Modelling Demand

Understanding and utilising "Demand Curves"

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Learning Objectives

1. **To understand the demand curve**

2. **To understand the concept of ‘ceteris paribus’**

3. **To be confident in forecasting moves along the curve**

Supply and Demand

Supply and Demand are the two words that economists use most often.

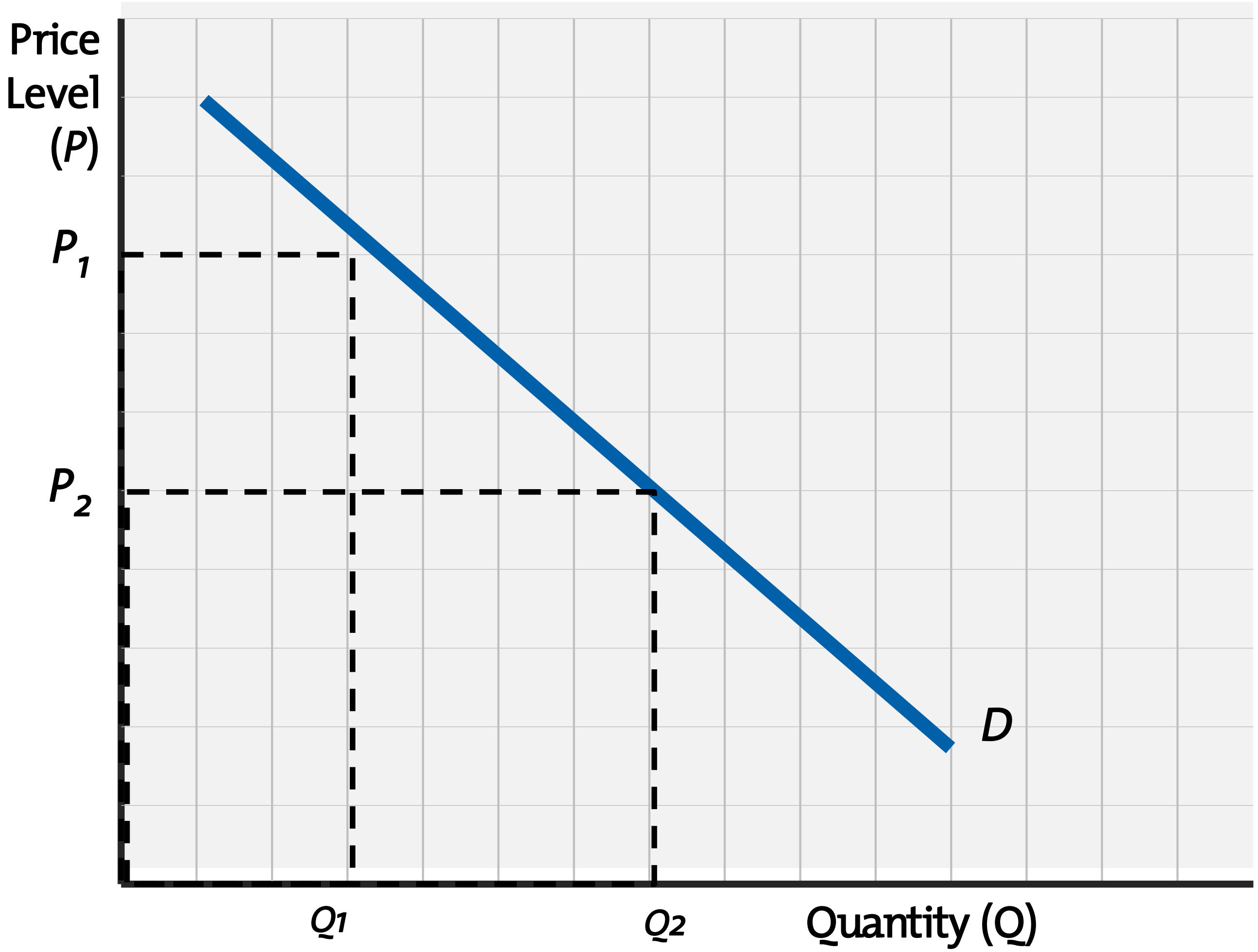
- Buyers in the market (customers) determine demand, while sellers (businesses) determine supply.
- In a free market economy prices of goods and services are determined by demand and supply.
- For a business setting the price of the product is crucial for its success, but what is the best price for a particular product?

