The Demand for Goods Part I

Mass demand has been created almost entirely through the development of advertising.
-Calvin Coolidge

The Law of Demand

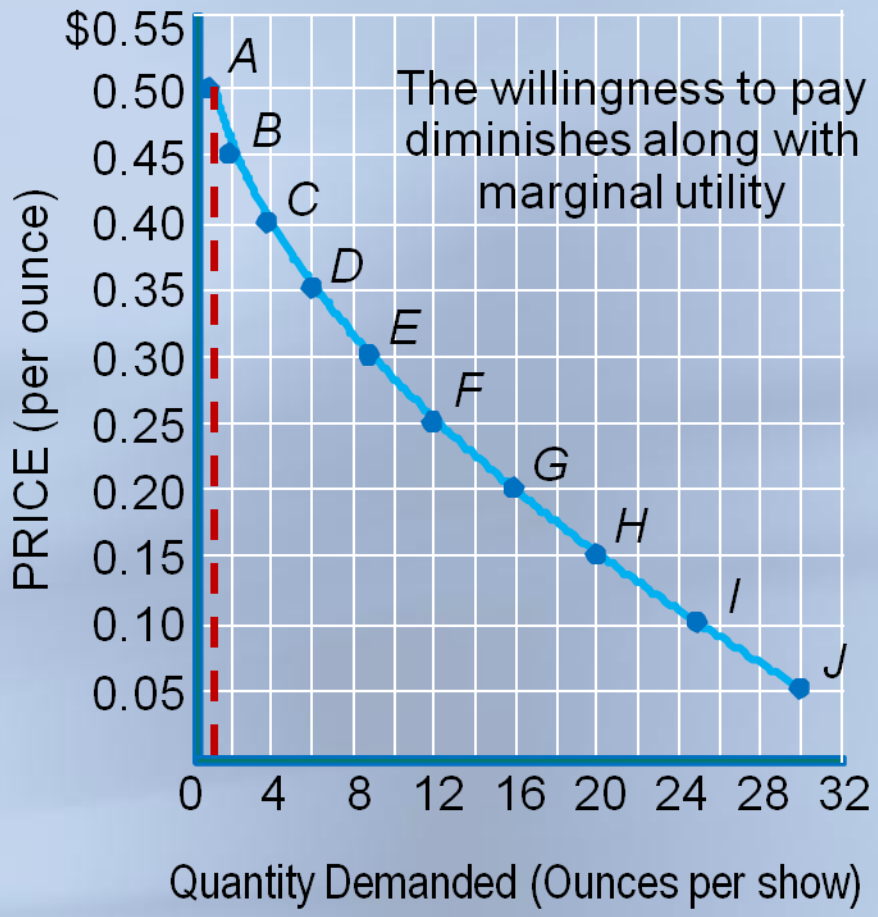
- The **law of demand** states that consumers buy more of a good when its price decreases and less when its price increases.
- These two effects describe different ways that a consumer can change his or her spending patterns for other goods.

The Demand Curve

- The **demand curve** describes the quantities of a good a consumer is willing and able to buy at alternative prices in a given time period.
- The law of demand is illustrated by a downward-sloping demand curve.

Table and Chart: Individual Demand Schedule and Curve

	Price	Quantity Demanded
A	0.50	1
B	0.45	2
C	0.40	4
D	0.35	6
E	0.30	9
F	0.25	12
G	0.20	16
H	0.15	20
I	0.10	25
J	0.05	30



Consumer Behavior

- In explaining consumer behavior, economists focus on the demand for goods and services.
- **Demand** is the willingness and ability to buy specific quantities of a good at alternative prices in a given time period*, ceteris paribus*.
- The purchase of any one single good means giving up the opportunity to buy more of other goods.
  - **Opportunity costs** – The most desired goods or services that are forgone in order to obtain something else.

