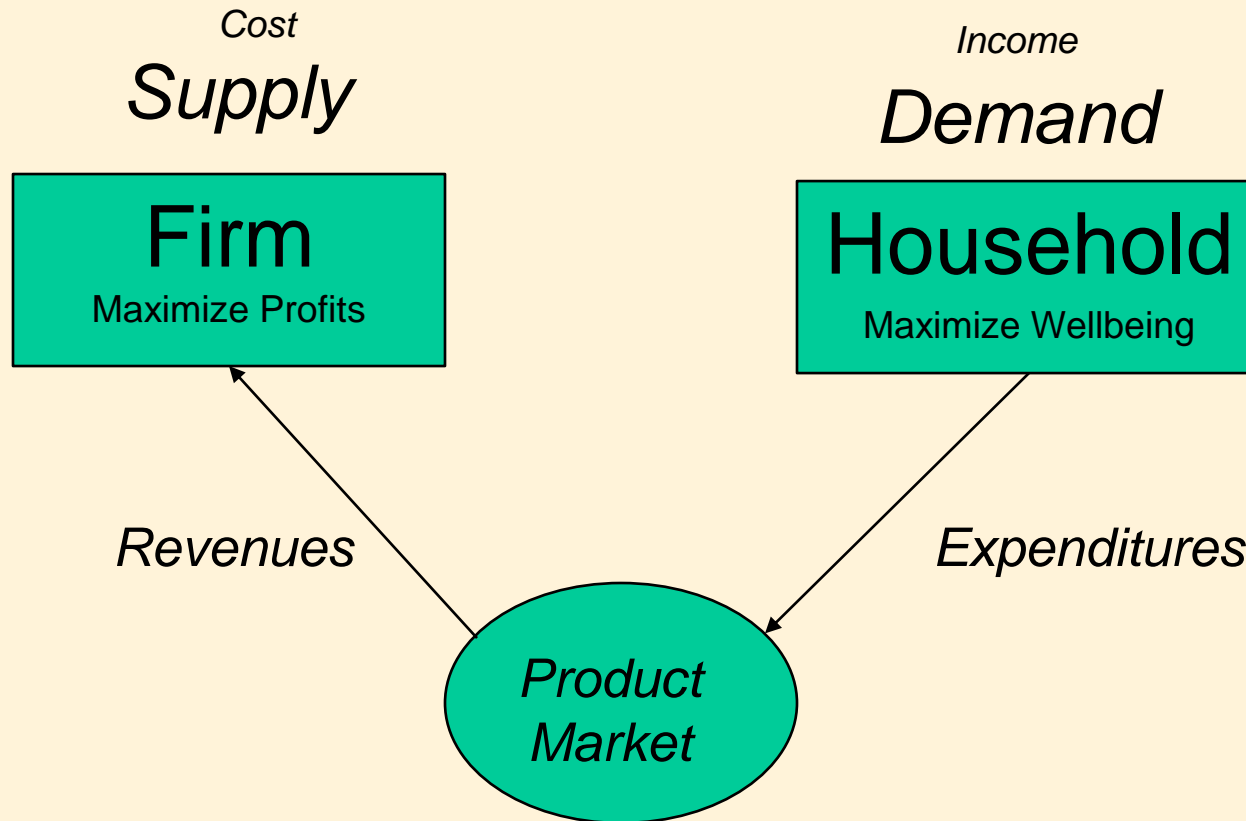


# SUPPLY AND DEMAND: HOW MARKETS WORK



# Circular Flow: Demand and Supply



# Demand

- What determines demand?
  - Anything that influences a household's willingness and ability to buy a product or service.
- $Q_d = D(P, P_{int}, I, N, T, E)$ 
  - $Q_d$  = Quantity demanded
  - $D$  = Demand function
  - $P$  = Price of Item itself
  - $P$  = Prices of related goods
  - $I$  = Income
  - $N$  = Number of People in Market
  - $T$  = Tastes and preferences
  - $E$  = Expectations on Price

# Sports Economics Overview

- Demand, its variation across sports as well as market power.
- Demand and sports fan “welfare.”
- Demand, elasticity, total revenue and marginal revenue in sports.
- Revenue variation and competitive imbalance in sports.

# Worth Some Thought. . .

Absolute and relative competition.

- In any game, we care about the team's relative skills. But. . .
- We also care about the level of competition: minor v. major leagues, men's v. women's versions.
- Implications for PEDs.

