Chapter 05
DEMAND ANALYSIS

CONCEPTS
OF
ECONOMICS

Demand

"Demand for a commodity refers to the quantity of the commodity which an individual is willing to purchase at a particular price."

Demand for a commodity implies:

(a) Desire to acquire it,

(b) Willingness to pay for it, and

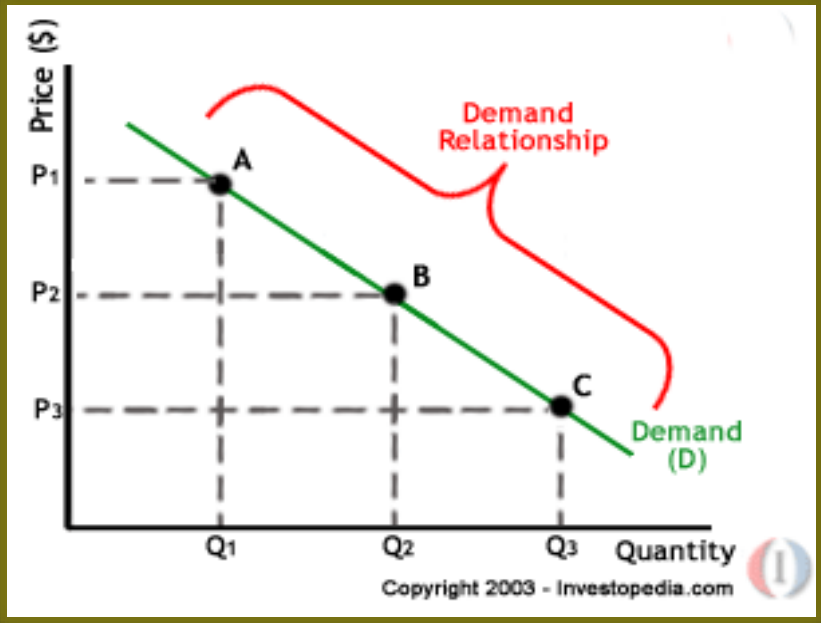
(c) Ability to pay for it.

Law of Demand

Law of Demand

['lȯ əv di-'mand]

A fundamental principle of economics that states that at a higher price consumers will demand a lower quantity of a good.



Exceptions To Law of Demand

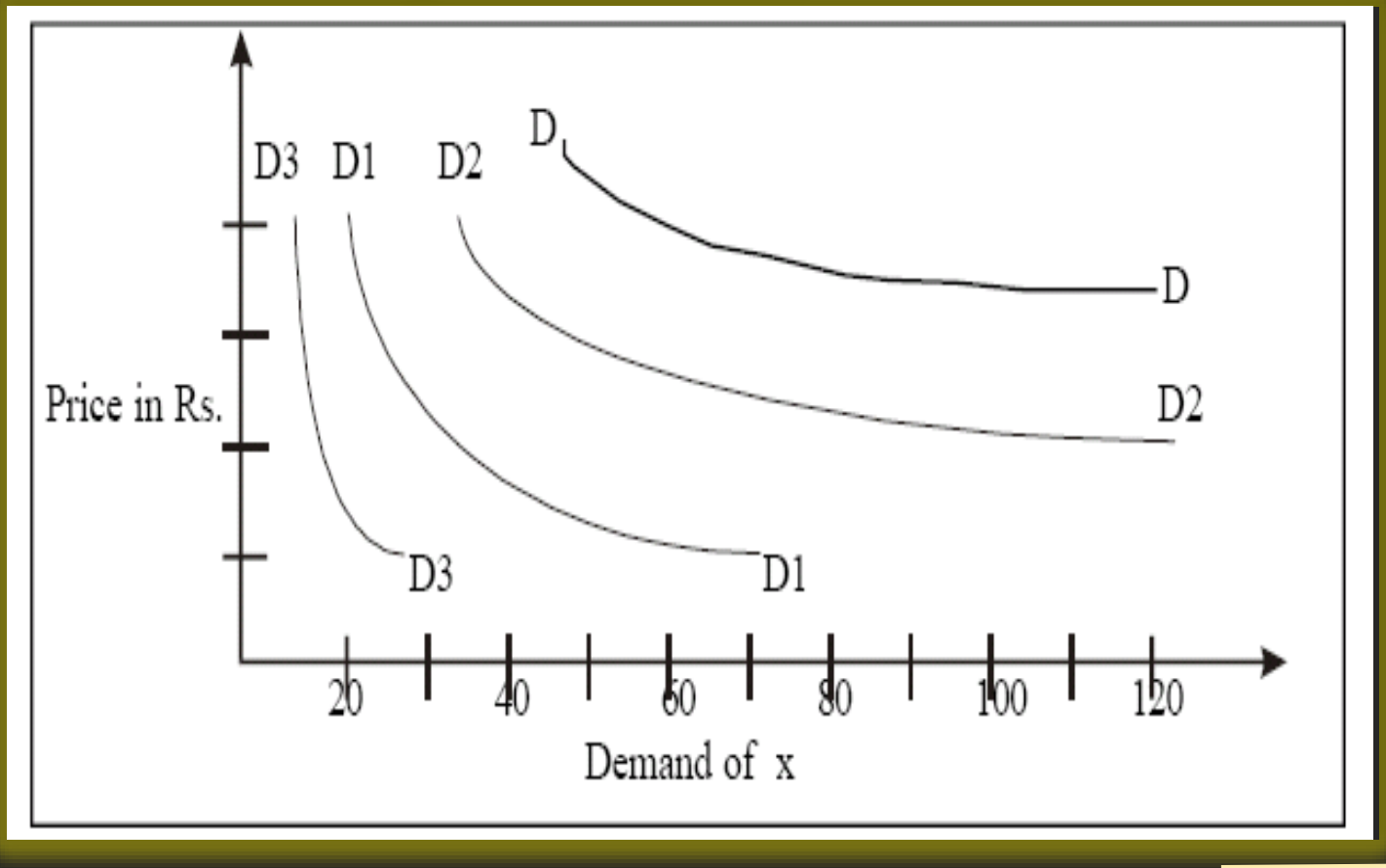
Demand Schedule and Demand Curve

	Demand of X in lit.			
Price of X (Rs.) (1)	*Buyer 1* (2)	*Buyer 2* (3)	*Buyer 3* (4)	*All Buyers Market Demand* (5)
8	5	10	0	15
7	8	12	4	24
6	12	15	7	34
5	20	19	12	51
4	30	25	20	75
3	45	30	30	105

Market demand refers to the sum of all individual demands for a particular good or service

Graphically, individual demand curves are summed horizontally to obtain the market demand curve

Demand Schedule and Demand Curve



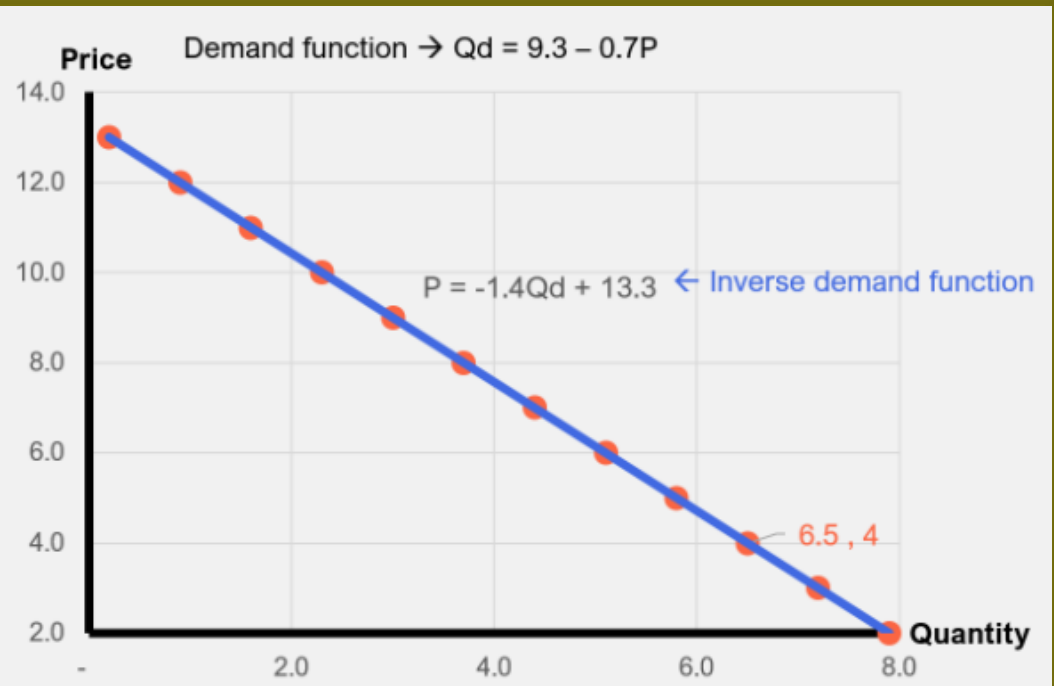
Demand Functions

Simple demand functions

QD = f(p)

$$Q_d = a - bP$$

Price ($)	Quantity (liter)
2	7.9
3	7.2
4	6.5
5	5.8
6	5.1
7	4.4
8	3.7
9	3.0
10	2.3
11	1.6
12	0.9
13	0.2



Demand Functions

Complex demand functions

$$QDx = f\ (Px, Pr, Y, T, E, Py)$$

Determinants of Demand

Where,

QDx = Quantity Demanded for Commodity X;

Px = Price of the given Commodity X;

Pr = Prices of Related Goods;

Y = Income of the Consumer;

T = Tastes and Preferences;

E = Expectation of Change in Price in future;

Py = price of commodity Y

Demand Functions

Price of Related Goods

$$Q_d = a - bP + cY + dP_s - ePc$$

When a fall in the price of one good reduces the demand for another good (Qc), the two goods are called **substitutes. (Tea & Coffee)**

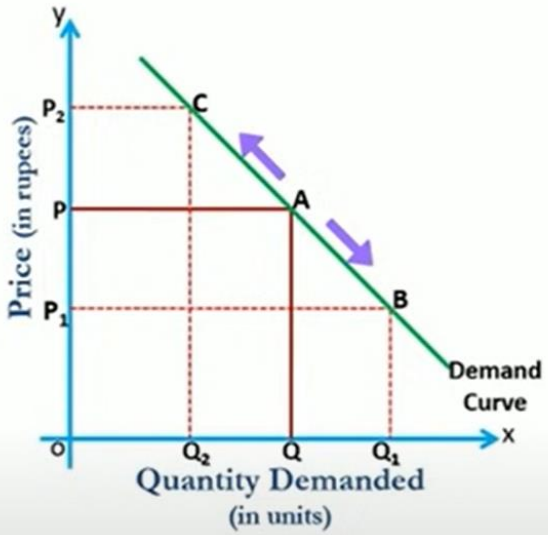
When a fall in the price of one good increases the demand for another good (Q, the two goods are called **complements. (Car & Petrol)**

In general, as one's **income** rises, they will begin to demand more goods

Advertisement increases the sales of a firm up to a point.

