Week 4

Midterm Practice

On the front page of the 9.23.19 edition of the newspaper USA Today one reads:

> Dairy Farmers weigh drop in milk drinkers. Consumption declines in favor of soy, almond and other 'fake' milks.

Assume the market for cows' milk produced by dairy farmers approximates the model of perfect competition.

What is the likely effect of the "drop" in the number of "milk drinkers" on the market price of milk and the market quantity?

If the market demand for milk is elastic, what is the likely effect of the "drop in milk drinkers" on the total revenue going to milk producers (i.e., dairy farmers)?

What is the likely effect of the “drop in milk drinkers” on the price of yogurt products (cows’ milk being an input for yogurt production)?

If the U.S. Department of Agriculture determines that milk prices are “too low” to be fair for dairy farmers and “supports” the price of milk at a level higher than the market clearing (or equilibrium) price, what is the economic consequence of the price support?

What are two policy measures the government might take to make the milk price support effective?

What is the likely effect of the drop in the consumption of cows' milk on the price of what the article calls "soy, almond and other 'fake' milks"?

(2018Q1) The Colander textbook claims that a tax increase on gasoline will have different effects depending on whether the tax is imposed only in Washington, D.C. or across the entire U.S. The author claims this is because of different elasticities.

Would the demand for gasoline in Washington, D.C., or the entire nation, have the more elastic demand? Why?

(2018Q5) The U.S. Supreme Court has ruled that a proper test for deciding whether two different products compete with each other (i.e., whether they belong in the same "relevant market") is the economic concept of cross-elasticity of demand. The Court wrote,

> The . . . boundaries of a product market are determined by the cross-elasticity of demand between the product itself and substitutes for it.

You have been asked: do carbonated soft drinks (such as Coca-Cola and Pepsi) compete with energy drinks (such as Red Bull and Monster)? That is, do they belong in the same market?

How can the economist's tool of cross-elasticity of demand help answer this question (as the Supreme Court suggests it might)?

Elasticities

What happens to quantity demanded/supplied when *something* changes?

That *something* could be

- its price (**"own-price"**)
- other prices ("cross-price")
- incomes
- advertising expenditures
- many others...

Today, we focus on own-price to build intuition

Own-Price Elasticities

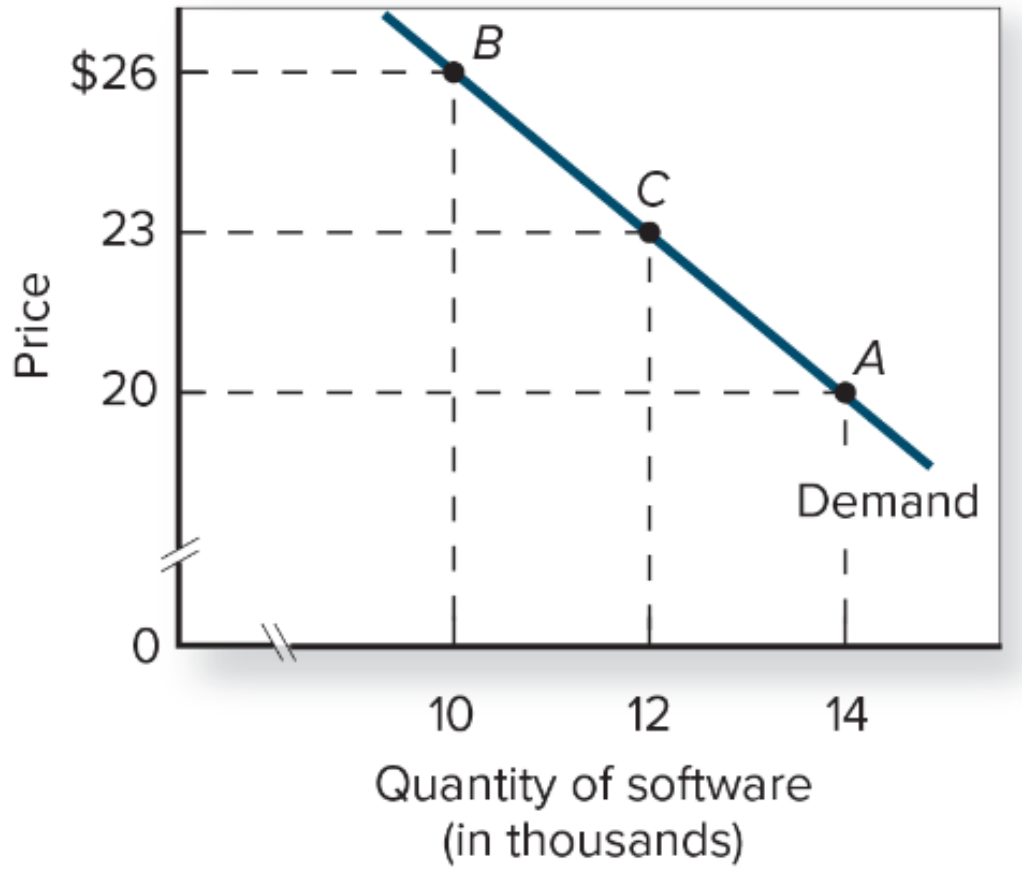
a) How will sales of Big Macs change if McDonald's raises the price by 1%?