Demand

- Demand is the quantity of a good or service that consumers are willing and able to buy at a given price in a given time
- Economists model the behaviour of buyers or consumers through demand curves
- Demand curve A graphical representation that shows the relationship between the price of a product or service and the quantity demanded.
- Typically the price is plotted on the Y axis (the vertical axis) of the graph and the corresponding quantity demanded is plotted on the x axis (horizontal axis).
- It is a common sense observation that people will buy less of a good when it becomes more expensive and more of a good when it is cheap, this is known as the law of demand.

The Demand Curve

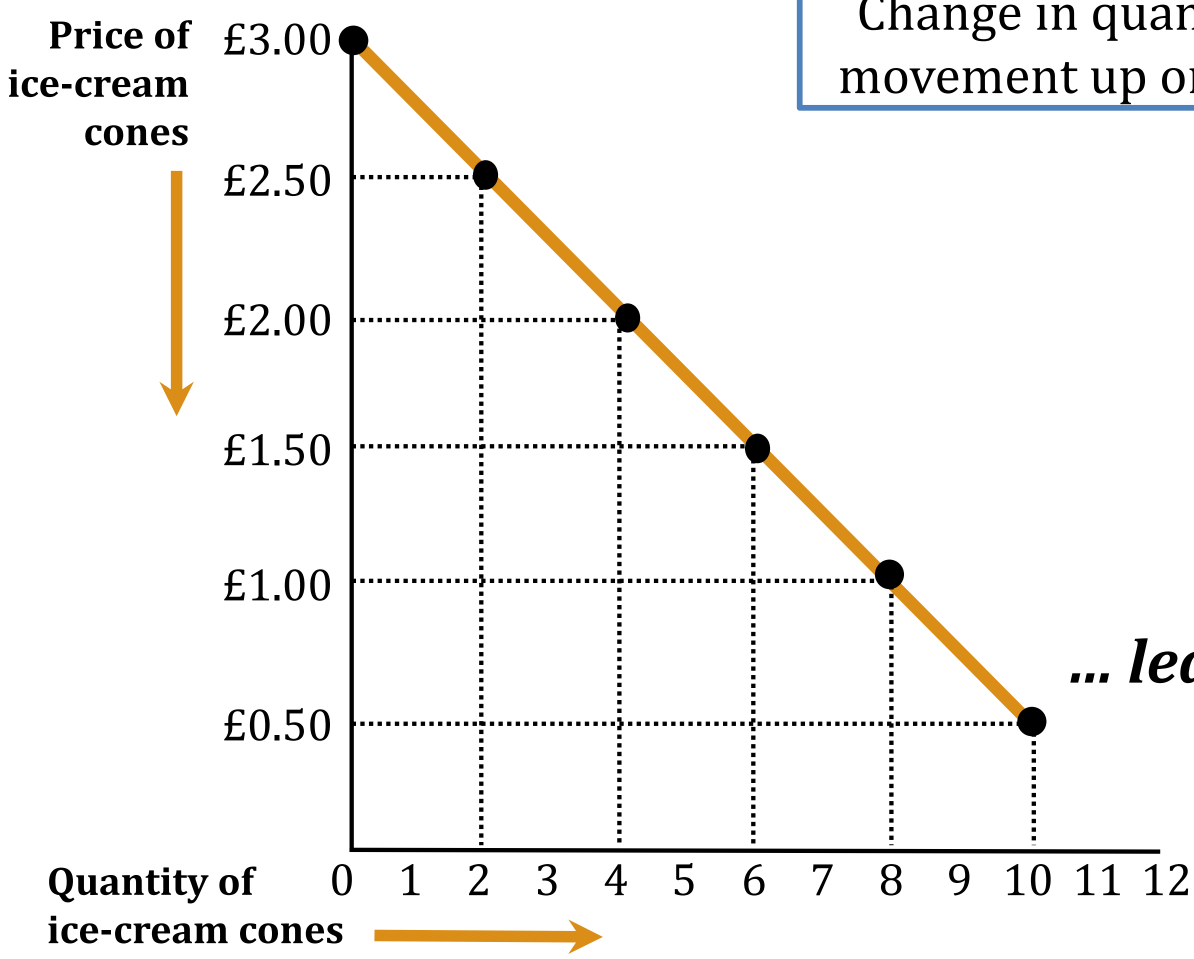
- The Demand Curve



Modelling the Demand Curve

A decrease in price…

Only a change in price causes a
Change in quantity in demanded – i.e., a
movement up or down the demand curve