Individual Choice

- According to economists, our behavior is motivated by **rational self interest**.
- As a result, two things determine what we do.
  - the pleasure we get from doing or consuming something
  - the price of doing or consuming it

Utility Theory

Concepts you need: utility
total utility
marginal utility
diminishing marginal utility

Burger 1
Eating the first burger gives the consumer a lot of ***satisfaction***

(utility)

Burger 2
Eating a second burger will not give as much ***extra satisfaction*** as the first did

(marginal utility)

Burger 3
Eating a third burger will give even ***less extra satisfaction*** then eating the second one

(diminishing marginal utility)

Satisfaction thermometer

Utility

- **Utility** is the pleasure or satisfaction that one expects to get from consuming a good or service.
- The more pleasure a product gives us, the higher the price we're willing to pay for it.
- Utility serves as a measurement of consumer satisfaction.

Total Utility

Total utility is the total amount of satisfaction obtained from the consumption of a product.

Marginal Utility (MU)

Marginal utility is the satisfaction you get from the consumption of one additional unit of the product above what you consumed up to that point.

$$\text{Marginal Utility (MU)} = \frac{\text{Change in total utility}}{\text{Change in quantity}}$$

Consumers make one choice over another depending on their marginal utility.

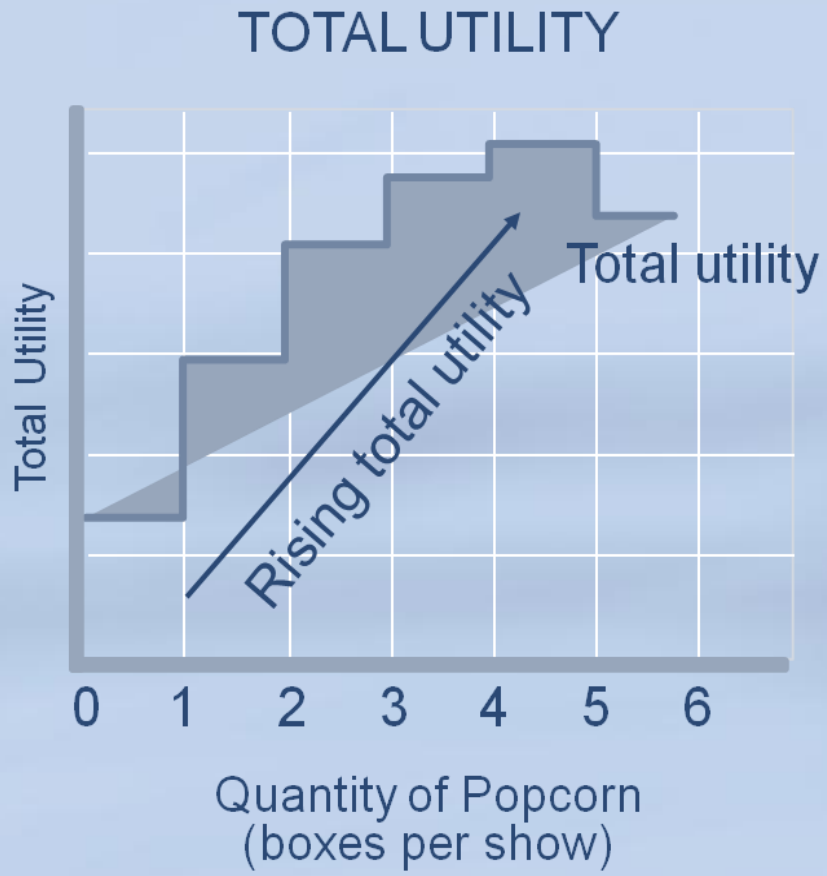
Diminishing Marginal Utility

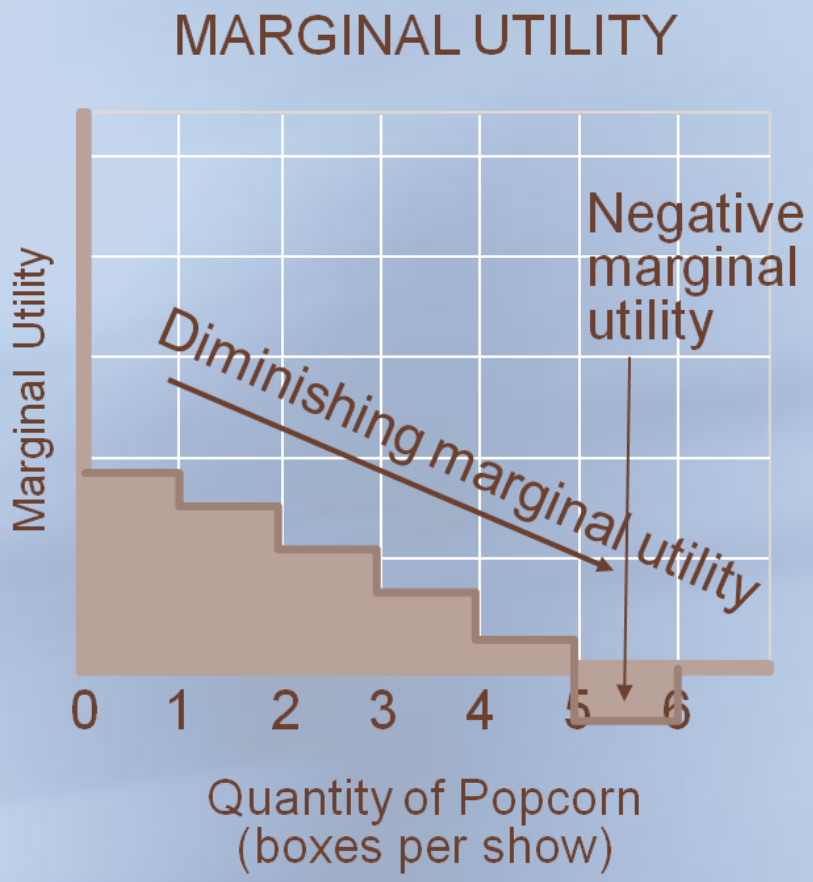
- According to the **principle of diminishing marginal utility**, after some point in a given time period the marginal utility you get from each additional unit of a good decreases with each additional unit consumed. (Imagine eating your favorite candy bar … and then another … and another … and another…)
  - As additional units are consumed, marginal utility decreases, but total utility continues to increase.
  - When total utility is at a maximum, marginal utility is zero.
  - Beyond this point, total utility decreases and marginal utility is negative.

Table:
Total Utility and Marginal Utility

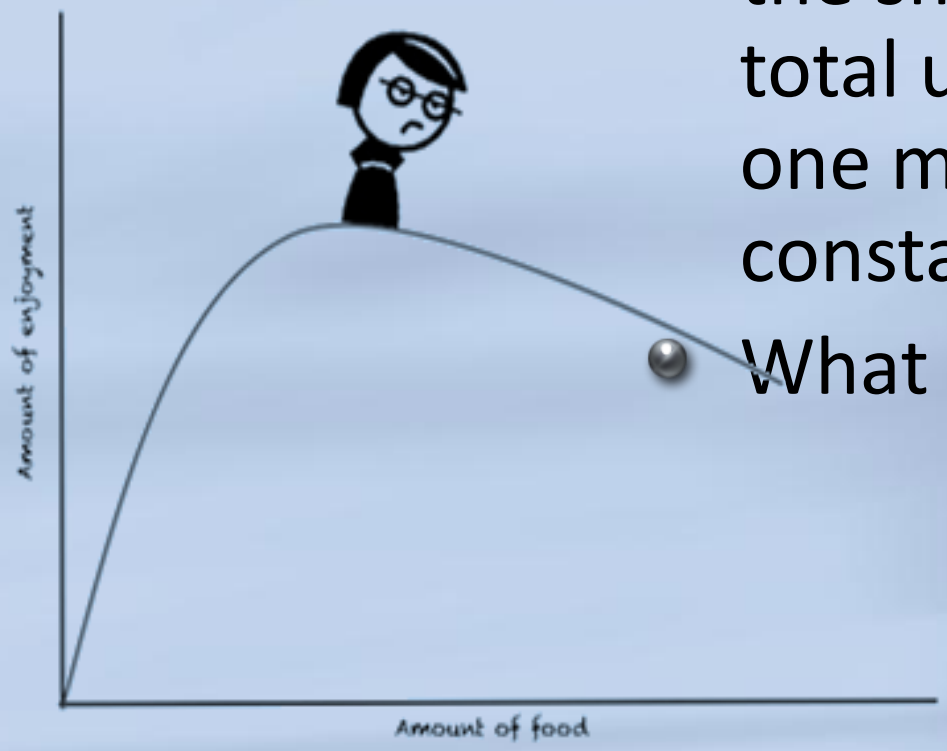
Number of pizza slices	Total utility	Marginal utility
1	14	14
2	26	12
3	36	10
4	44	8
5	50	6
6	54	4
7	56	2
8	56	0
9	54	-2