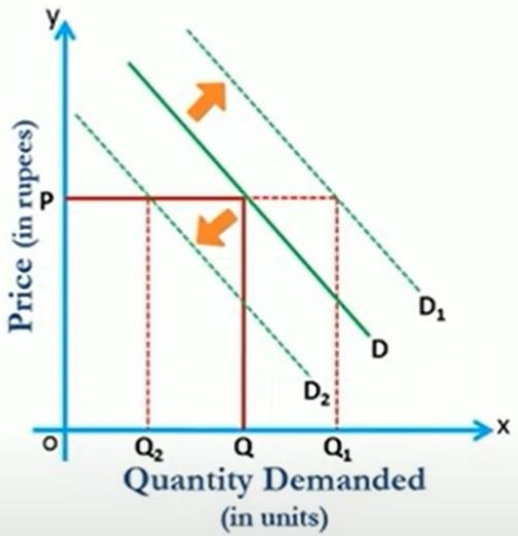
Movement VS Shift

Movement



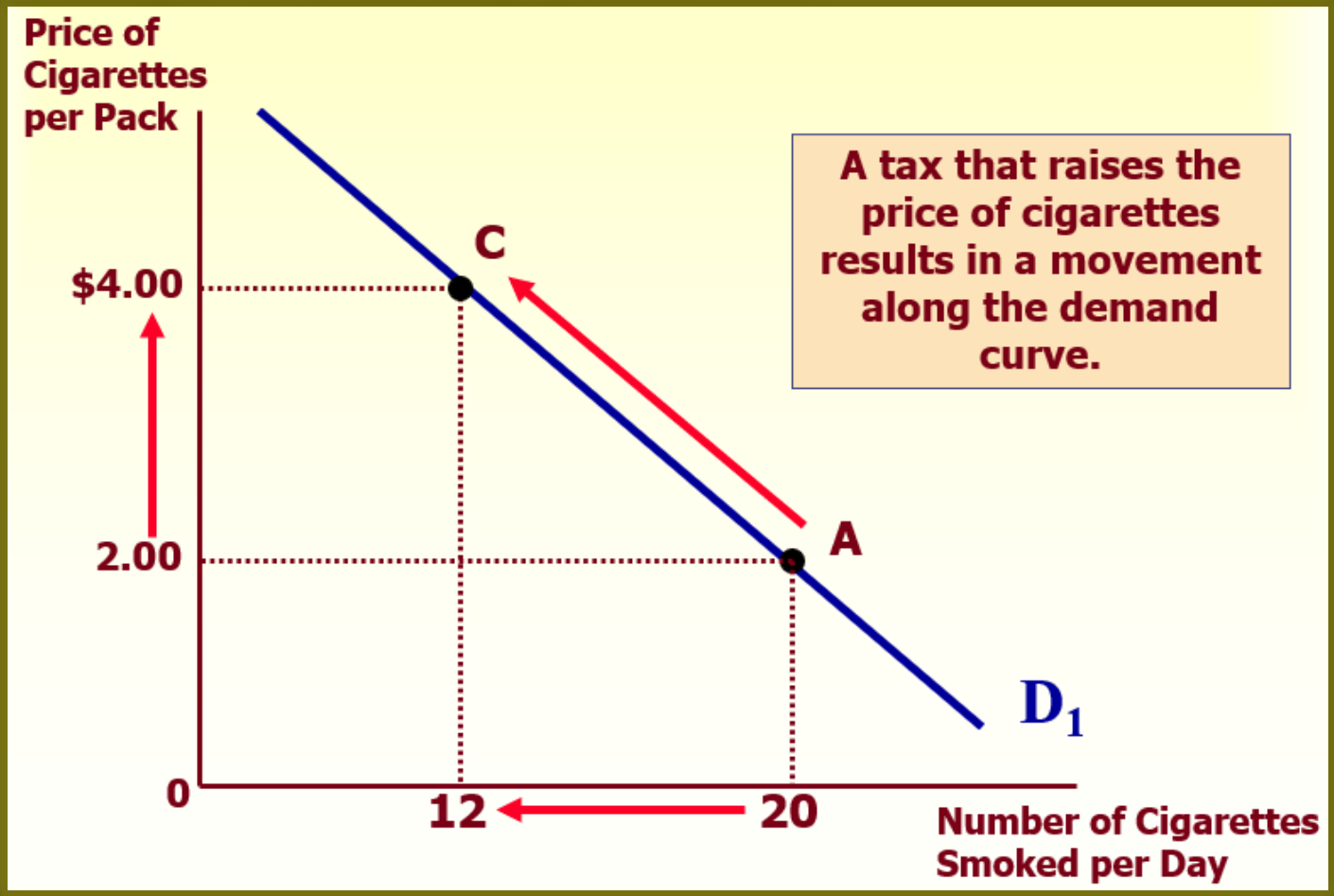
Vs

Shift

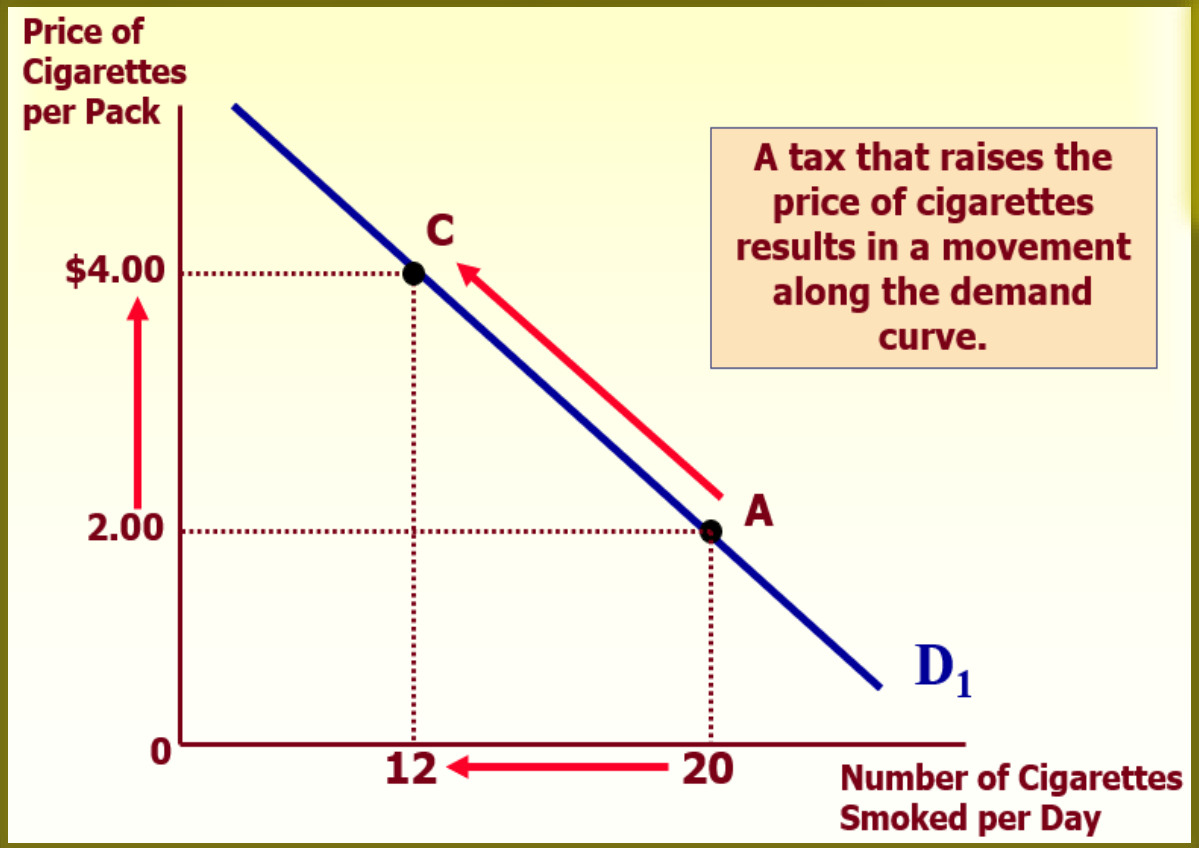


In Demand Curve

Changes in Quantity Demanded



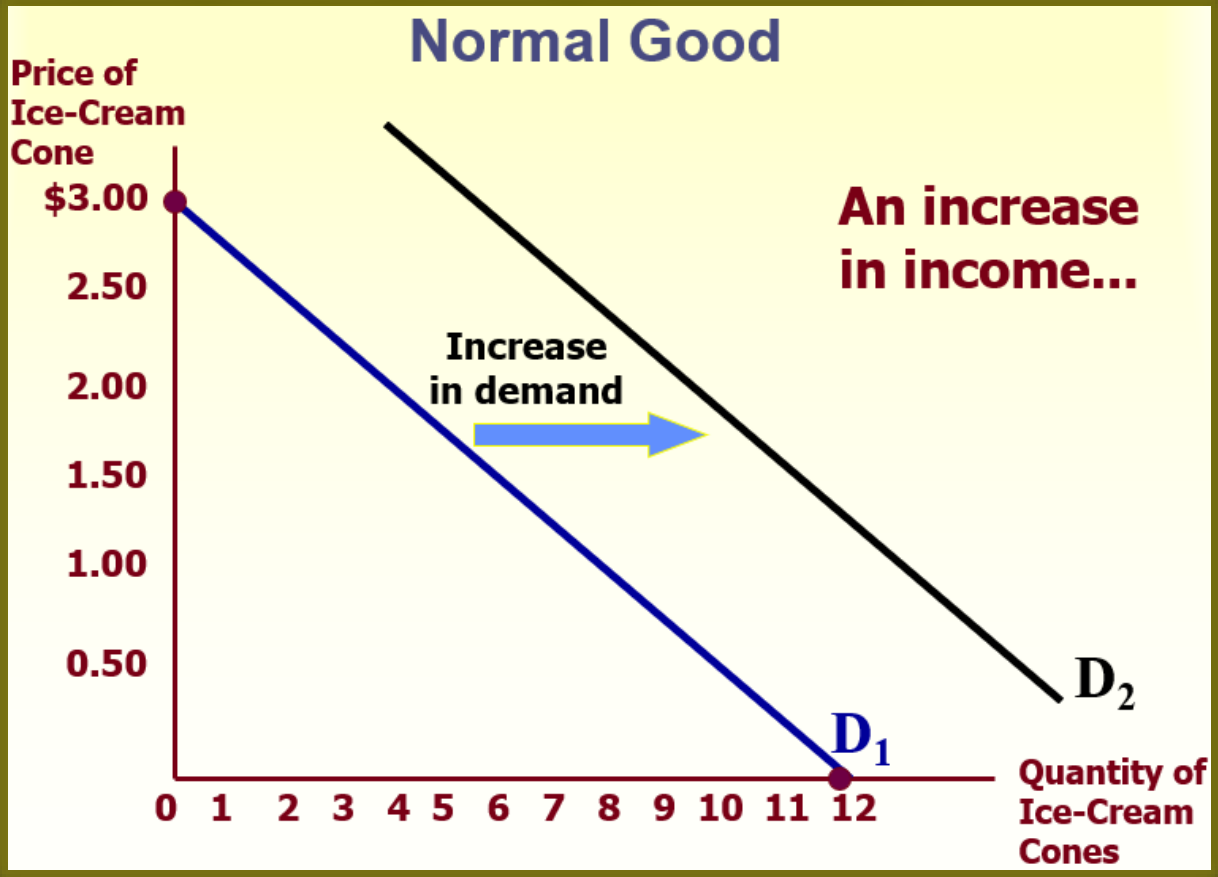
Changes in Quantity Demanded



Change in Quantity Demanded

- Movement along the demand curve.
- Caused by a change in the *price* of the product.