… leads to an increase in the quantity of cones demanded

Pricing and Demand - Examples

- End-of-season sales at a clothing store.
  - Sales are simply an attempt by the retailer to shift stock that consumers would not buy at the higher price.

- A ‘Buy One Get One Free’ offer (‘BOGOF’) at the supermarket allows the published price to stay the same, but the effective price for consumers is halved.
  - Under such an offer, consumers are more willing to demand the product and companies use such promotions to increase sales and gain market share.

Effects of a Price Change

- The Law of Demand states that, other things being equal, the quantity demanded of a good or service increases when the price of the good decreases and vice versa.
- What explains the law of demand?
  - **Substitution effect**
    The change in the quantity demanded of a good that results from a change in price, making the good more or less expensive relative to other goods that are substitutes.
  - **Income effect**
    The change in the quantity demanded of a good that results from the effect of a change in the good's price on consumers' purchasing power.

The Demand Side of the Market

Holding Everything Else Constant:

〉 The Ceteris Paribus Condition

- **Ceteris paribus (*“all else equal”*)**
  The requirement that when analysing the relationship between two variables—such as price and quantity demanded—other variables that might affect consumer demand – must be held constant.
- A shift of a demand curve is an increase or decrease in demand.
- A movement along a demand curve is an increase or decrease in the quantity demanded.