# Demand

- ❖ Relation showing the various amounts of a good that buyers would be willing and able to purchase at alternative prices during a given time period, ceteris paribus  $Q_d = D(P; P_{INTE})$  where  $P_{INTE}$  is held constant

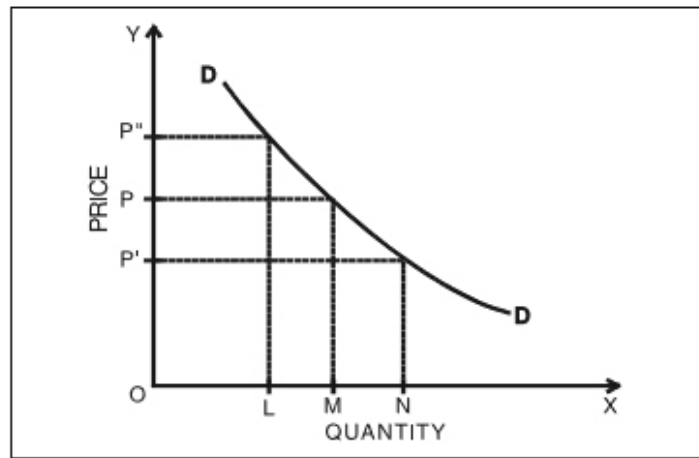
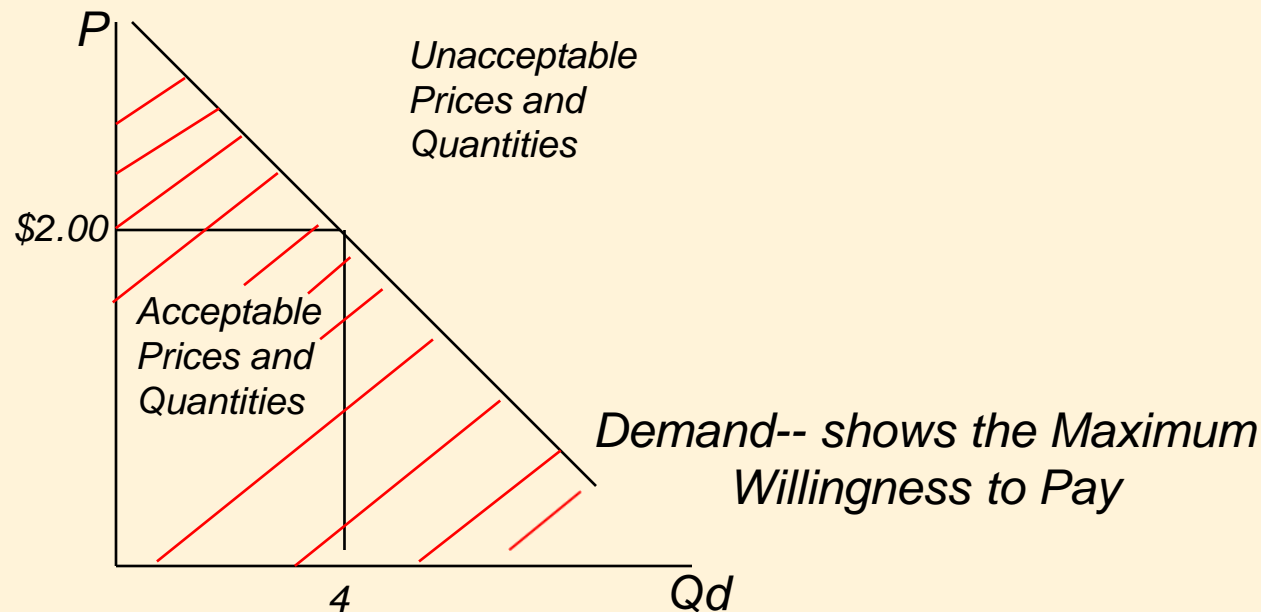


Fig. 1

# An Apology

- Mathematically we have graphed it backwards  $Q_d = D(P)$  or  $Y = f(x)$



# Determinants of demand

- ❖ Price of the product itself( $P_x$ ): we are referring to the relative price of the good. By holding other prices constant any change in the money price of the good represents a change in its relative price.
  - ❖ **Relative Price**: the ratio of the price of one good to the price of another good. A relative price represents an opportunity cost.
  - ❖ **Money Price**: the price of a good expressed in monetary units.
- ❖  $Q_d = D(P:PINTE)$



# Demand shifters

## ❖ What's held constant?

- ❖ The price of other goods enjoyed by fans.
  - ❖ Substitutes
  - ❖ Complements
- ❖ Fan income.
- ❖ Number in Population (large market teams).
- ❖ Tastes and Preferences- especially for team quality.
- ❖ Fan expectations about the future

# Law of Demand

- ❖ The quantity demanded ( $Q_D$ ) of a good varies inversely with its price, *ceteris paribus*. The price of a product and its quantity demanded vary inversely because of either diminishing marginal utility or the substitution and income effects.

