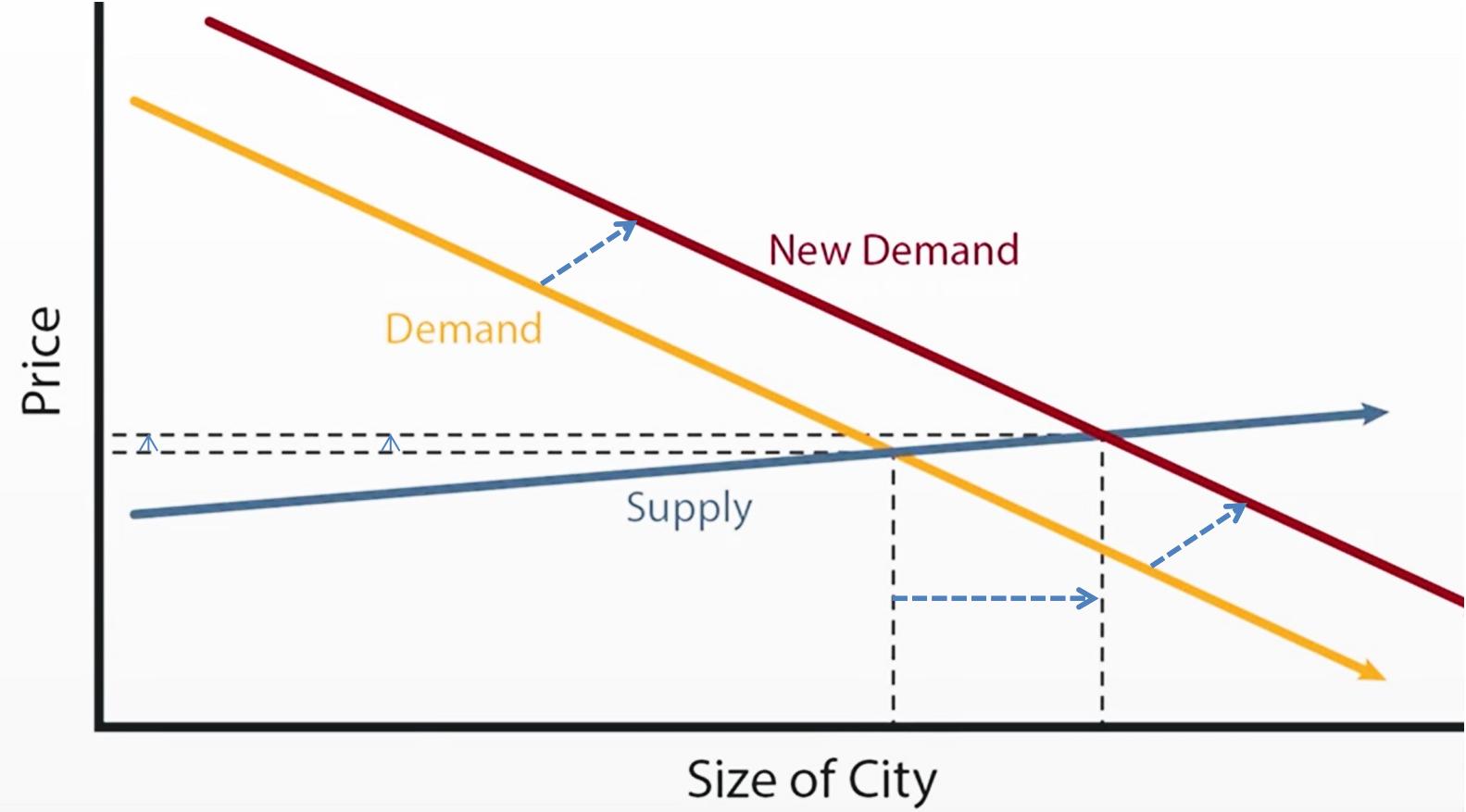
$$\text{Elasticity of Demand} = \frac{\% \text{ Change in Housing Demand}}{\% \text{ Change in Housing Price}}$$