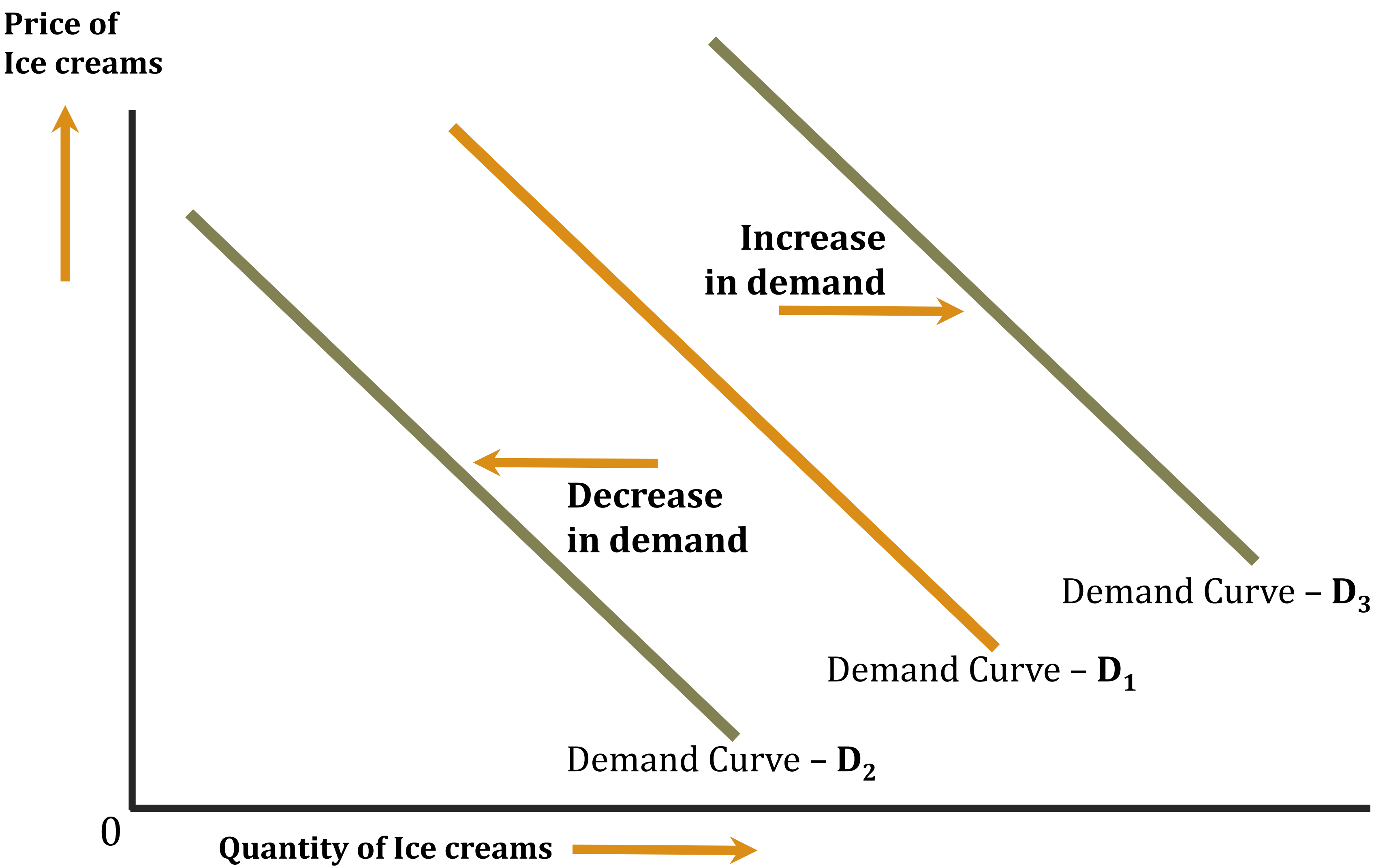
Factors that shift the demand curve

- Up until now we have assumed that only price affects the quantity of a good/service demanded.
- However, a consumer's willingness to buy a product is influenced by more than just the price of the product.
- Factors, other than price, that influence demand for any given product include:
  - Consumer income
  - Prices of related goods (substitutes and complements)
  - Tastes/preferences
  - Price expectations
  - Population and demographics

Shifts in Demand

- Changes in these factors, other than price, will affect the demand for your product and will shift the demand curve.
  - The demand curve will shift to the right if there is an increase in demand at every given price.
  - The demand curve will shift to the left if there is a decrease in demand at every given price.

Shifts in the Demand Curve



1. Consumer Income

- As income increases the demand for a normal good will increase.
  - Normal good A good for which the demand increases as income rises and decreases as income falls.
  - Examples of normal goods: cars; luxury food items (i.e. ice creams)

- As income increases the demand for an inferior good will decrease.
  - Inferior good A good for which the demand increases as income falls and decreases as income rises.
  - Examples of inferior goods: instant noodles; poor quality clothing

2. Prices of Related Goods

- **"Substitutes"** — competing products that can be used for the same purpose.
  - » When a fall in the price of one good reduces the demand for another good, the two goods are called substitutes. For example:
  - » or vodafone
- **"Complements"** — products that are demanded/used together.
  - » When a fall in the price of one good increases the demand for another good, the two goods are called complements. For example:
  - » 

and bp

3. Tastes and Preferences

- Tastes and preferences reflect consumers' attitudes towards particular products.
  - Over time these tastes and preferences are likely to change
  - Advertising tries to change consumers' tastes and preferences:

vs.

vs.

  - An increased preference for any given product or service would lead to it's demand curve shifting towards the right.

4. Price Expectations

- Consumers choose not only which products to buy but also when to buy them. If you expect prices to fall in the future, then it may be wise to wait and delay your purchase.
  - If we expect prices to fall in the future, then demand today will be reduced, shifting the demand curve left
- If we expect prices to rise in the future, it would be wise to buy in the short term
  - We are likely to purchase more thus the given product's demand curve will shift to the right
- For example:
  - New TVs are often sold in the market at premium prices, but within 6 months or so, newer versions force the prices of existing models down.