# Downward Sloping Demand

## ❖ Diminishing Marginal Utility

- ❖ States that all else equal as consumption increases the marginal utility derived from each additional good declines. Less satisfaction from each additional good.

## ❖ Substitution Effect

- ❖ When the price of a good falls, consumers are more willing to substitute this good for other goods, so the  $Q_D$  increases.

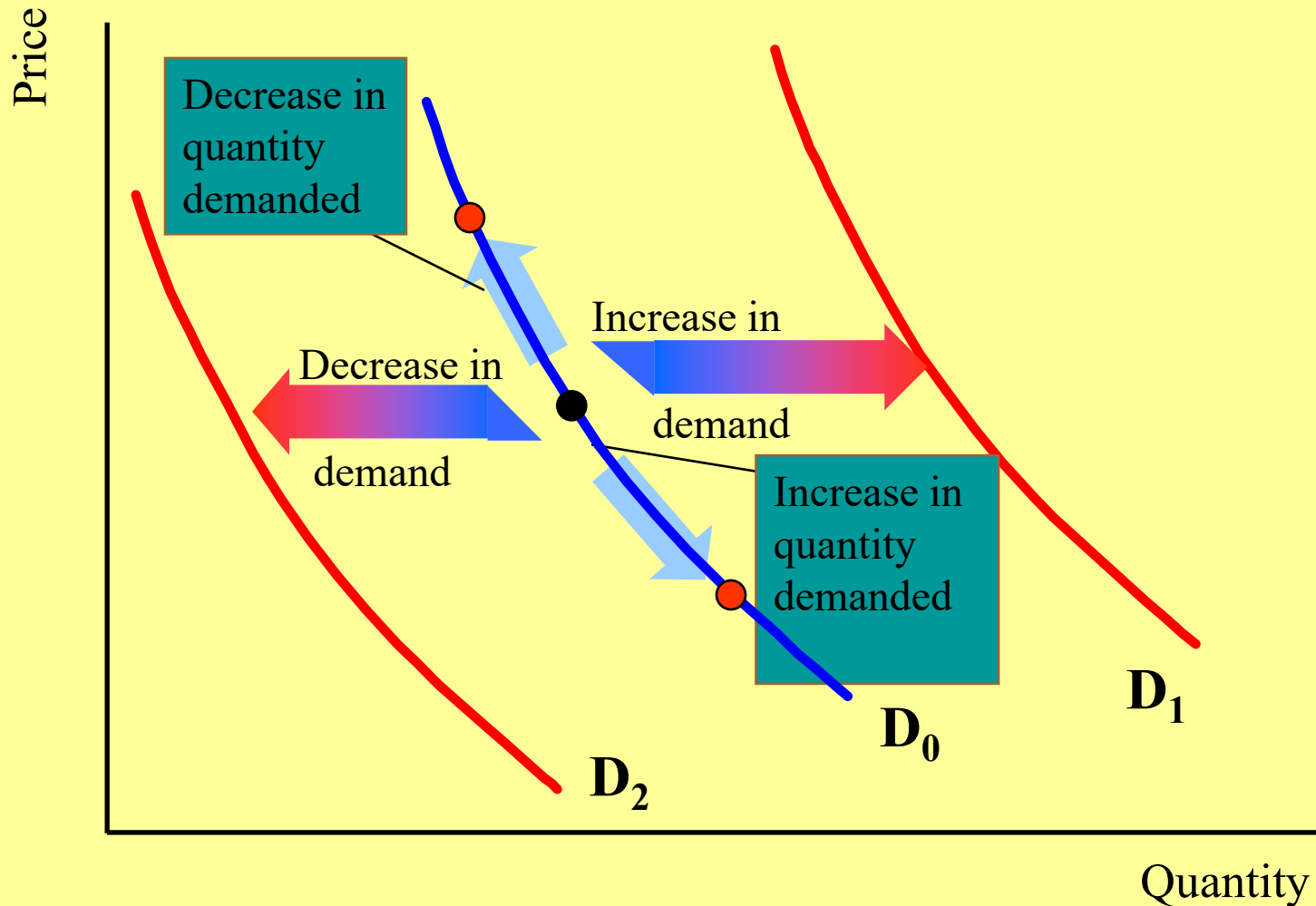
## ❖ Income Effect

- ❖ A fall in the price of a good increases consumers' purchasing power making them more able to purchase all goods, so the  $Q_D$  increases for normal goods.