b) How many more employees can McDonald's hire if they raise wages by 1%?

Which of these is an elasticity of supply?

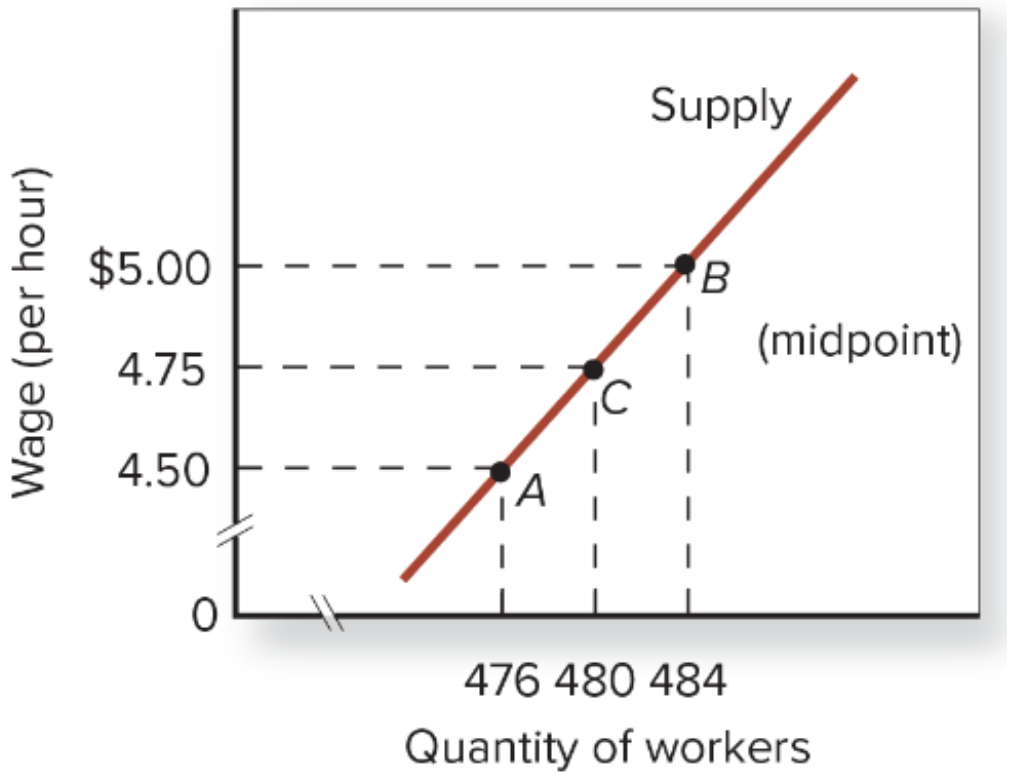
The Elasticity of Demand

What happens to the number of Big Macs that McDonald's sells if they raise the price by 1%?



The Elasticity of Supply

What happens to the number of employees McDonald's can hire if they raise wages by 1%?