Chart:
Total Utility and Marginal Utility



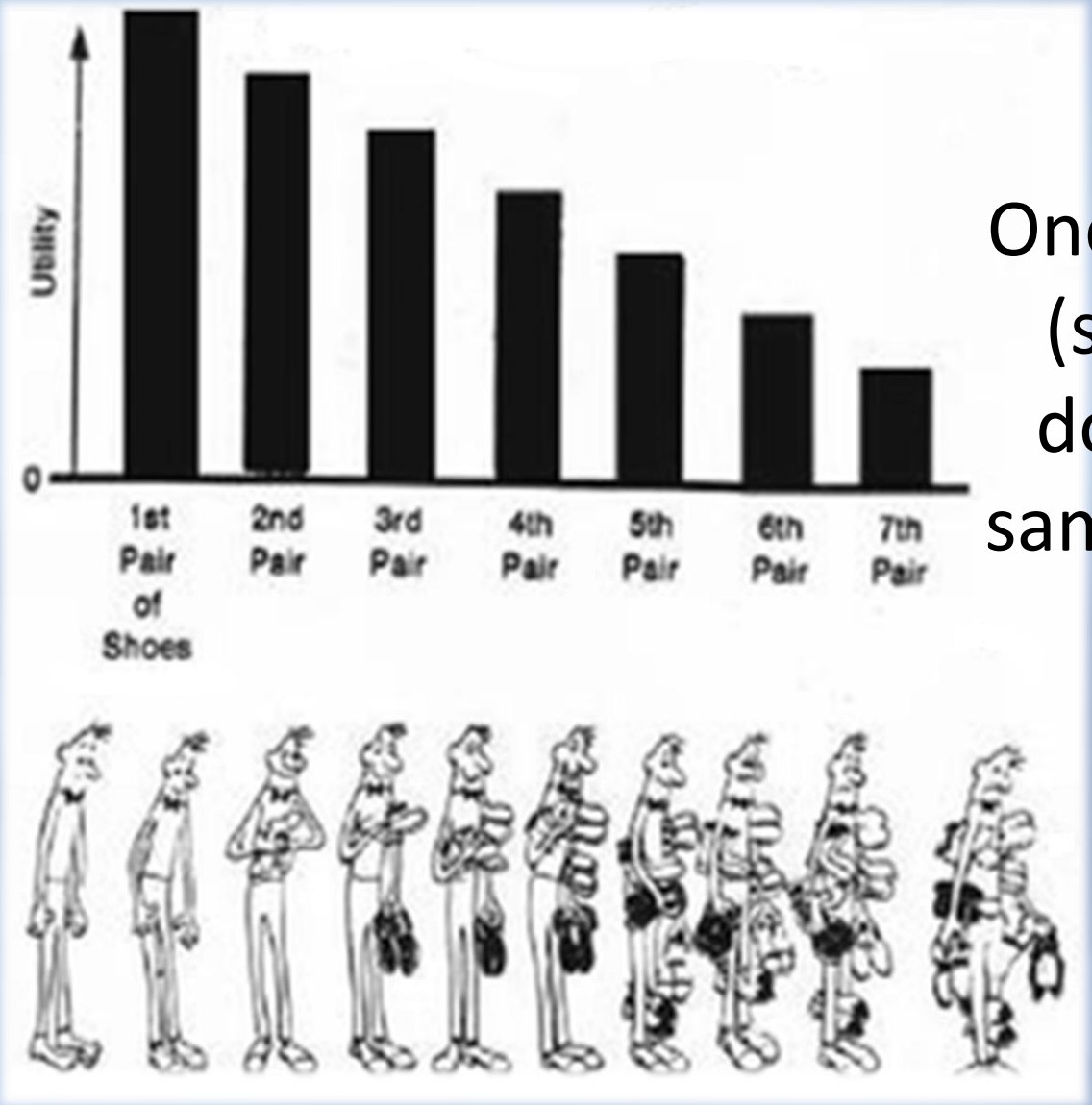


Principle of Diminishing Marginal Utility



- The more of a good a person consumes in a given period, the smaller the increase in total utility from consuming one more unit, other things constant.
- What does that mean?!