# Shifts in Demand v. Movements along a Demand Curve

- A movement along a demand curve can only be brought about by a change in the price of the product itself. Also a change in the price of the product itself will not cause a change or shift in demand . To change or shift demand we must relax our ceteris paribus assumption and change some determinant of demand other than the products' price.

# A Change in the Quantity Demanded Versus a Change in Demand



# **Increase (Decrease) in Demand**

- A rightward(leftward) shift in the demand curve. Consumers are now willing and able to purchase a greater(lesser) quantity of the good at each possible price during the given time period.

# Substitute (Complement)

- A good that can be used in place of(conjunction with) another good. An increase in the price of a good leads to an increase(decrease) in demand for its substitutes(complements).
- Thirsty Thursday
- \$12.00 beer at Yankee stadium
- Geographic placement of teams

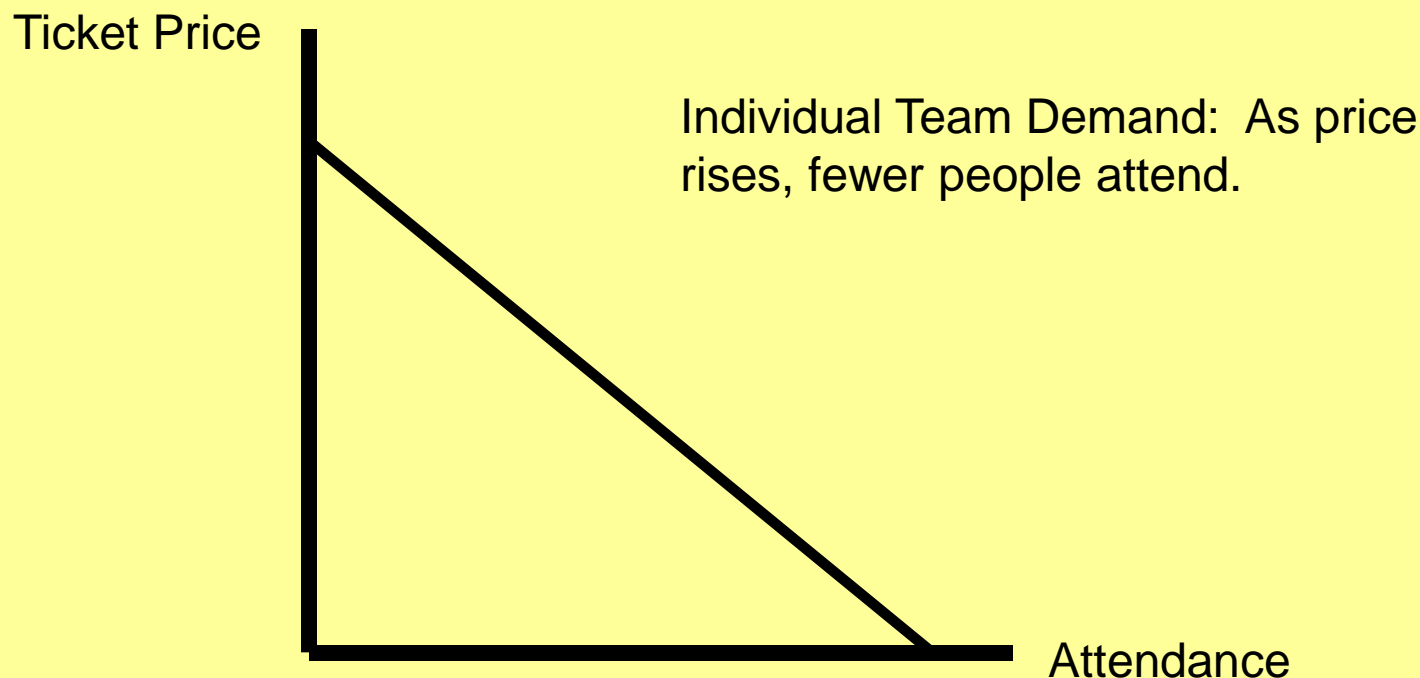
# Normal vs Inferior

- A normal good has a positive relation to income while an inferior has a negative relation to income.
- Sports Gambling is an inferior good
- Premier League tickets normal good



# Demand: Quantifying scarcity.

- ❖ Remember the definition:
- ❖ The relationship between price and quantity demanded, *all else held constant*.



# Let's See If You Get It

- ❖ Sometimes, it seems that demand curves slope upward:
- ❖ Ticket prices and attendance over time appear to be positively related.
- ❖ Many factors can change over time, so that demand is shifting, rather than upward sloping!

# Tool Time!

- ❖ But we need some tools to actually analyze demand!
- ❖ Consumer surpluses.
- ❖ Elasticity.
- ❖ Total and Marginal Revenue.