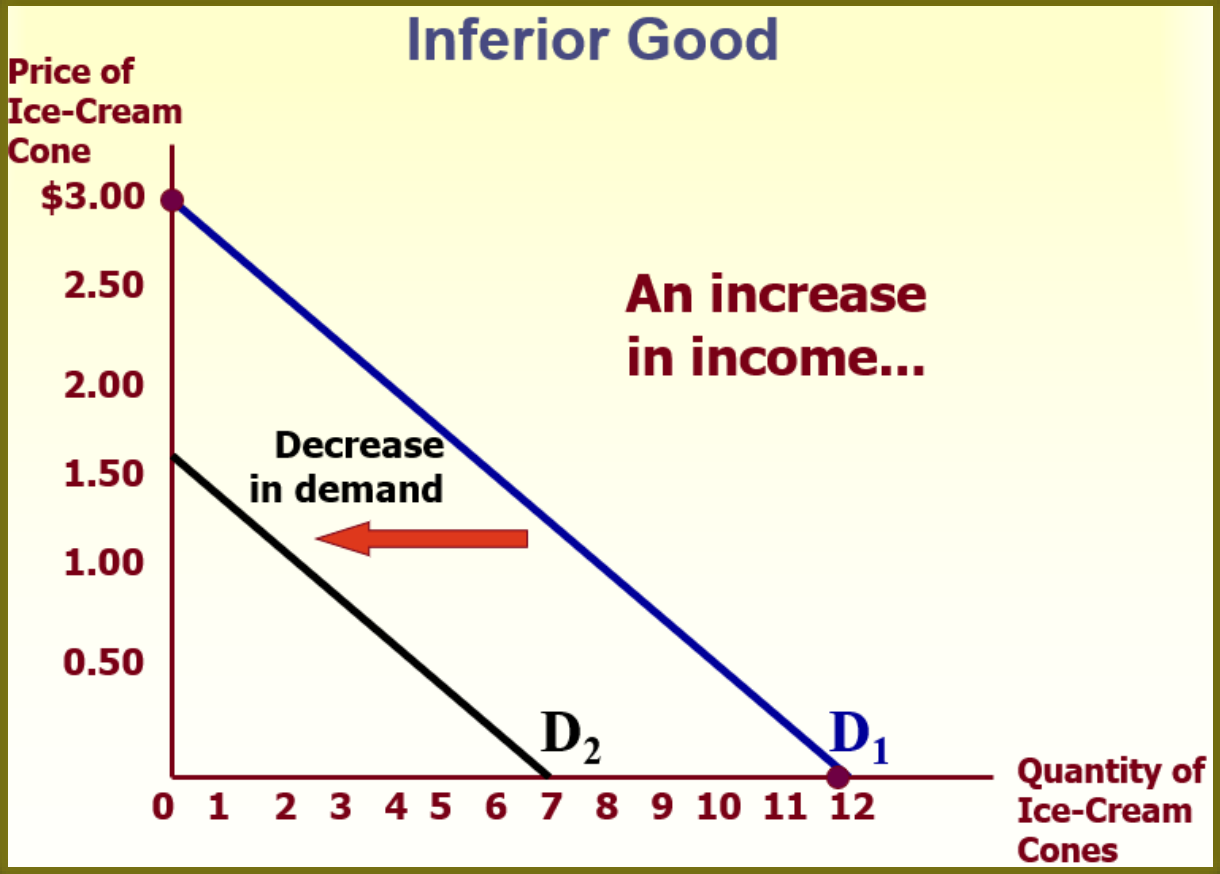
Changes in Quantity Demanded



Change in Demand

- A shift in the demand curve, either to the left or right.
- Caused by a change in a determinant other than the price.

Changes in Quantity Demanded



Change in Demand

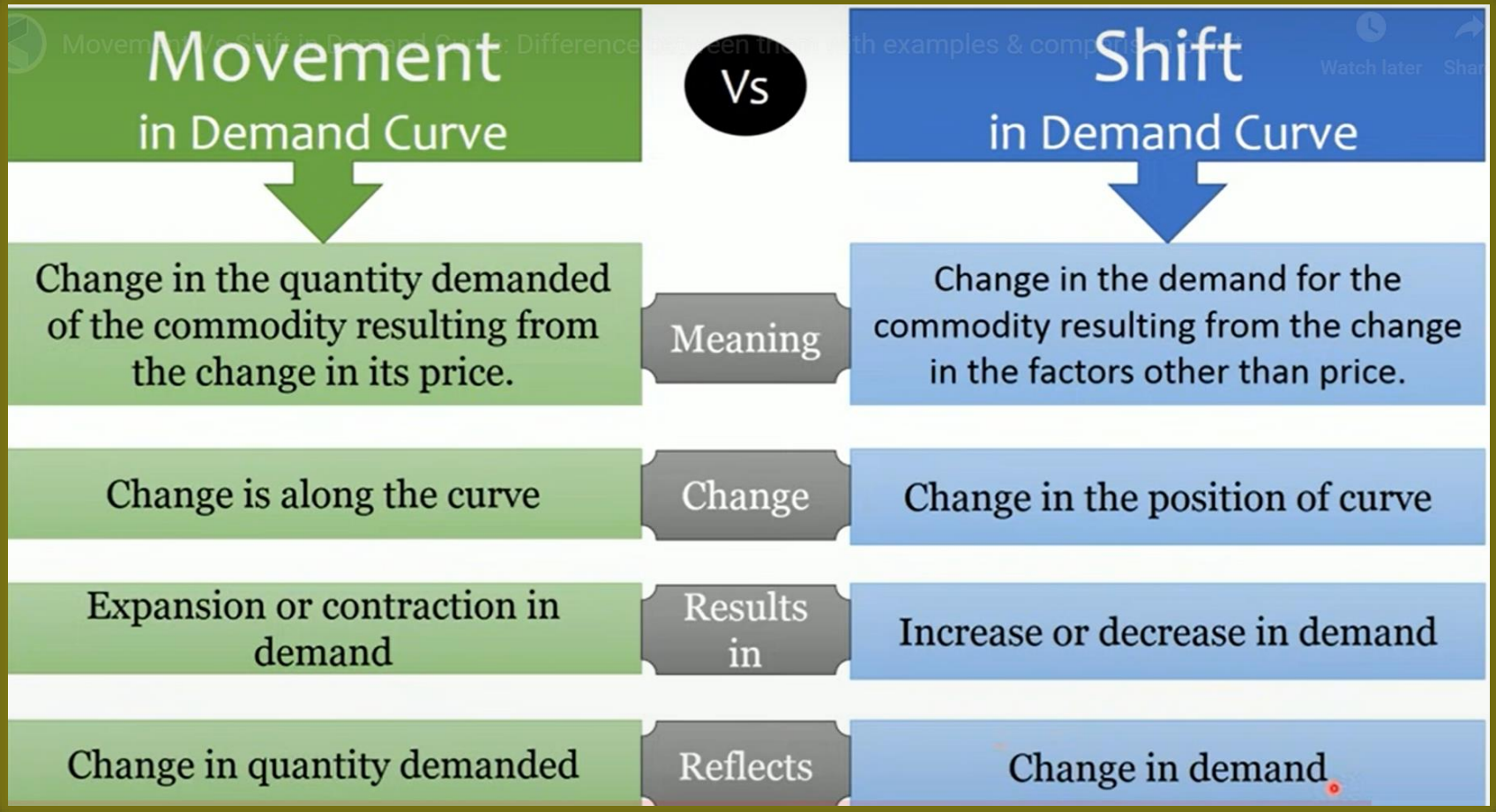
- A shift in the demand curve, either to the left or right.
- Caused by a change in a determinant other than the price.

Movement vs Shift in Demand Curve

Change in Quantity Demanded versus Change in Demand

Variables that Affect Quantity Demanded	A Change in This Variable . . .
Price	Represents a movement along the demand curve
Income	Shifts the demand curve
Prices of related goods	Shifts the demand curve
Tastes	Shifts the demand curve
Expectations	Shifts the demand curve
Number of buyers	Shifts the demand curve

Movement vs Shift in Demand Curve



Why does the demand curve slope downward?

1. Law of Diminishing Marginal Utility

Consumers will buy more units of commodities only when the price of that product begins to fall.

2. Price Effect

Price of the commodity falls, new consumers start consuming.

3. Income Effect

When the price of a commodity increases, the real income of the consumer decreases. Under the influence of the income effect, with a fall in price, the consumer will buy more units of that commodity.

Why does the demand curve slope downward?

4. Income Group

Majority of people fall in low-income group. Price falls consumption increase.

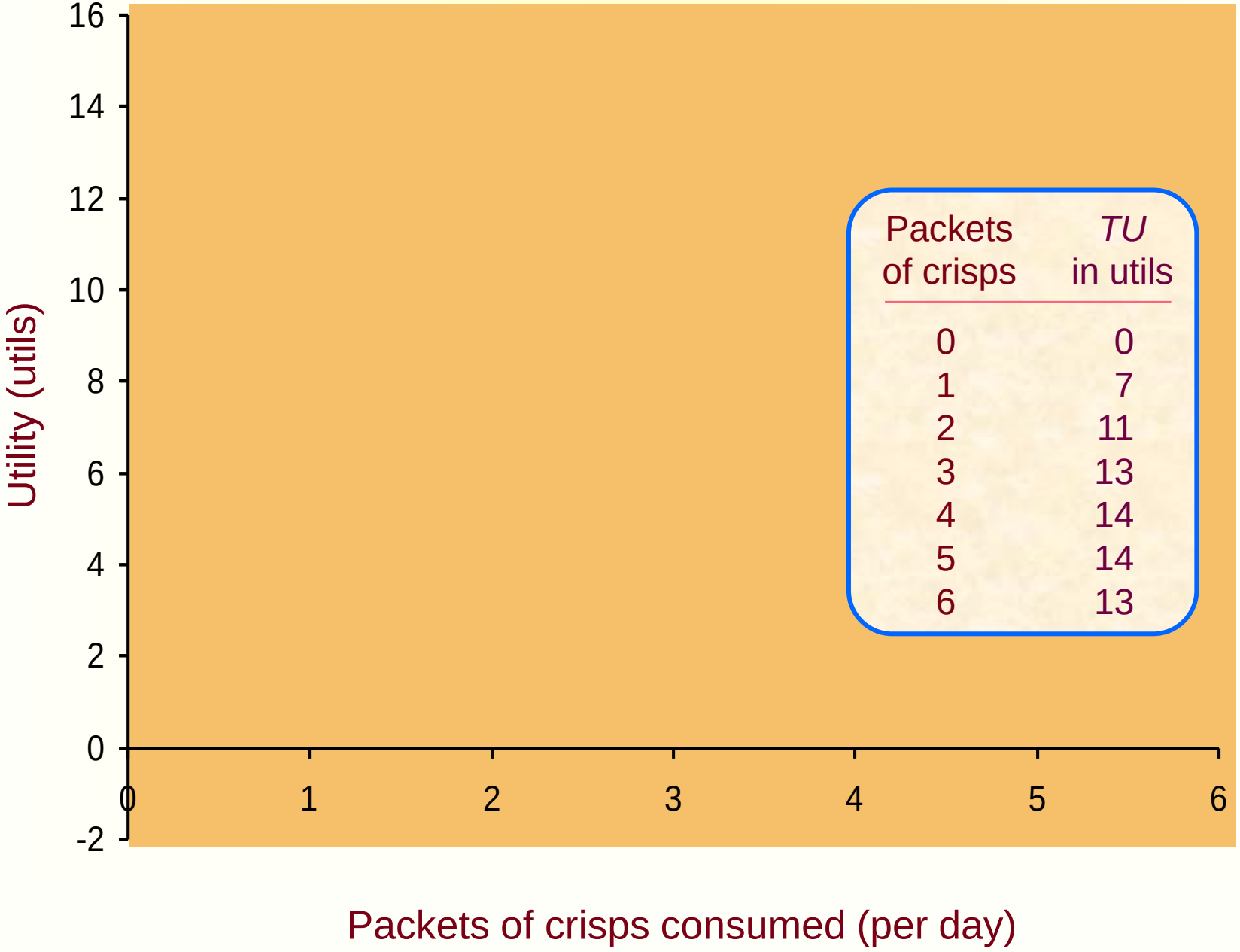
5. Substitution Effect

With a fall in the price of a product, its substitute demand will increase.