5. Population and Demographics

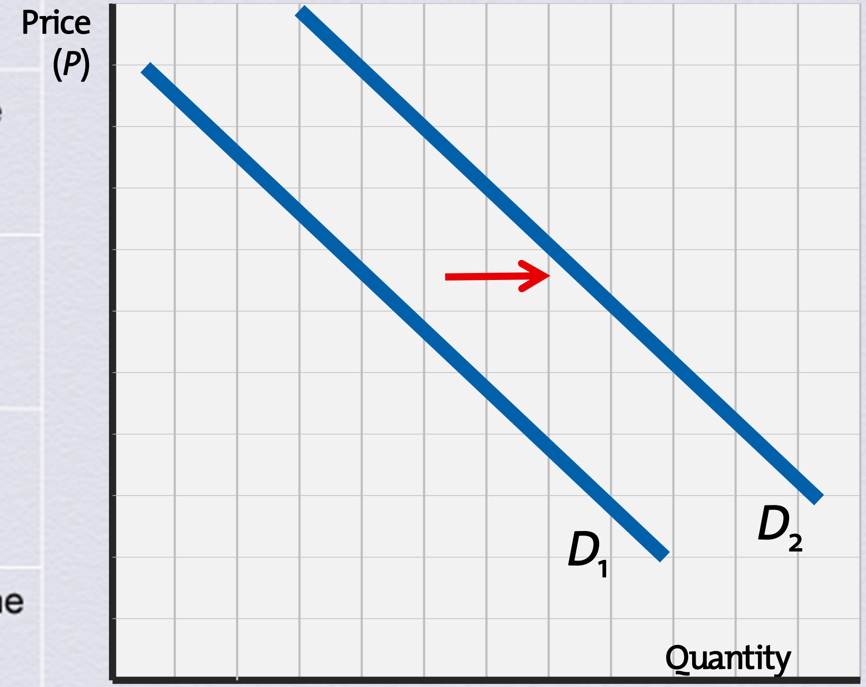
Demographics

- The characteristics of a population with respect to age, race, and gender.

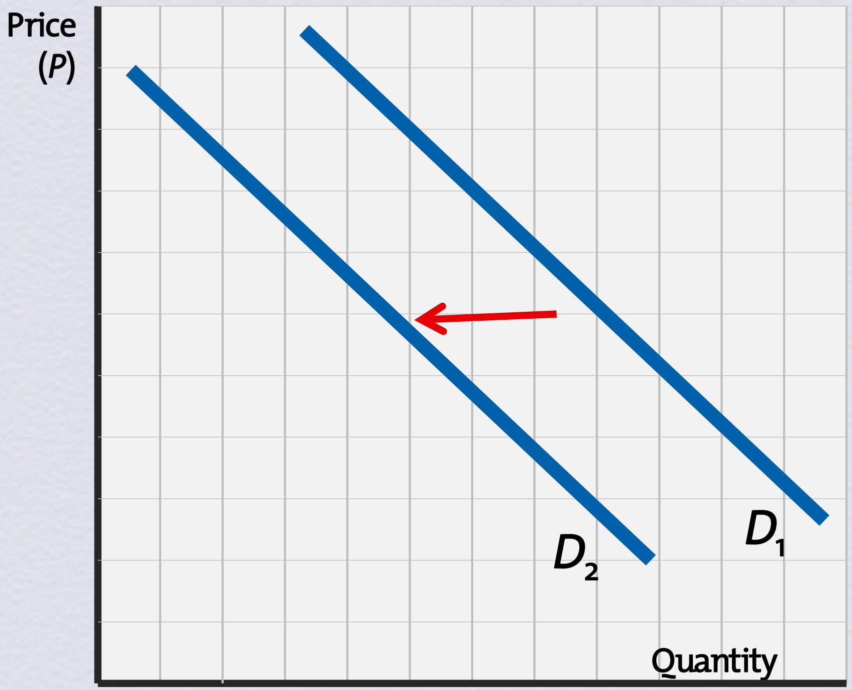
- For example:
  - Increasing number of older people in European countries has increased the demand for products/services they consume e.g. healthcare
  - Increasing population growth in Arabic countries will increase the number of consumers and demand for many products will increase

Variables that Shift Demand Curve rightward

AN INCREASE IN ...	SHIFTS THE DEMAND CURVE TO THE RIGHT ...	BECAUSE ...
income (and the good is normal)		consumers spend more of their higher income on the good.
the price of a substitute good		consumers buy less of the substitute good and more of this good.
taste for the good		consumers are willing to buy a larger quantity of the good at every price.
population		additional consumers result in a greater quantity demanded at every price.
the expected price of the good in the future		consumers buy more of the good today in order to avoid the higher price in the future.