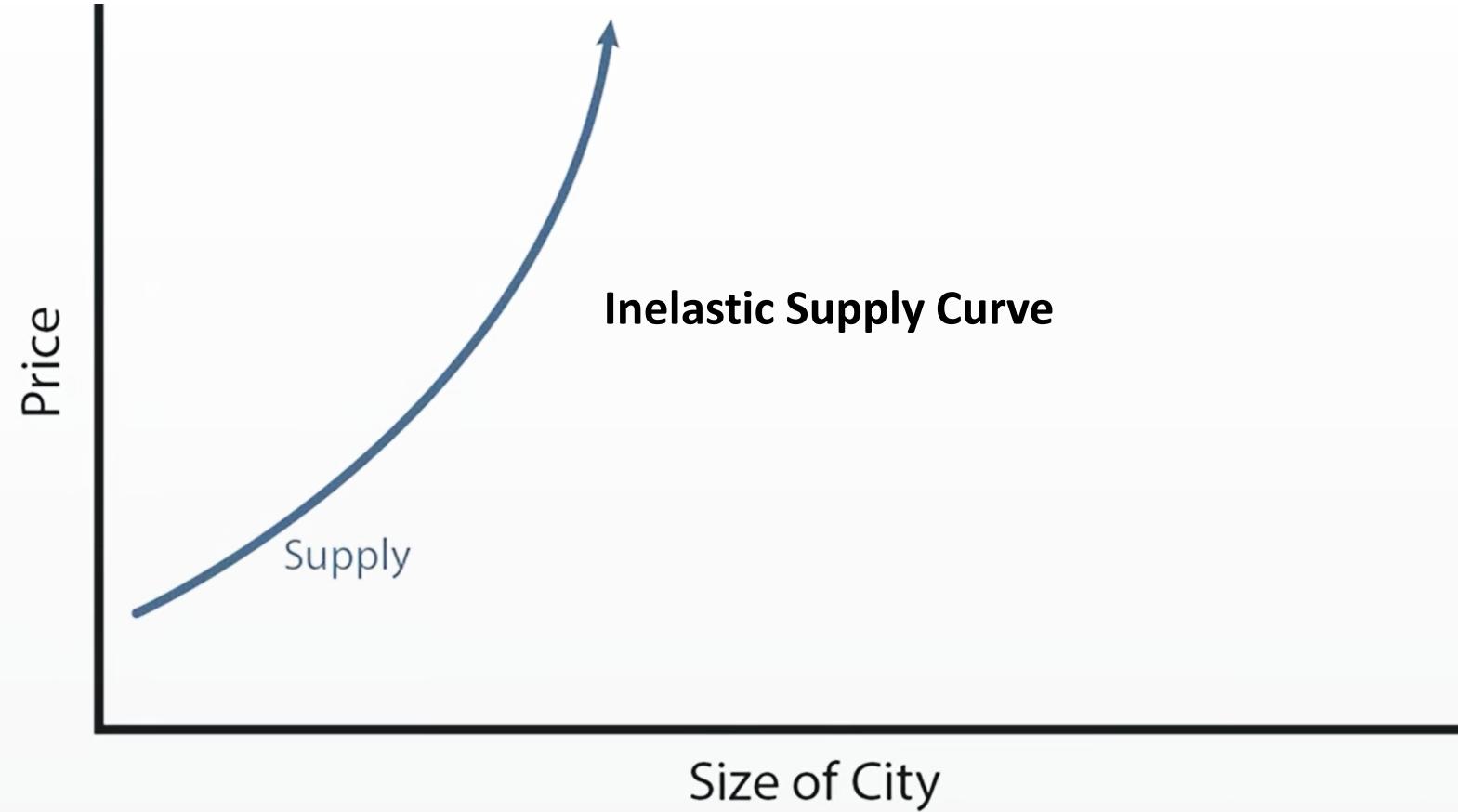


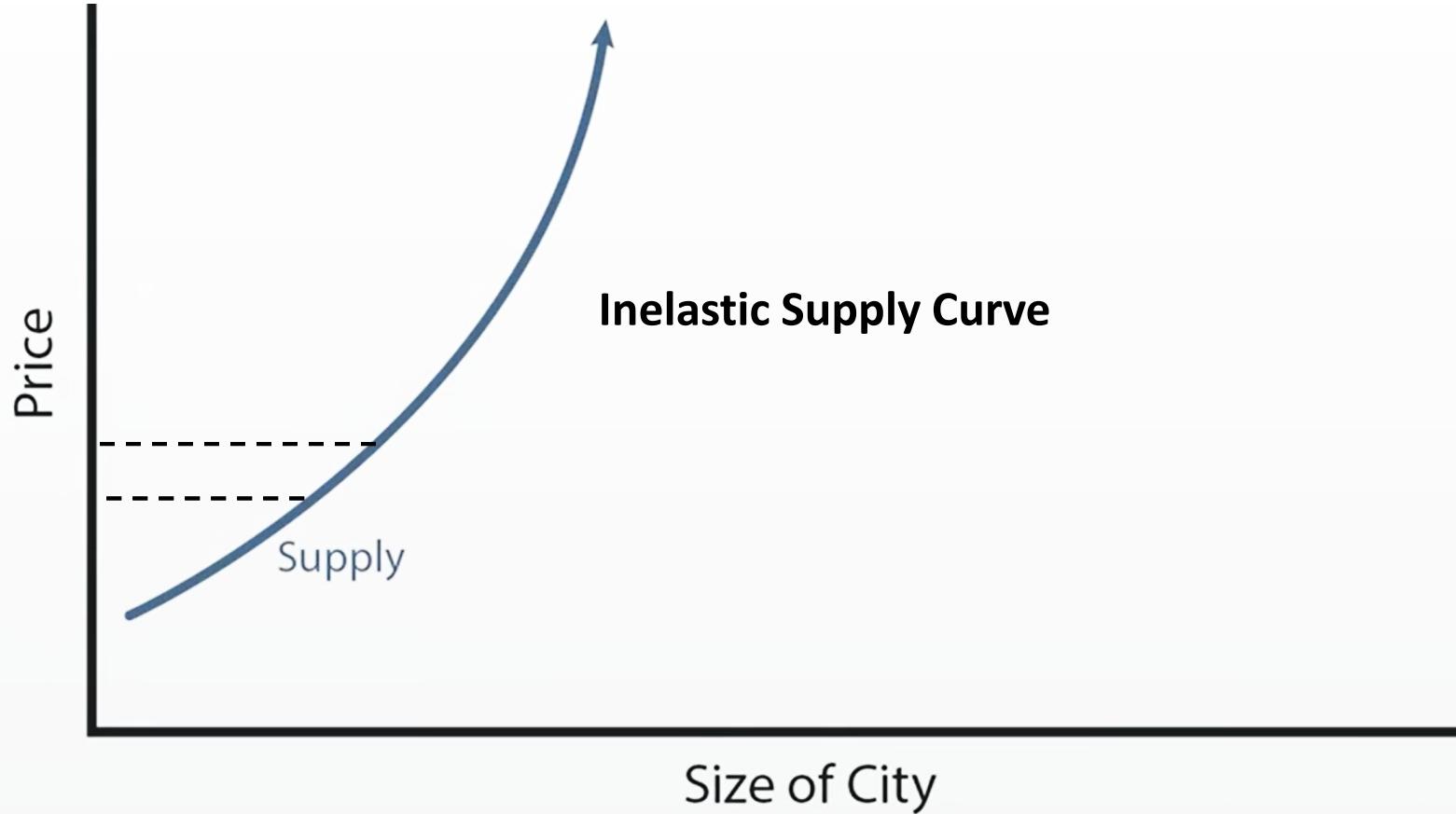


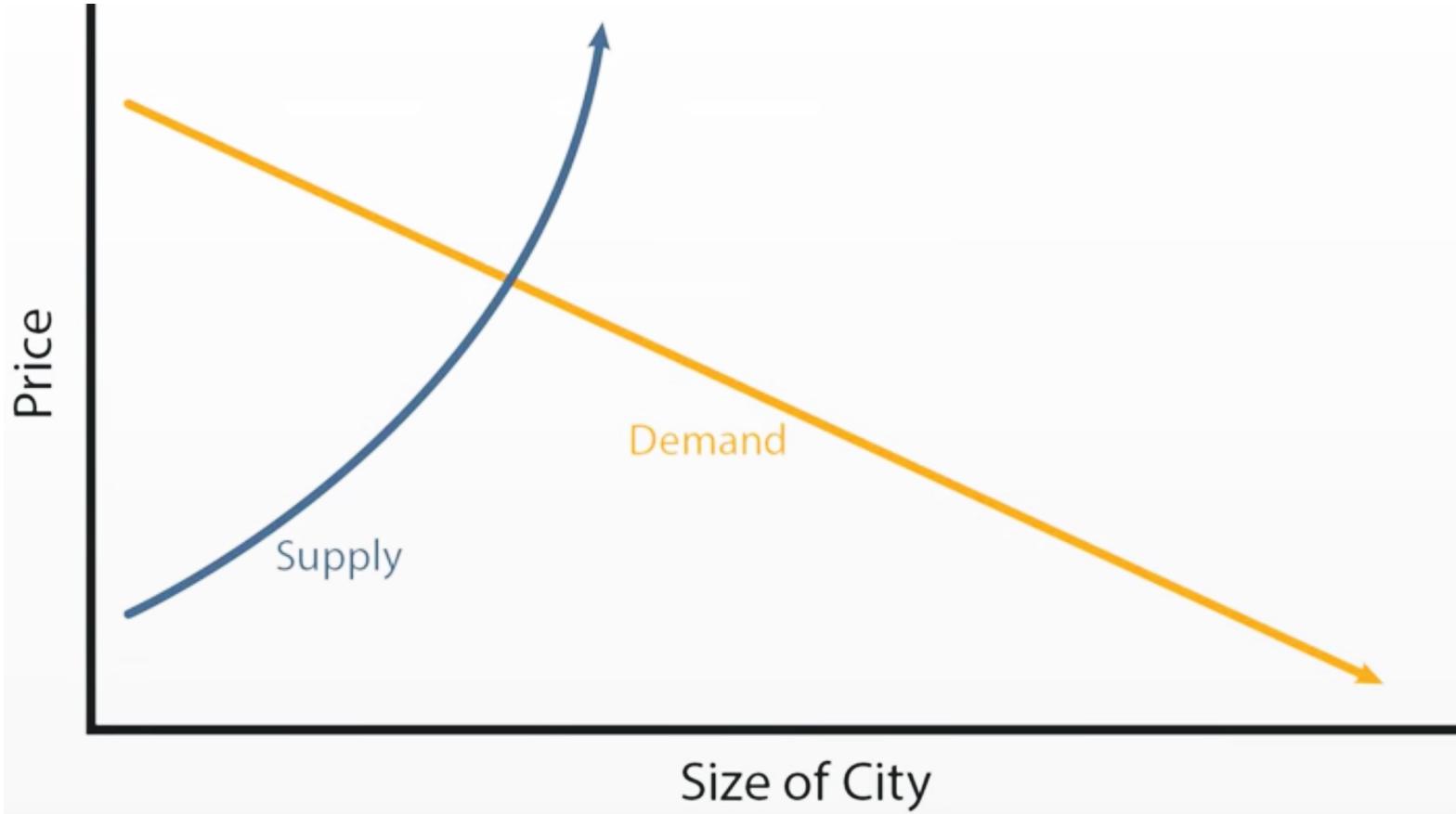


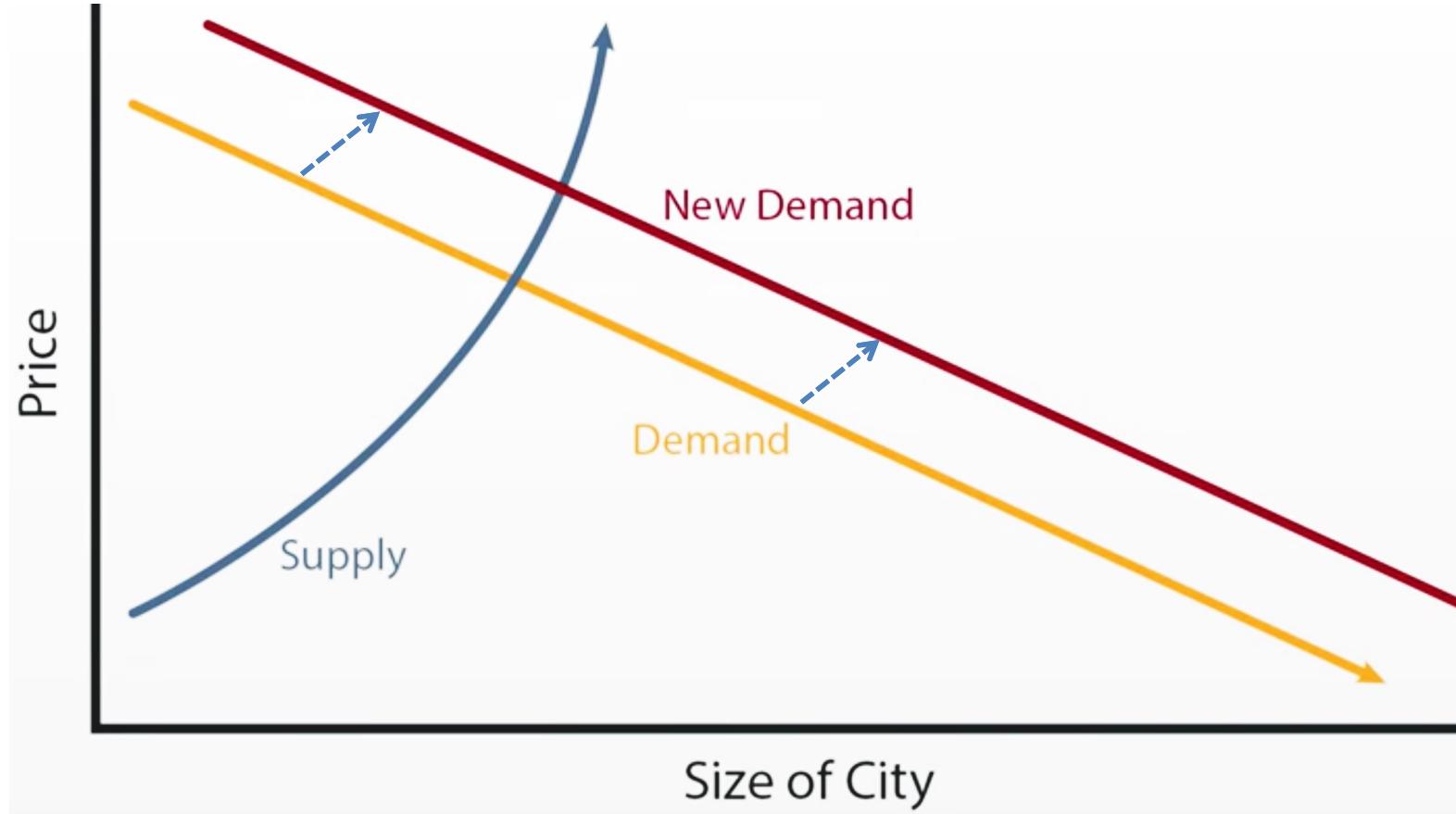


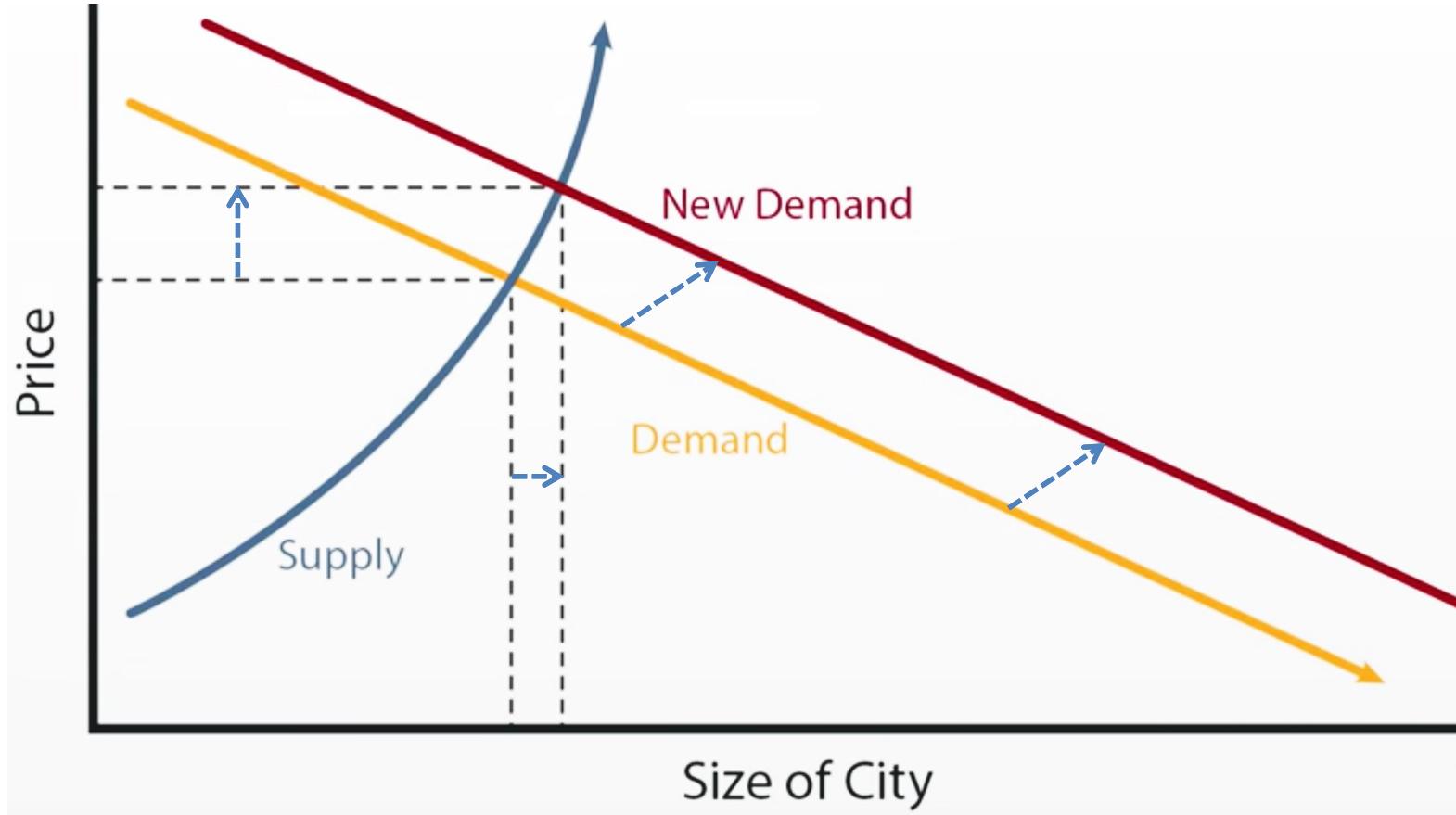