6. Tendency To Satisfy Unsatisfied Wants

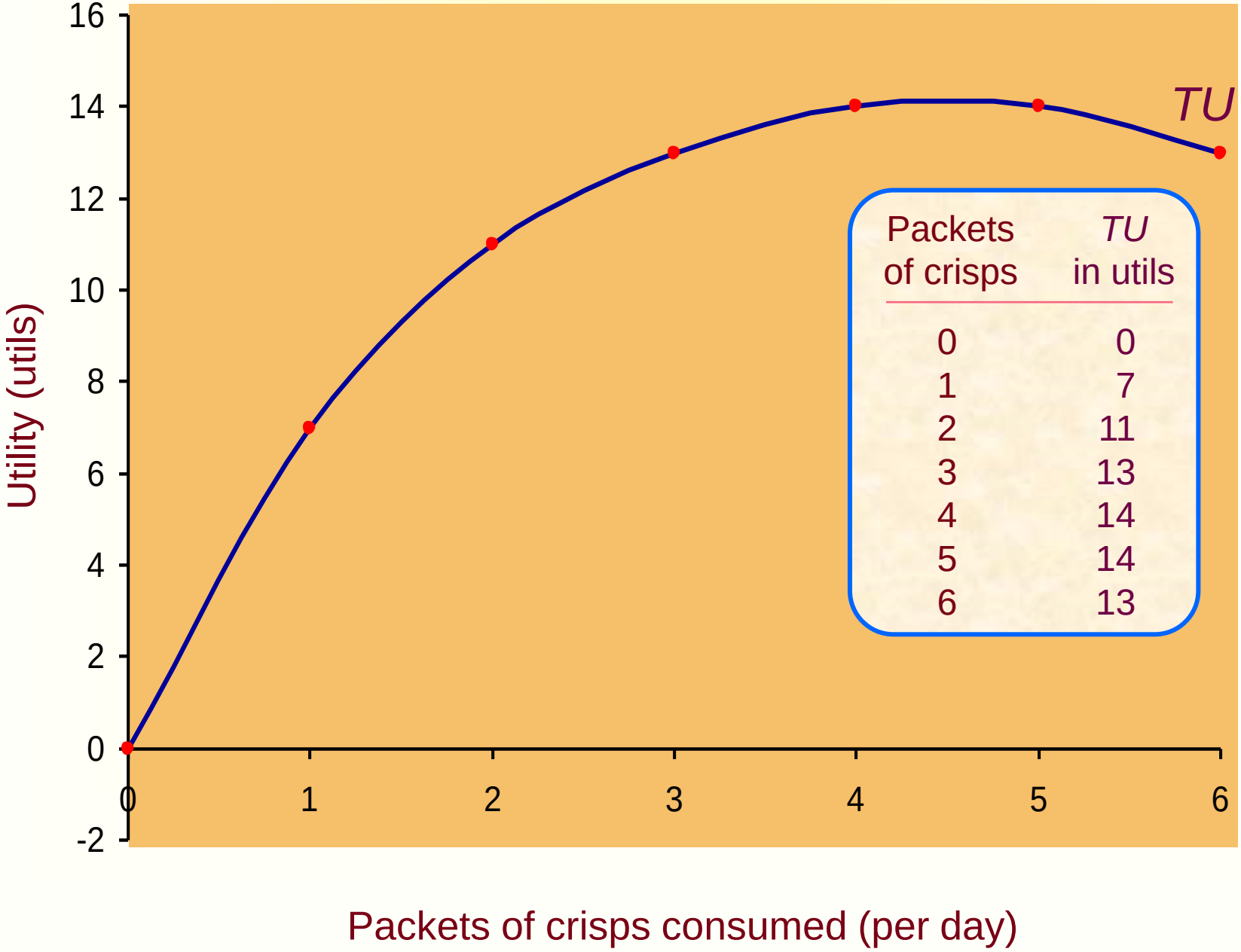
When the price of goods falls, the consumer will buy more of that commodity to satisfy his unsatisfied wants.

Darren's utility from consuming crisps (daily)



Packets of crisps	*TU* in utils
0	0
1	7
2	11
3	13
4	14
5	14
6	13

Darren's utility from consuming crisps (daily)



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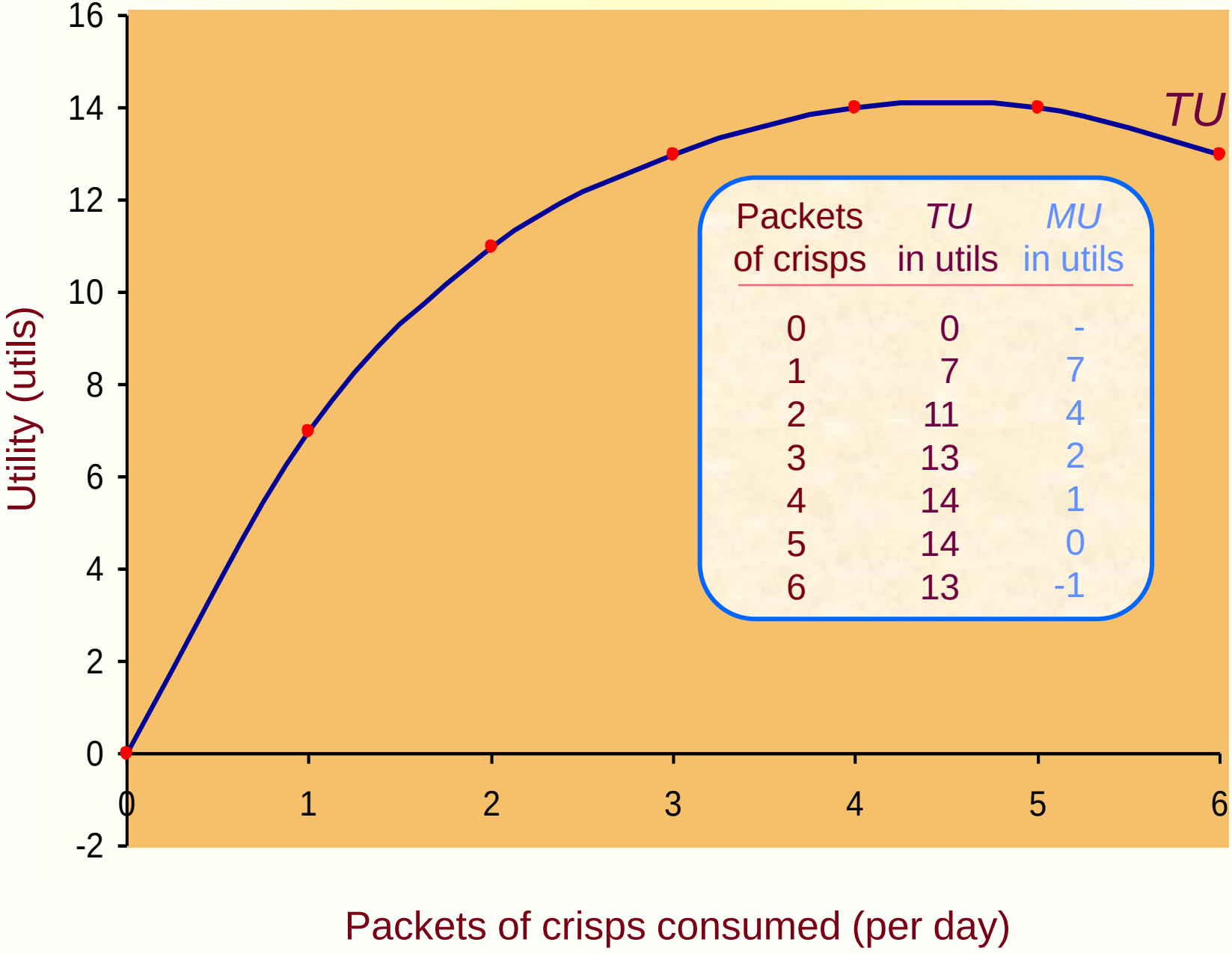
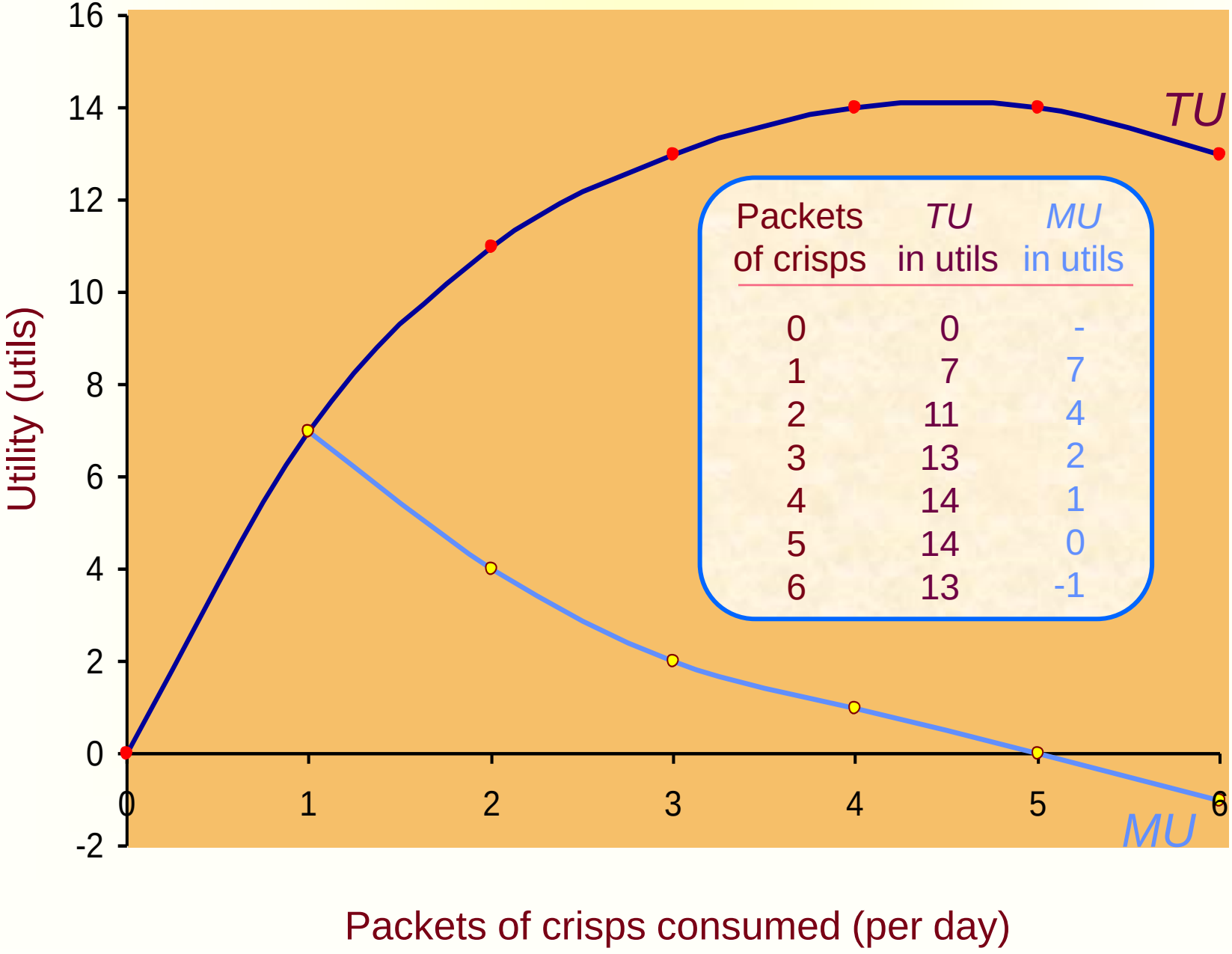