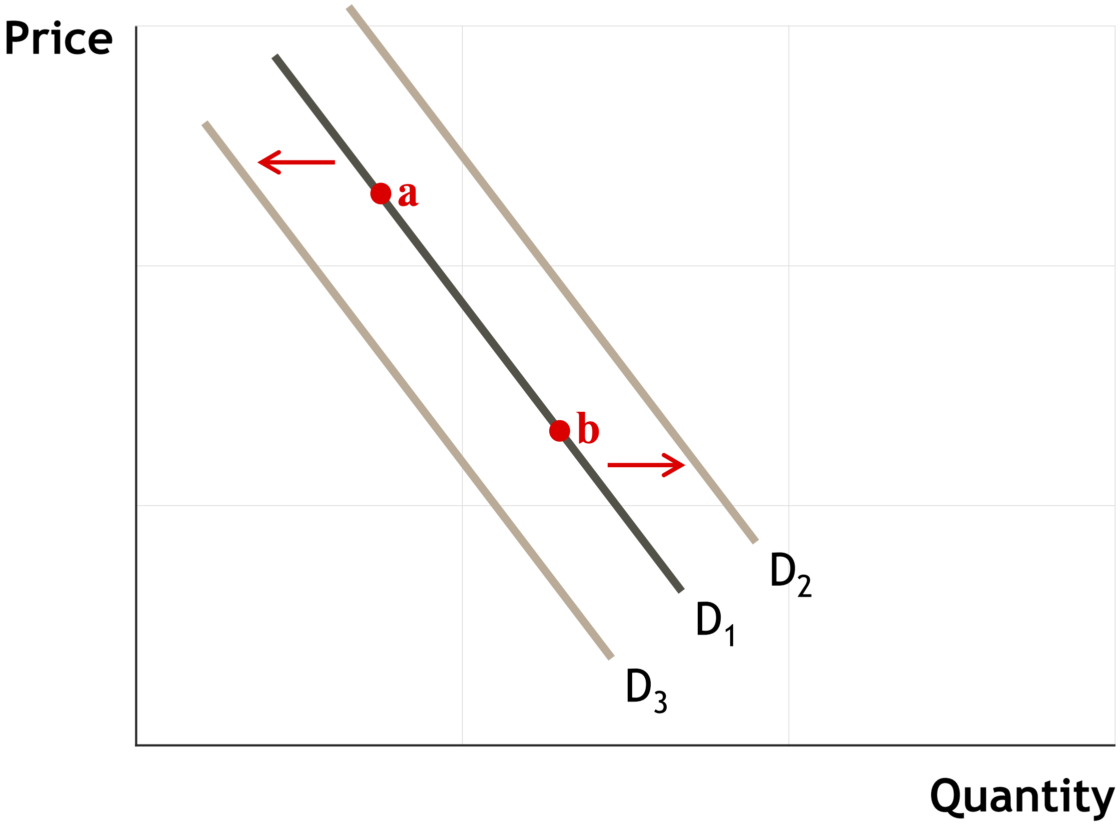


Variables that Shift Demand Curve leftward

AN INCREASE IN ...	SHIFTS THE DEMAND CURVE TO THE LEFT ...	BECAUSE ...
income (and the good is inferior)		consumers spend less of their higher income on the good.
the price of a complementary good		consumers buy less of the complementary good and less of this good.

**Graph for exercises

» This graph is to be referenced when answering the questions on the following slides



**Questions

1. *The price of ice creams decreases from point A to point B on D_1*

   What happens to the quantity of ice creams demanded?

2. *The economy expands and consumers see an increase in their income.*

3. *Consumers become more health conscious and shift their preferences towards healthier alternatives; what happens to demand?*

4. *The summer is very hot; what happens to demand for ice creams?*

5. *The price of ice lollies — a substitute good — decreases.*

   How does this impact on demand?

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