



Worksheet 4.1

From Heart Transplants to Watermelons: Understanding Price Elasticity of Demand

Consumers are interesting creatures to study. Economics offers us a unique set of tools for understanding the behavior of consumers in various markets. Elasticity allows us to compare the responsiveness of consumers of various goods price changes in those goods. If demand is elastic, we know consumers are highly responsive to price changes; if it is inelastic, we know consumers are relatively unresponsive to price changes. Some of the questions about consumer behavior that elasticity helps answer are:

1. Why do governments place such huge taxes on cigarettes?
2. Why did Apple cut the price of the new iPhone in half from the original one, despite the fact that it had so many new features?
3. Why do movie theaters seem to raise their prices so steadily over the years, rather than doubling the price of tickets each year?

These and other questions can be answered by knowing something about the relative price elasticities of demand for the goods in question. ***Price elasticity of demand refers to the sensitivity of consumers to a change in price.*** For some goods, even the slightest increase in price will scare consumers away, while for others, price can go up and up and up and the quantity demanded won't budge!

Here's just one illustration of a good for which consumers are extremely sensitive to changes in price: every autumn, around the city of Shanghai thousands of small farms harvest the Chinese watermelon; a small, green, juicy melon that looks and tastes the same regardless of which farm it came from. The farmers sell their melons to one of the hundreds of melon vendors who drive their big blue trucks into the city of Shanghai for about two weeks in October. These vendors then sell the watermelons to the city folk who love their refreshing taste.

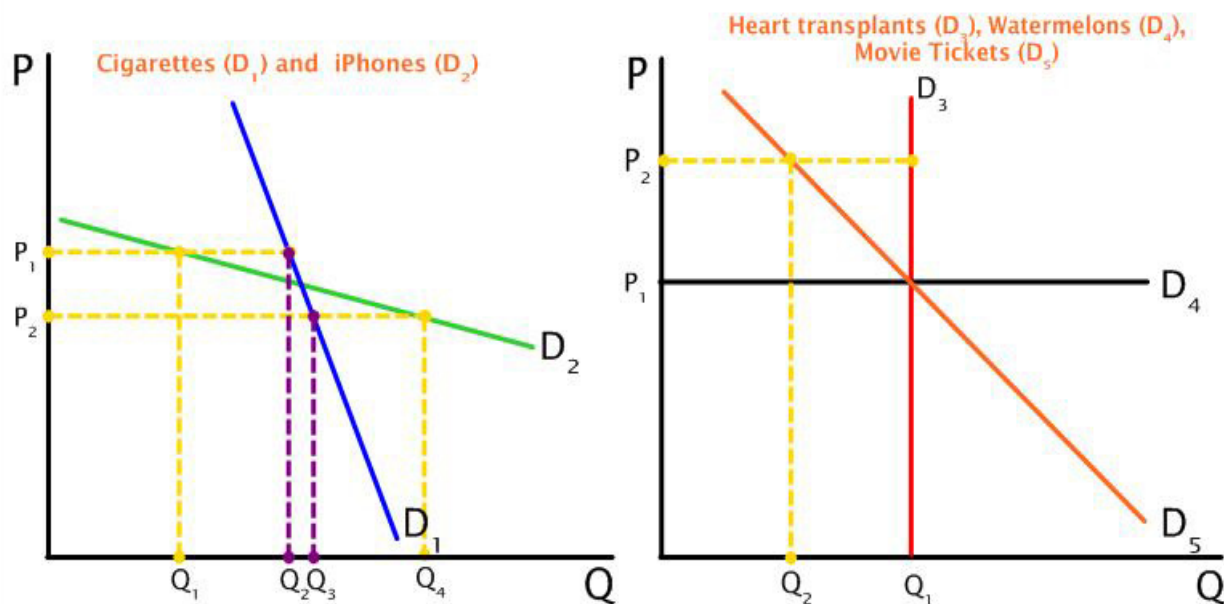
During the two weeks of the melon harvest, there are hundreds of blue trucks parked two or three per block all over the city. The hundreds of melon vendors sell an identical product, acquired at identical costs from thousands of farms using identical techniques for farming. In other words, the melon market in Shanghai during these two weeks is close to being *perfectly competitive*.

The price of melons is established through competition at something very close to the exact cost to the vendor of getting the melons into the city. Consumers know this, and therefore if one vendor tries to sell his melons for more than the equilibrium price, consumers will respond by buying NONE of that vendors' melons. Conversely, if a vendor were to lower his price at all, rationally EVERY consumer would want to buy from that vendor, but since the price is already at the cost to the vendor, no vendor is able to lower the price without losing money. The outcome in the market for melons in Shanghai is



that demand for melons is close to being perfectly elastic, meaning that consumers are completely sensitive to changes in price of watermelons.

Not all goods are like watermelons. In fact, for some goods demand is close to perfectly inelastic. Study the graph below, showing the relative elasticities of five different products, then answer the questions below in your comment.



Questions:

1. For which product is demand perfectly inelastic? Perfectly elastic? Unit elastic?
2. What relationship exists between relative slopes of demand curves and elasticity?
3. What are two characteristics of cigarettes that make demand for them inelastic?
4. What are two characteristics of heart transplants that make demand perfectly inelastic?
5. What are the characteristics of a good for which demand is perfectly elastic?