Packets of crisps	*TU* in utils	*MU* in utils
0	0	-
1	7	7
2	11	4
3	13	2
4	14	1
5	14	0
6	13	-1

Darren's utility from consuming crisps (daily)



Packets of crisps	*TU* in utils	*MU* in utils
0	0	-
1	7	7
2	11	4
3	13	2
4	14	1
5	14	0
6	13	-1

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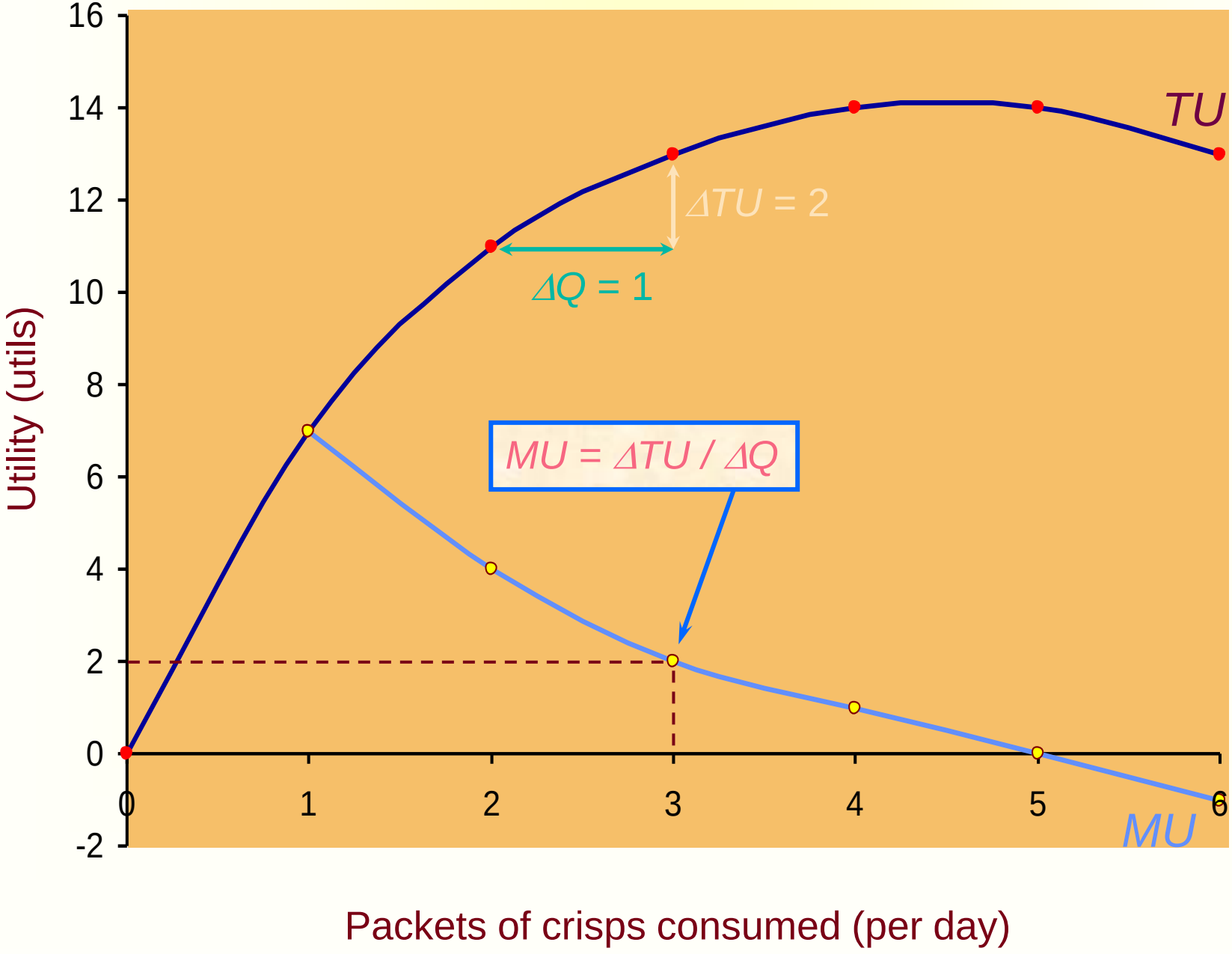

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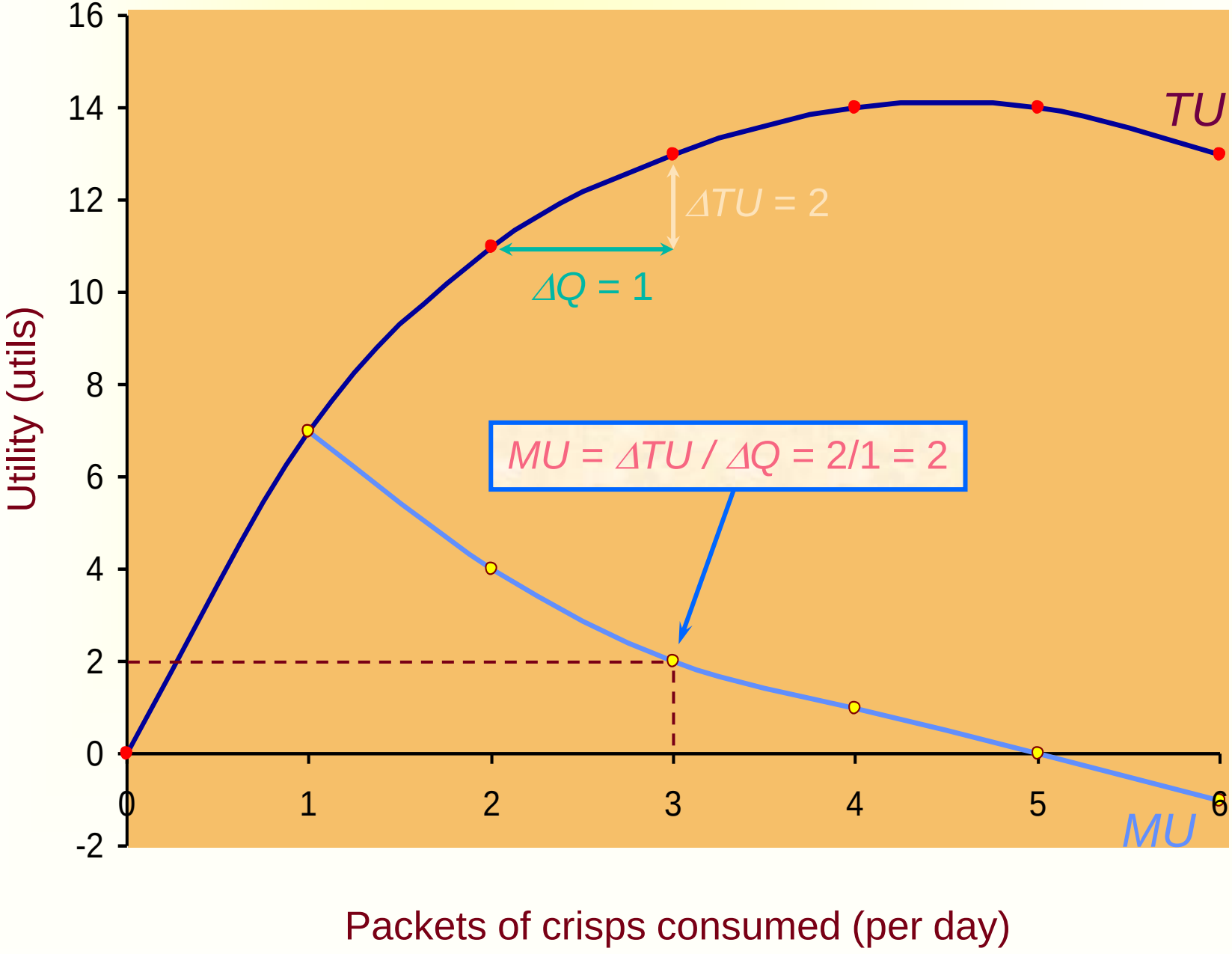
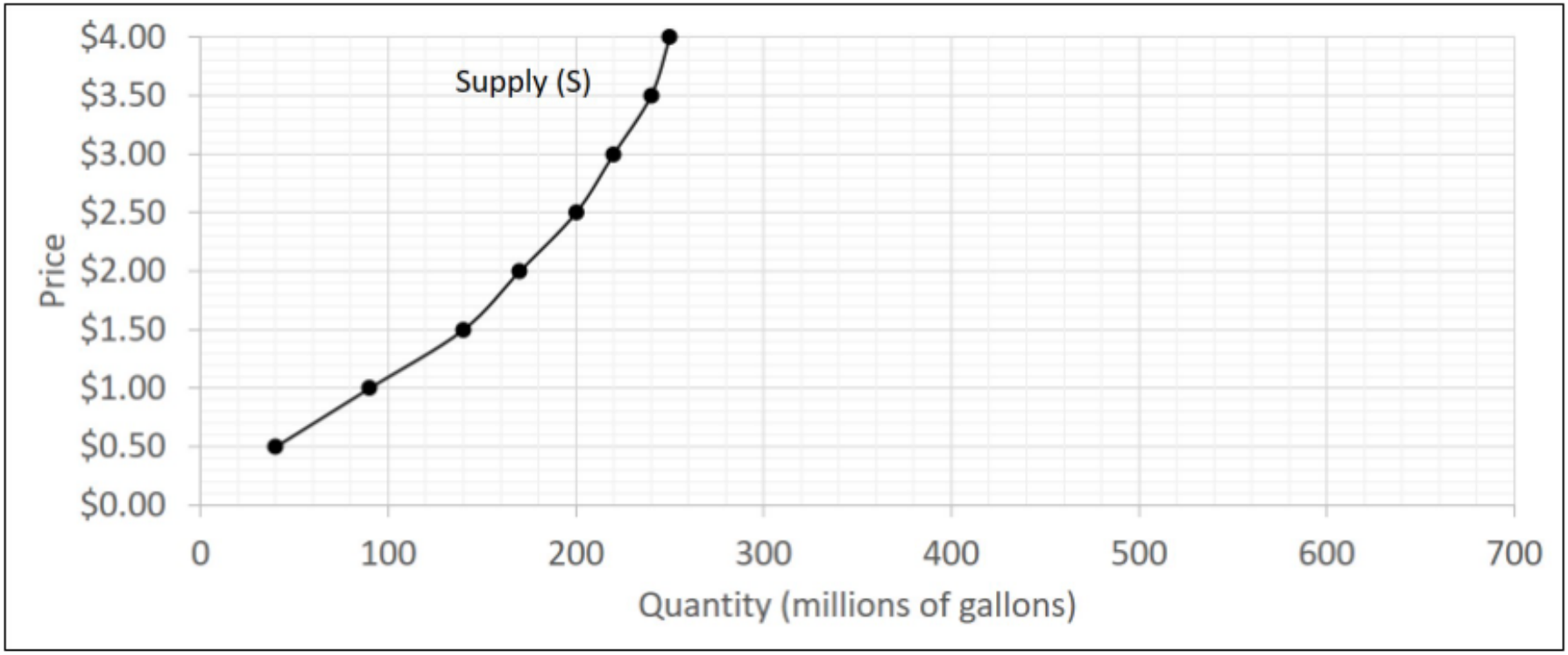