What determines supply elasticity?

- What factors determine the supply elasticity
 - Local land use regulations
 - Number of competitors
 - Construction cost
 - Economic condition
 - Construction technology
 - Time horizon (long-run vs. short-run)
 - Topography

How topography affects housing supply elasticity?

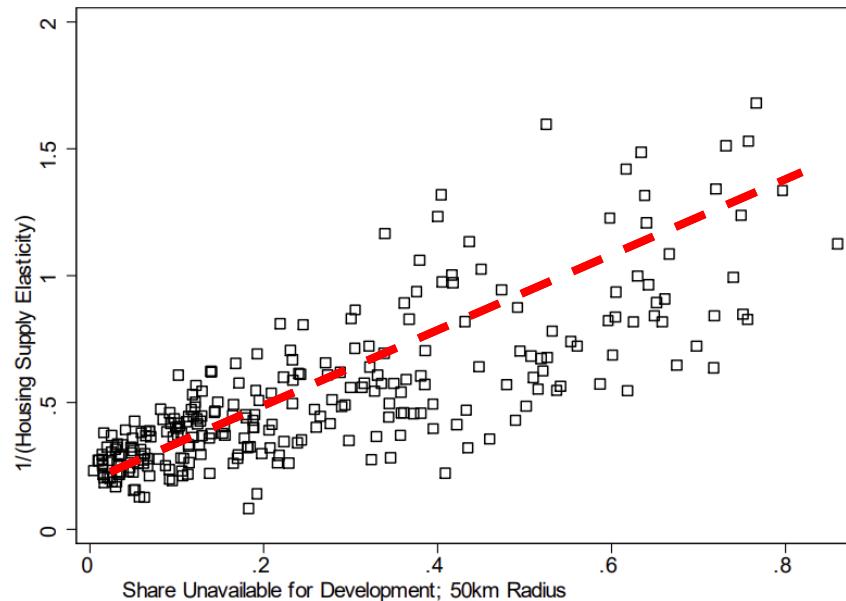
**Saiz (2010), “The Geographic Determinants of Housing Supply”,
Quarterly Journal of Economics 125(3), pp. 1253-1296**

- Housing supply in a region may be more inelastic if parts of the region are unamenable for building due to topography (water, steep-sloped terrain)
- For each MSA, draw a circle of radius 50 km from the city center, and compute the fraction of land that is:
 - Water (ocean, wetlands, or river)
 - On steep terrain (a block group where over half the land has slope above 15%)

How topography affects housing supply elasticity?