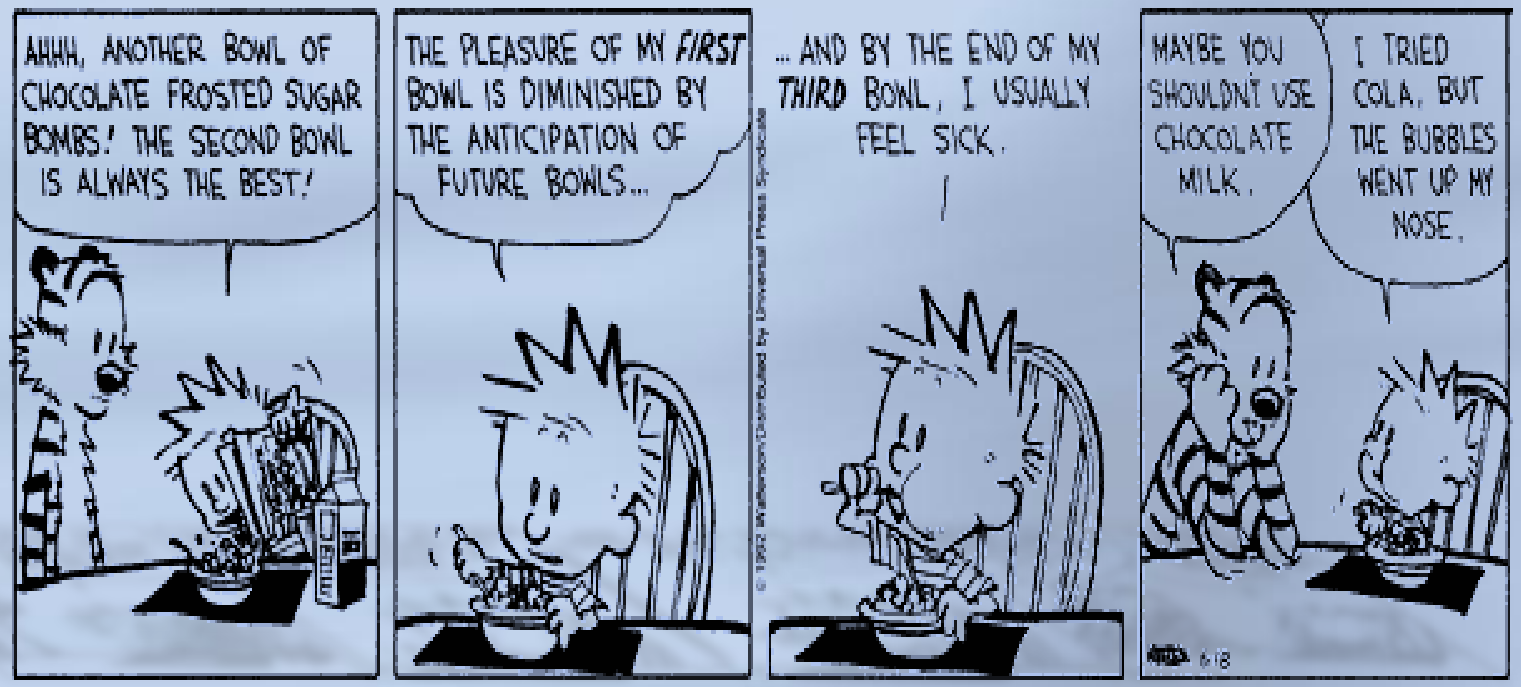
In other words…



One more of something (shoes, for example) does not provide the same satisfaction as the previous one did.

Cartoon:
Diminishing Marginal Utility

Your satisfaction level goes down with each additional item bought, owned or consumed.



Water and Diamonds

Even though water provides a greater utility than diamonds, diamonds are more expensive. Why?

Water is plentiful in most of the world, so its marginal utility is low.

Look at the marginal utility of water and diamonds.