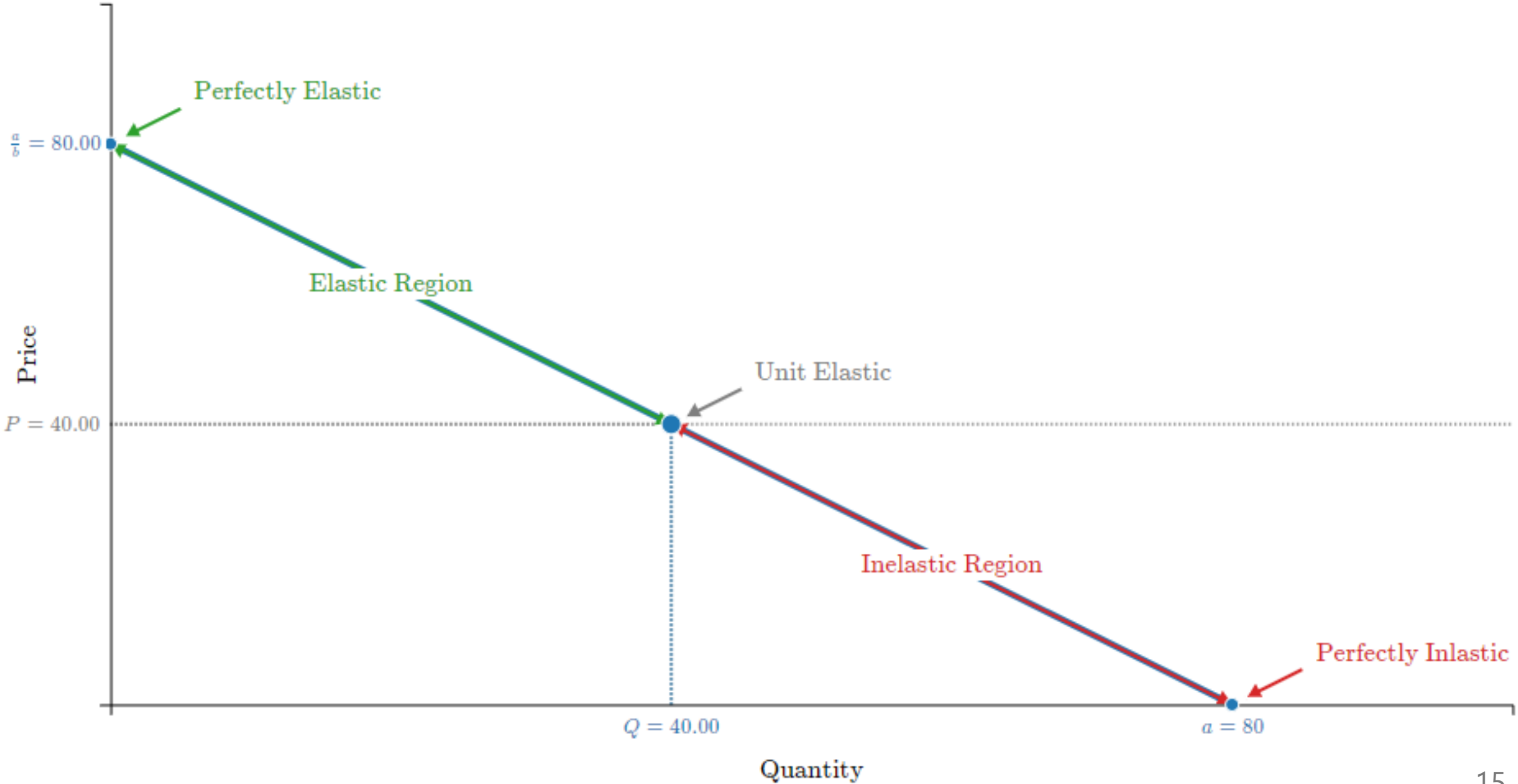


Properties

An elasticity...

- is defined for a **single point** on the demand or supply curve
- has **no units**
- has the **same sign** as the slope but changes along a linear demand or supply curve

What sign should an own-price elasticity of demand have?


Perfectly Elastic
$\frac{a}{b} = 80.00$
Elastic Region
Price
Unit Elastic
$P = 40.00$
Inelastic Region
Perfectly Inlastic
$Q = 40.00$
$a = 80$
Quantity

Describing the elasticity

If the elasticity satisfies $|\epsilon| < 1$, the curve **inelastic**

- quantity doesn't respond to price changes
- if curve is vertical, then perfectly inelastic

If the elasticity satisfies $|\epsilon| > 1$, the curve is **elastic**

- quantity changes dramatically when prices change
- if curve is horizontal, perfectly elastic

More substitutes $\iff$ more elastic

Examples:

Elastic	Inelastic
Land in rural Kansas	Land in Manhattan
Chipotle burritos	Food
A smartphone in 2020	A smartphone in 2007
A t-shirt today	A t-shirt sometime this year