Supply Schedule

Price (per gallon)	Quantity Supplied (millions of gallons)
$0.50	40
$1.00	90
$1.50	140
$2.00	170
$2.50	200
$3.00	220
$3.50	240
$4.00	250

Supply Curve



The Law of Supply

As the price increases, the quantity supplied increases, and conversely, as the price decreases, the quantity supplied decreases.

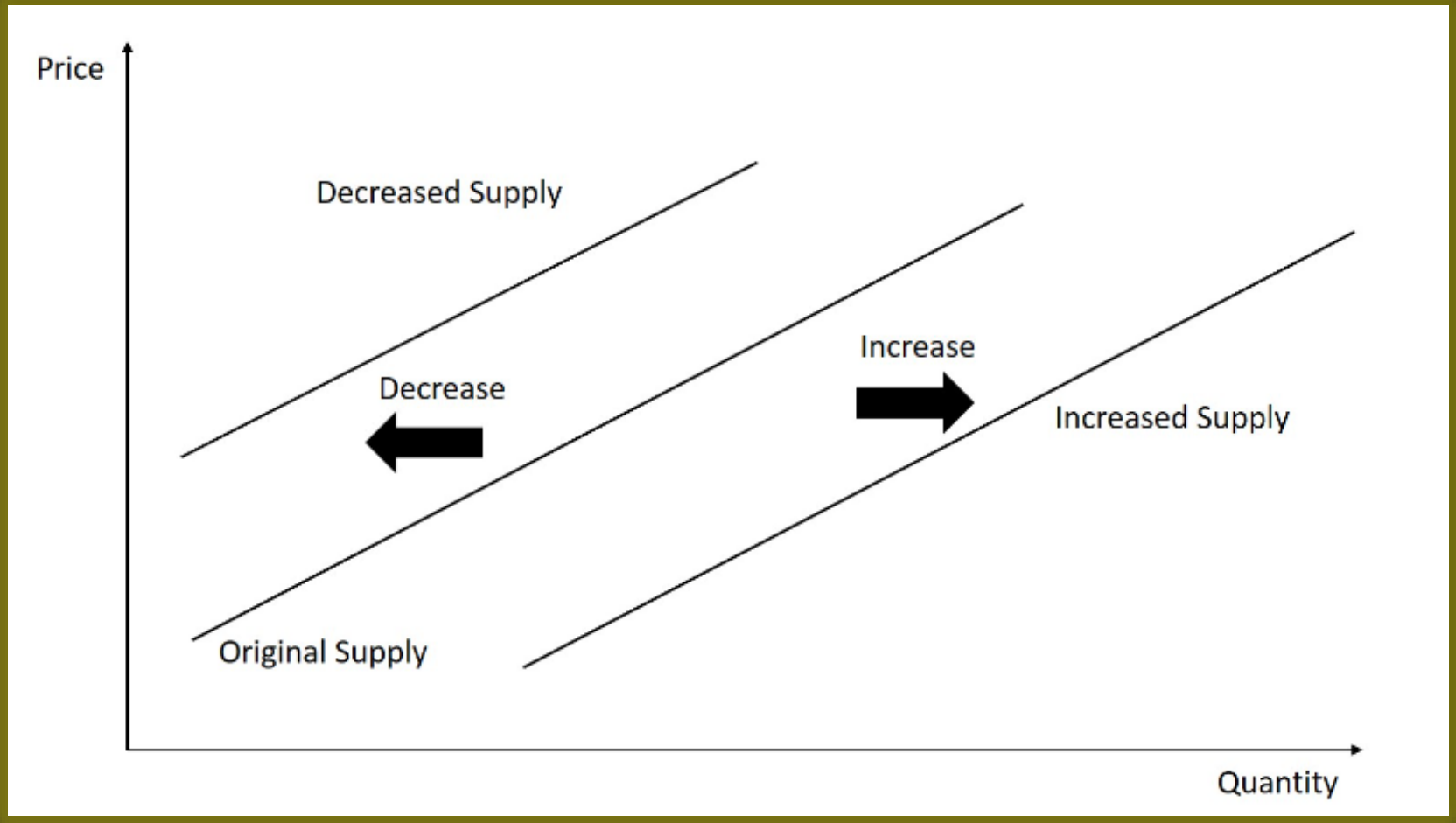
Supply versus Quantity Supplied

Supply refers to the curve and quantity supplied refers to the (specific) point on the curve.

Individual and Market Supply

Price	QS1	QS2	QS3	=	Market QS
$1.00	75	125	60	=	260
$1.50	90	140	80	=	310
$2.00	110	170	100	=	380
$2.50	130	190	120	=	440
$3.00	140	205	130	=	475
$3.50	145	210	135	=	490

Shifts in Supply



Shifts in Supply

Price (per gallon)	Decrease in Supply	Original Supply	Increase in Supply
$0.50	20	40	70
$1.00	65	90	130
$1.50	110	140	190
$2.00	150	170	240
$2.50	175	200	280
$3.00	190	220	310
$3.50	200	240	340
$4.00	205	250	360

Shifts in Supply

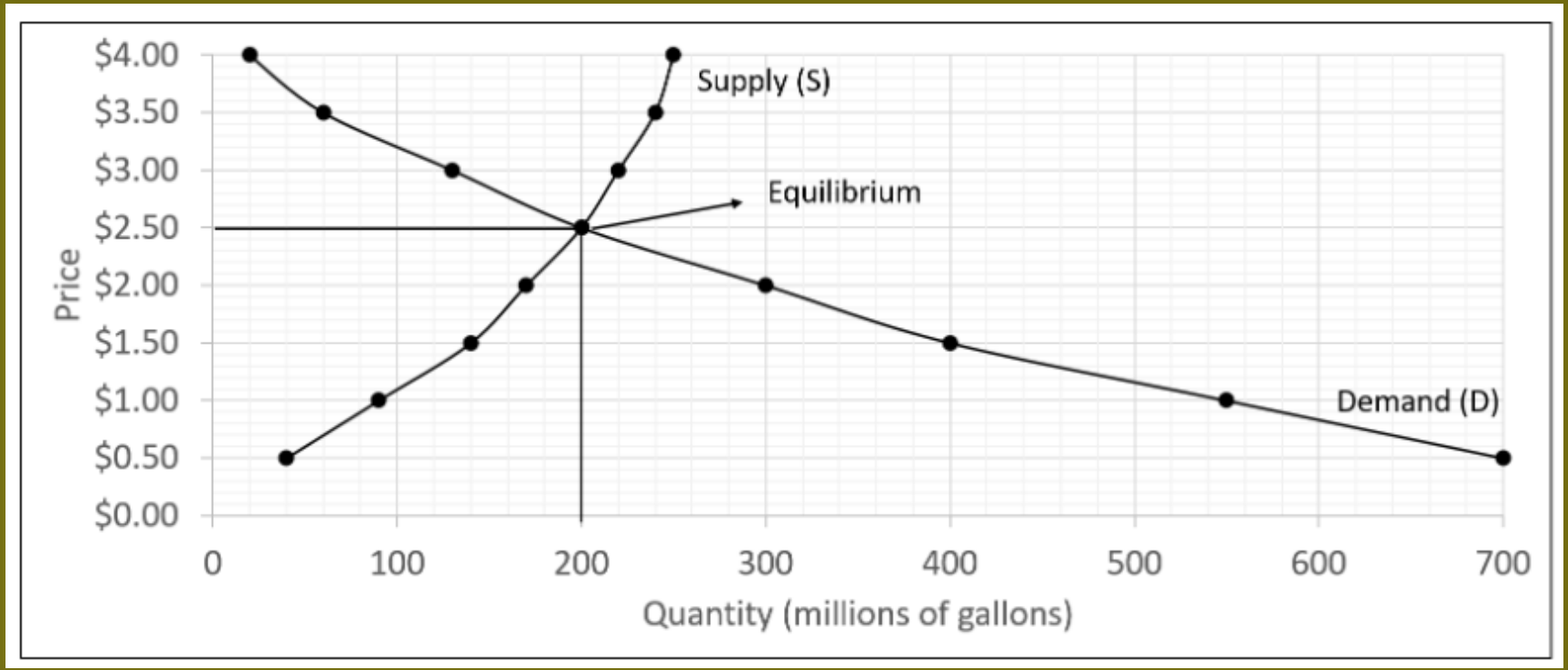
Factors which cause the supply curve to shift.