Chart:
Marginal Utility of Diamonds

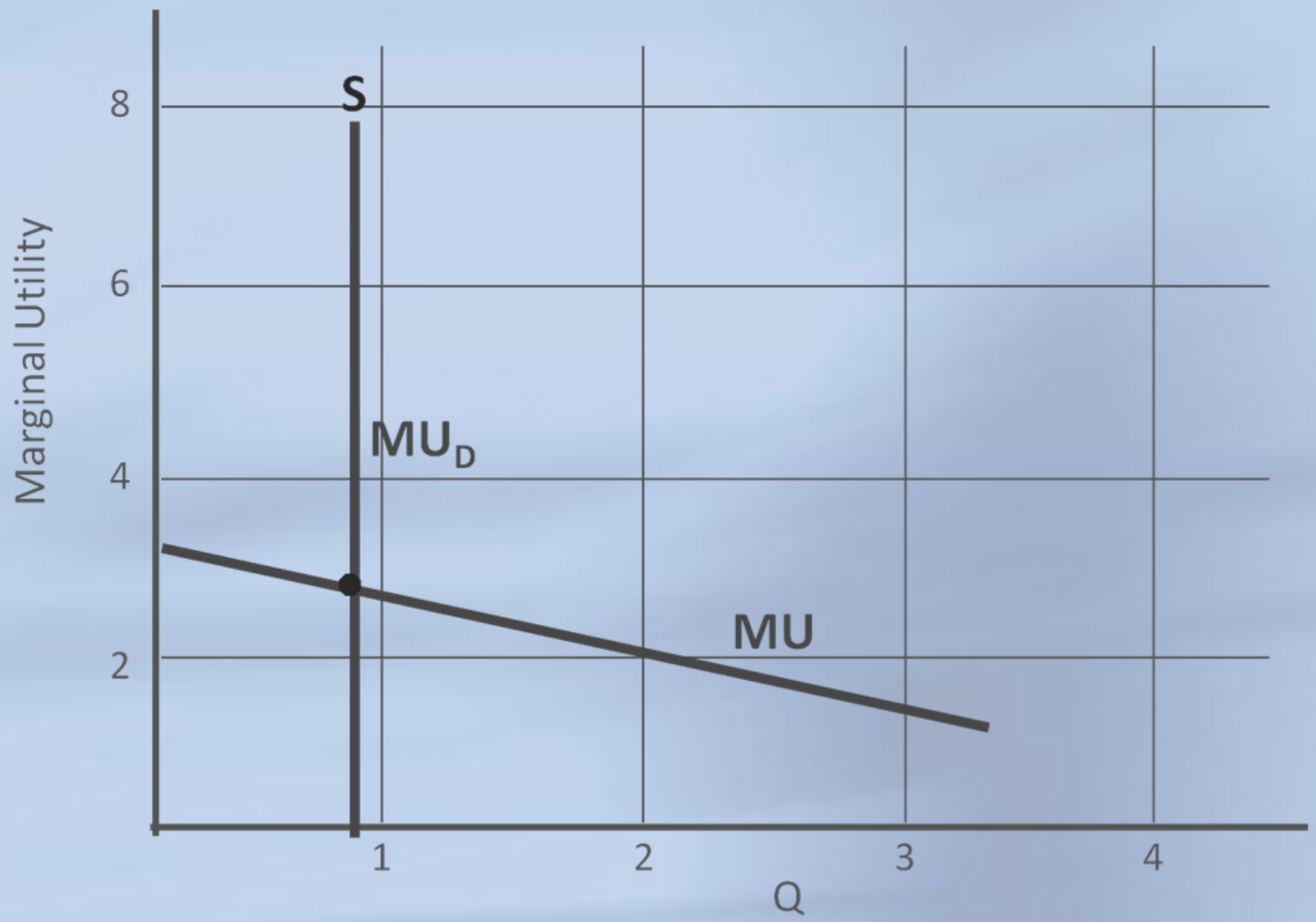