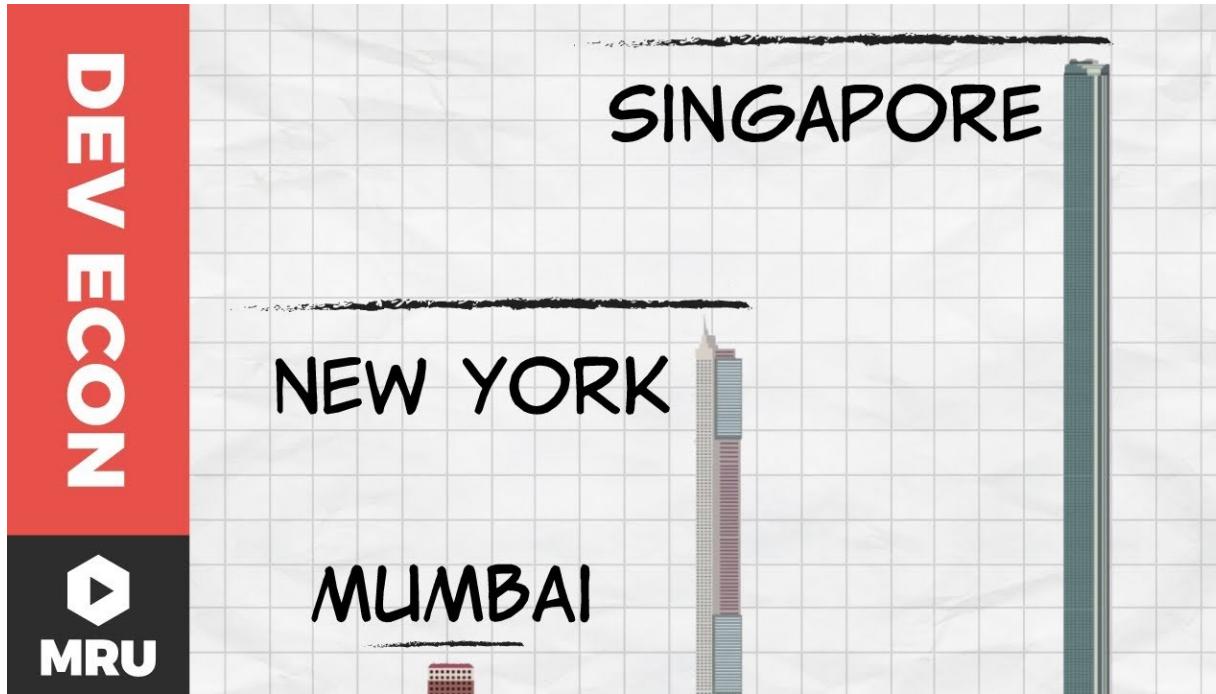
**Saiz (2010), "The Geographic Determinants of Housing Supply",
Quarterly Journal of Economics 125(3), pp. 1253-1296**

MSA	Elasticity	Unavailable Land
1 Miami, FL	0.60	77%
2 Los Angeles, CA	0.63	52%
3 Ft. Lauderdale, FL	0.65	76%
4 San Francisco, CA	0.66	73%
5 San Diego, CA	0.67	63%
265 Terra Haute, IN	6.51	5%
266 Alexandria, LA	7.15	19%
267 Columbia, MO	7.84	6%
268 St. Joseph, MO	7.94	6%
269 Pine Bluff, AR	12.15	18%



Video Clip

Skyscrapers and Slums: What's Driving Mumbai's Housing Crisis? (8:19)



Key Takeaways

- Understand the demand and supply curves for housing
- Understand the movement along the curve vs. the shift of the curve
- Understand factors that shift the demand and supply for housing
- Understand the elasticity of housing supply
- Understand factors influence the supply elasticity in the housing market
- Understand potential issues caused if the housing supply is too inelastic
- Optional Readings:
 - Saiz, A. (2010). The Geographic Determinants of Housing Supply. *Quarterly Journal of Economics*, 125(3), 1253-1296.