- Input prices (cost of production)
- Number of suppliers
- Expectations
- Price of alternative goods
- Technology
- Taxes

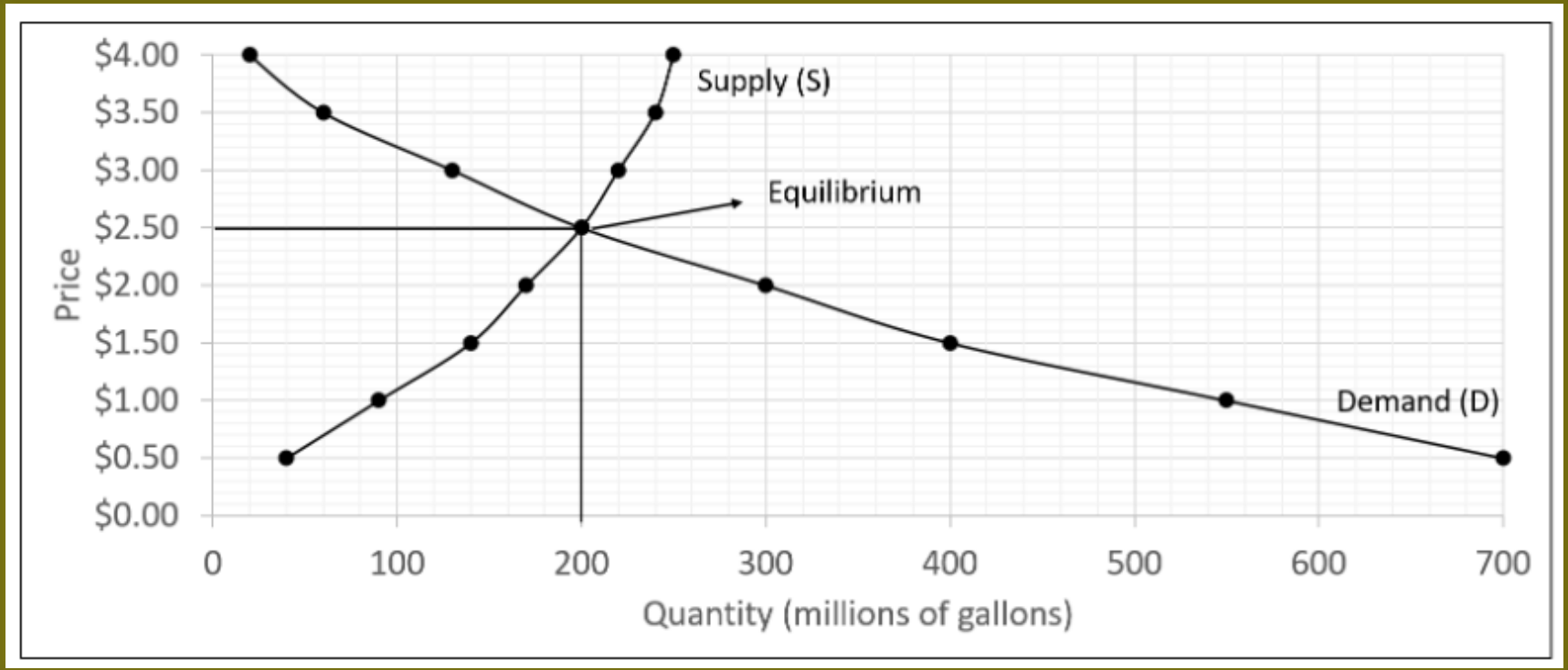
Equilibrium

Price (per gallon)	Quantity Demanded (millions of gallons)	Quantity Supplied (millions of gallons)
$0.50	700	40
$1.00	550	90
$1.50	400	140
$2.00	300	170
$2.50	***200***	***200***
$3.00	130	220
$3.50	60	240
$4.00	20	250

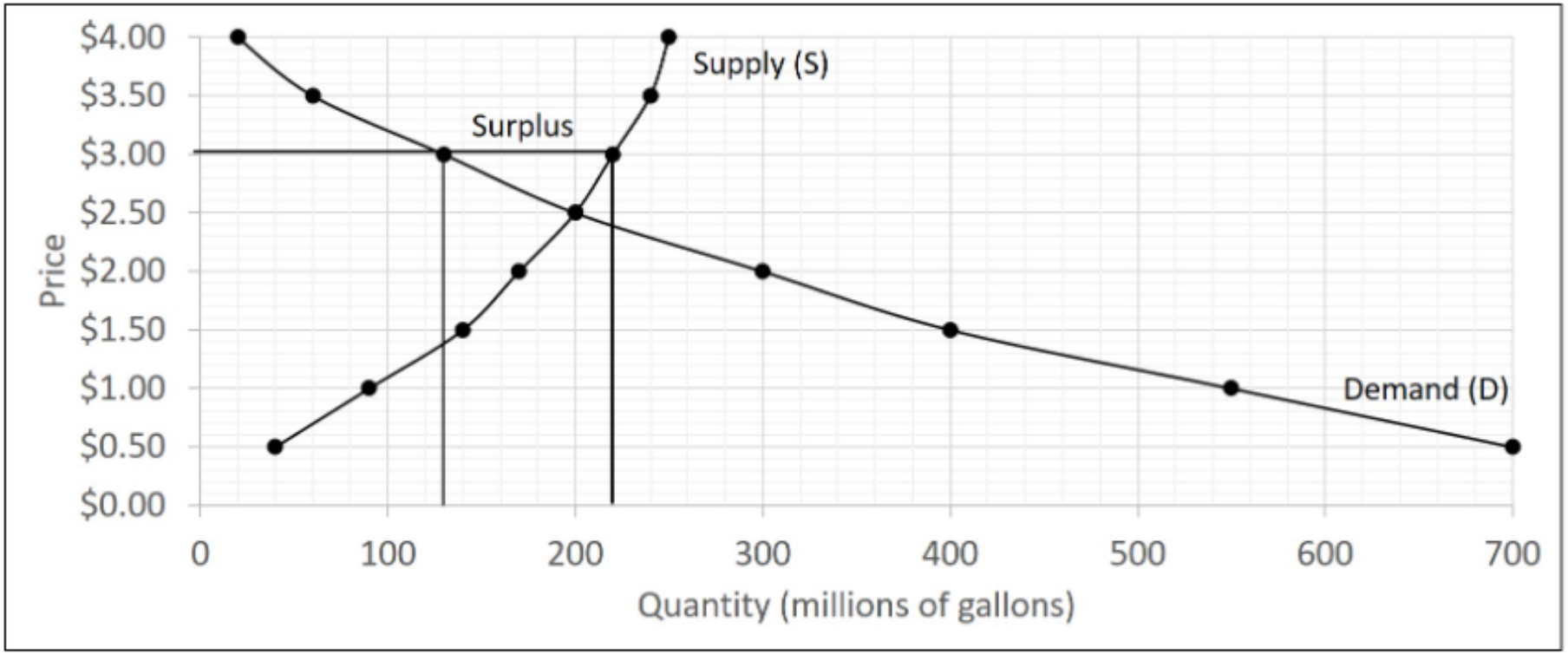
Equilibrium



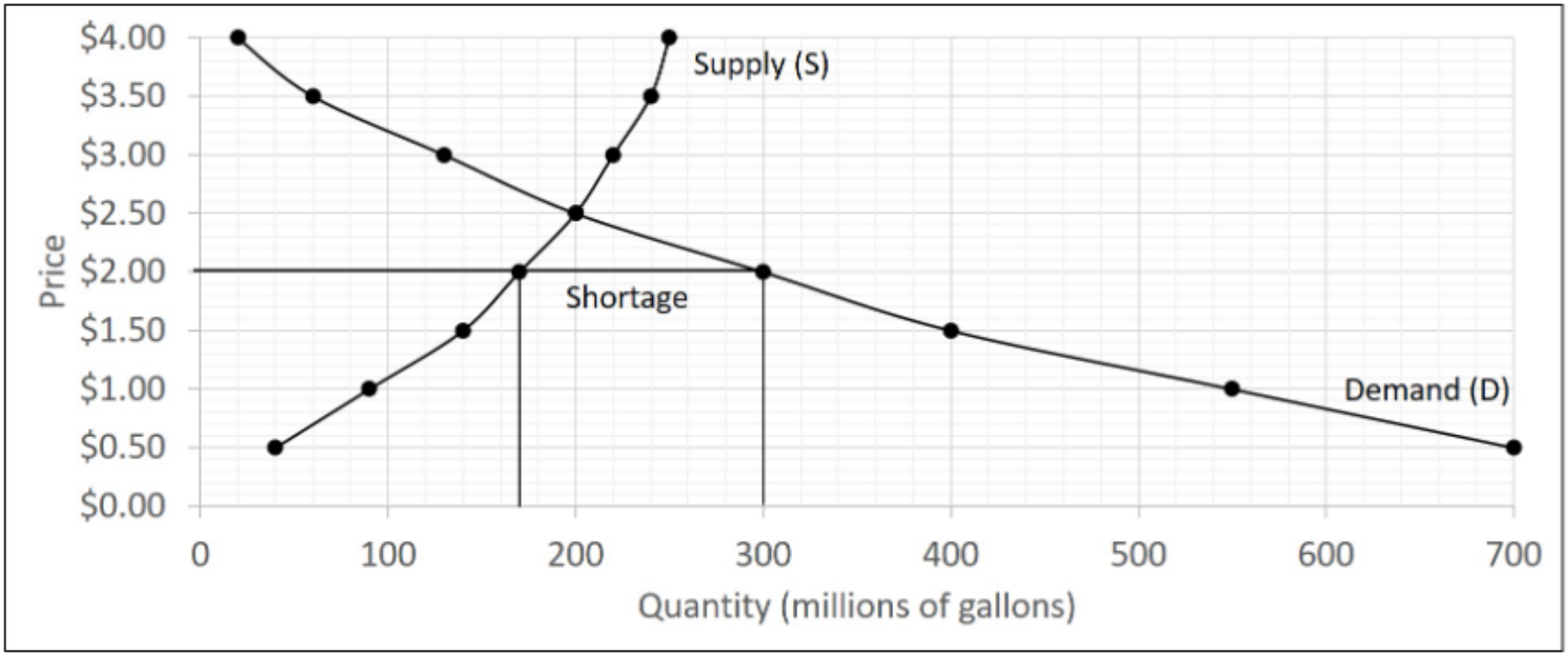
Equilibrium



Market Failure



Market Failure



Algebraic Equilibrium

$$Q_D = 30 - 5P$$

$$Q_S = 14 + 3P$$

$$Q_D = Q_S \Rightarrow 30 - 5P = 14 + 3P$$

$$30 - 5P + (-14 + 5P) = 14 + 3P$$

$$+ (-14 + 5P) \Rightarrow 8P = 16 \Rightarrow P = \frac{16}{8}$$

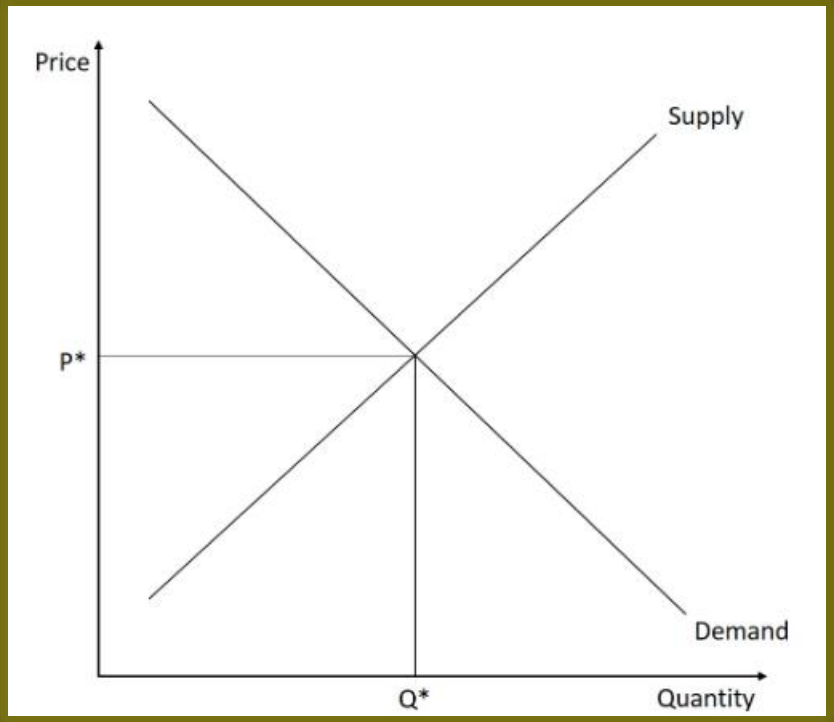
$$Q_D = 30 - 5(2) = 30 - 10 = 20 \Rightarrow Q* = 20.$$