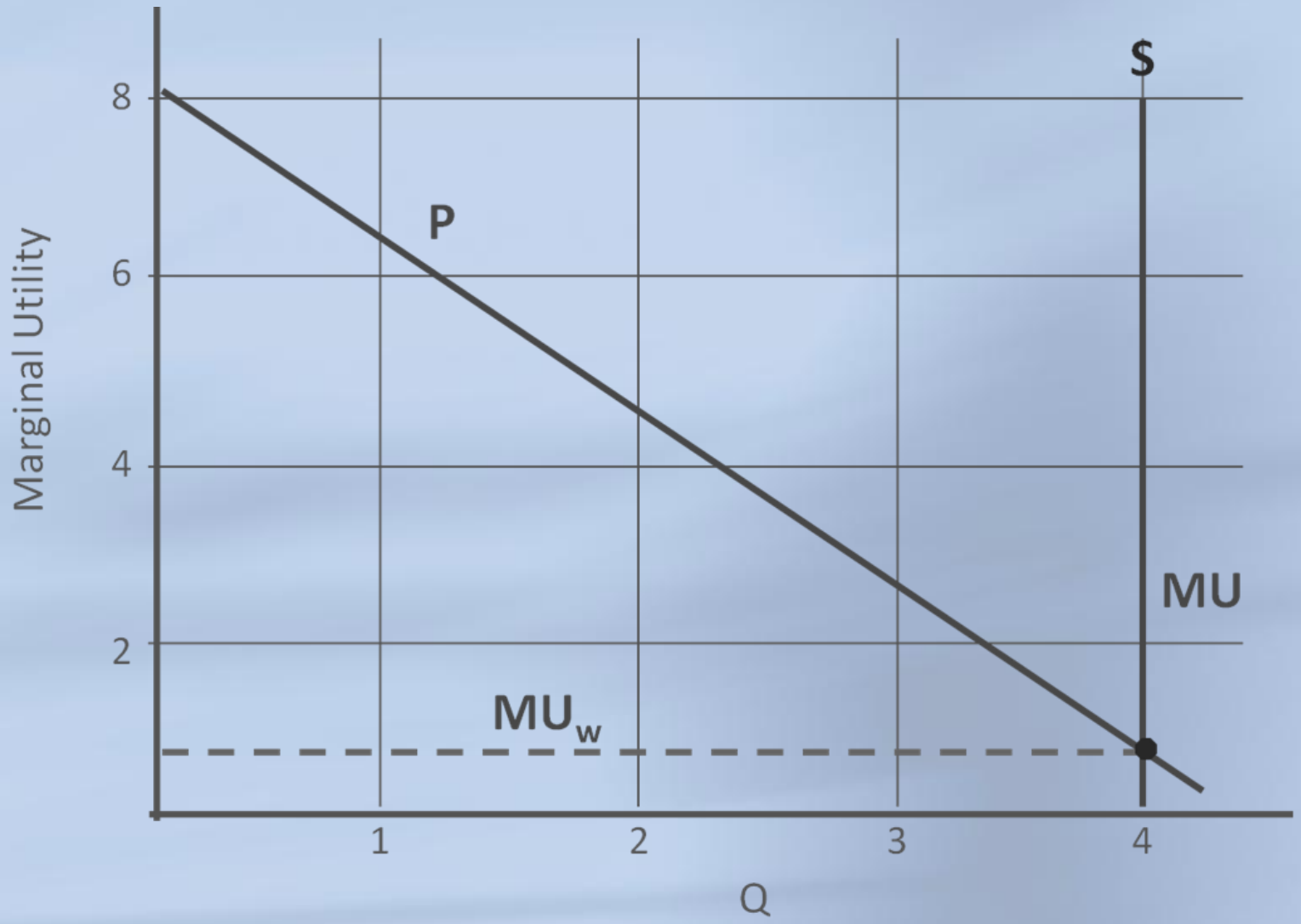