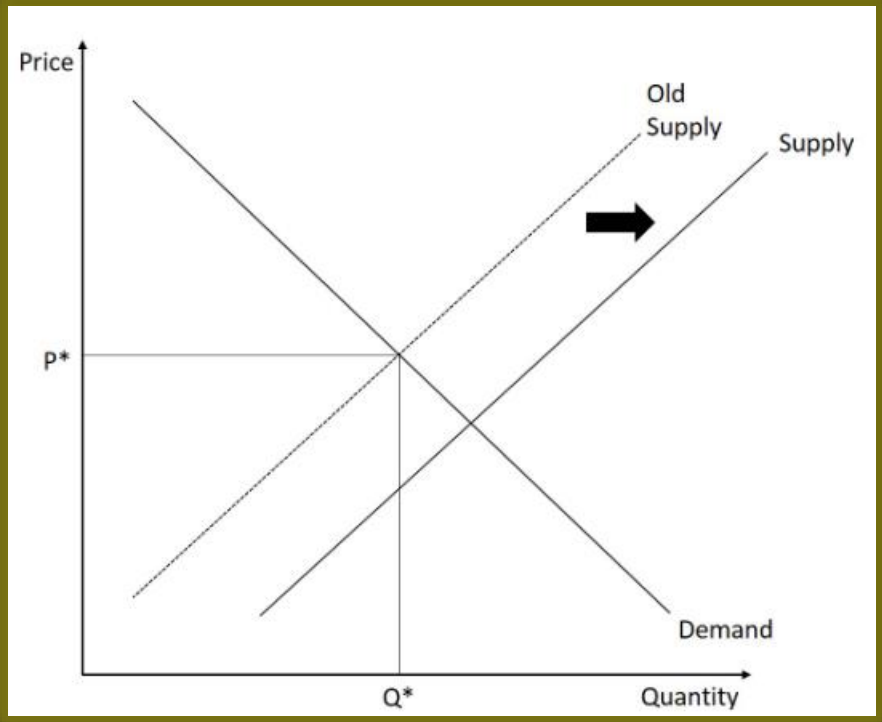
$$Q_S = 14 + 3(2) = 14 + 6 = 20 \Rightarrow Q * 20.$$

Modeling Market Equilibrium

Single Shifts - Supply

Example: Fast-food Market



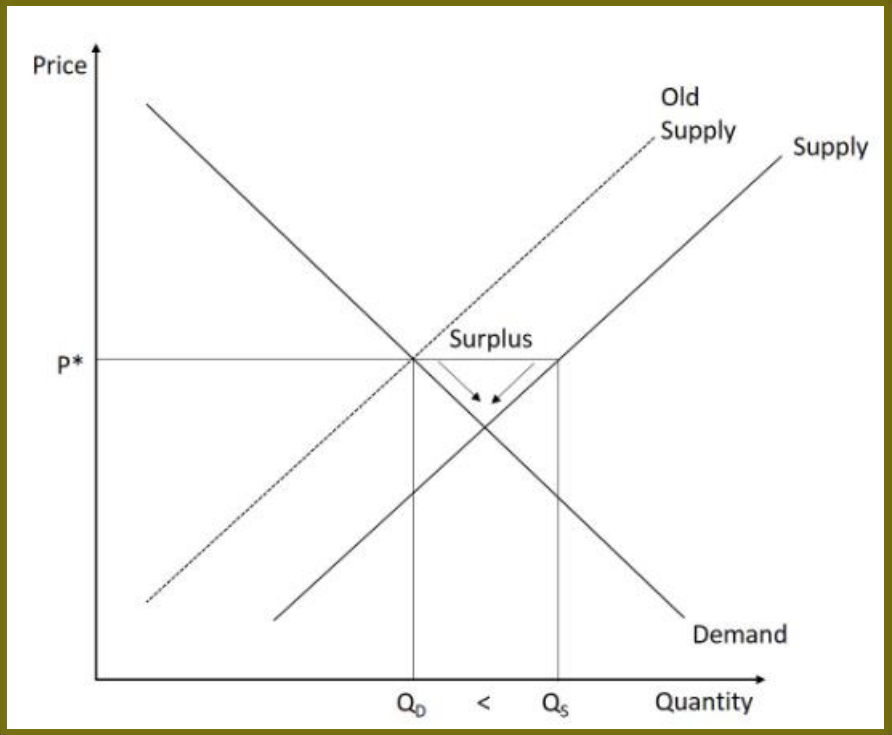


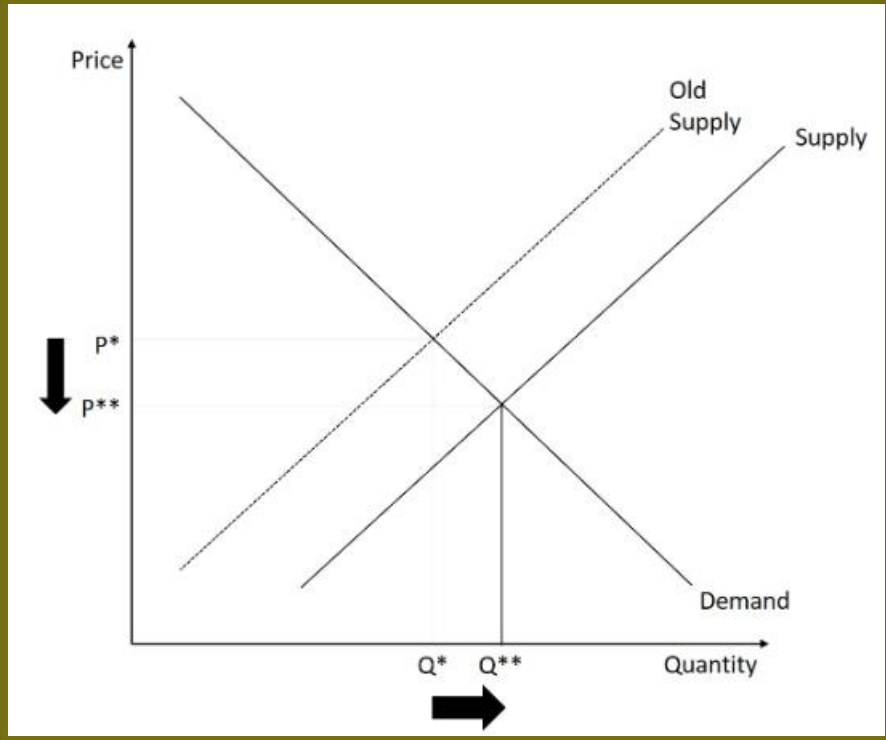
- ***Several new fast-food restaurants open in the town.***

Modeling Market Equilibrium

Single Shifts - Supply

Example: Fast-food Market

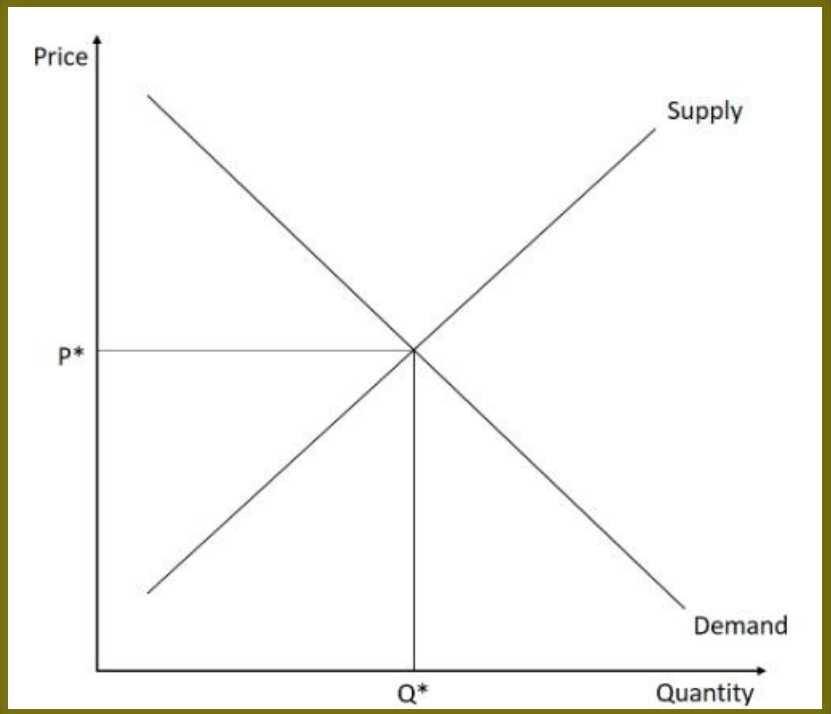


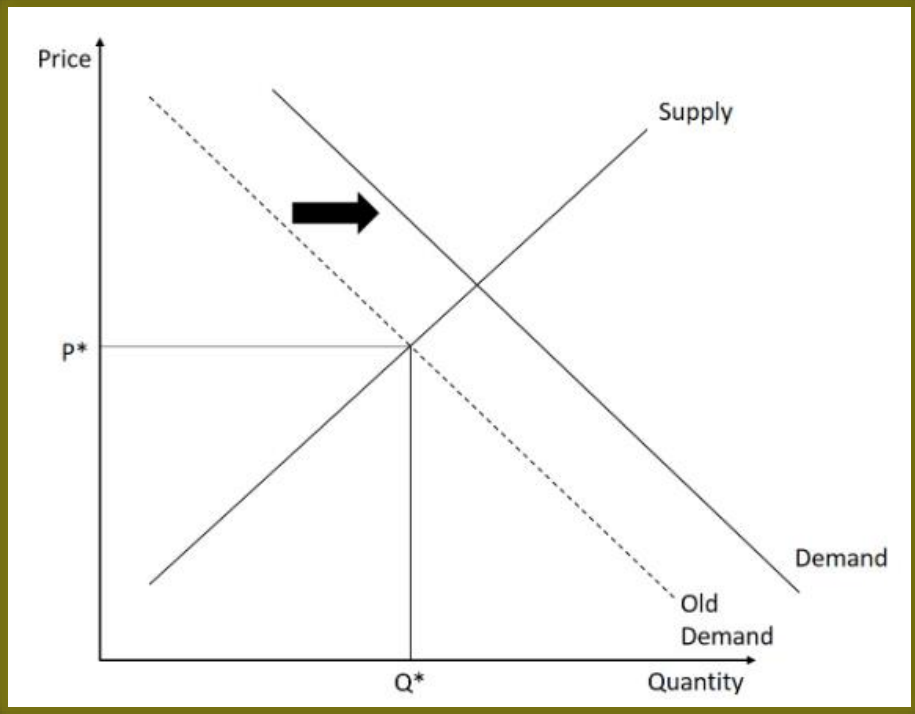


Modeling Market Equilibrium

Single Shifts - Demand

Example: Pick up Trucks Market





- ***A new marketing campaign is successful and creates a new desire to own pickup trucks.***

Modeling Market Equilibrium

Single Shifts - Demand

Example: Pick up Trucks Market