Chart:
Marginal Utility of Water



Rational Choice

Utility is maximized when:

$$\frac{MU_A}{Price_A} = \frac{MU_B}{Price_B} = \frac{MU_Z}{Price_Z}$$

The cost per additional unit of utility is equal for all goods and the consumer is as well off as it is possible to be.

The Principle of Rational Choice

- Consume another unit of x if:

$$\frac{MU_X}{P_X} > \frac{MU_Y}{P_Y}$$

- Consume another unit of y if:

$$\frac{MU_X}{P_X} < \frac{MU_Y}{P_Y}$$

Rational Behavior and Price

- Rational behavior requires one to compare the anticipated utility of each expenditure with its cost.
- To maximize utility, the consumer should choose that good which delivers the most marginal utility per dollar. So we divide marginal utility by price … MU / P.

Table: Marginal Utility for Big Macs and Milkshakes

QUANTITY OF EACH ($2 each)	BIG MACS		MILK SHAKES	
	MU per day	MU / P	MU per day	MU / P
1	8	4	6	3
2	4	2	4	2
3	2	1	1	½
4	1	½	0	0

MU = maximum utils

Maximizing Utility

$$\frac{MU_{\text{Big Mac}}}{P_{\text{Big Mac}}} = \frac{MU_{\text{Milk Shake}}}{P_{\text{Milk Shake}}}$$

$$\frac{4 \text{ utils}}{\$2} = \frac{4 \text{ utils}}{\$2}$$

If the price of Big Macs drops, the consumer will spend more money on Big Macs to restore maximum total utility.

$$\frac{4 \text{ utils}}{\$1} > \frac{4 \text{ utils}}{\$2}$$

Remember, the law of demand says that as the price of a good declines, consumers will buy more of it and vice versa.

The Optimal Consumption Combination

- We call the mix of consumer purchases that maximizes the utility attainable from your available income **optimal consumption**.
- To maximize total utility, consumers choose the optimal consumption combination.

Table:
Utility Maximization

	Number of Utils			
	from Cokes		from video games	
Q	total	marginal	total	marginal
0	0	0	0	0
1	15	15	10	10
2	23	8	19	9
3	25	2	26	7
4	25	0	31	5
5	22	-3	34	3
6	12	-10	35	1

Rational Choice (Again)

- The basic approach to utility maximization is to purchase that good next which delivers the most *marginal utility per dollar*.
- If a person could get more utility per dollar by buying good X, then he/she should continue to buy good X, and vice versa.

If $\frac{MU_X}{P_X} > \frac{MU_Y}{P_Y}$ → buy more X

- The process continues until the ratios are equal – only then will utility be maximized.
- Utility Maximizing Rule: $\frac{MU_X}{P_X} = \frac{MU_Y}{P_Y}$

Equilibrium Outcome = Optimal Choices

Economic theory predicts that the final choices of consumers -- the equilibrium outcome -- will be optimal.

(Of course, people may not behave rationally in real life.)

Utility, Price and Quantity

- The more marginal utility a product delivers, the more a consumer is willing to pay, *ceteris paribus*.
- As the marginal utility of a good diminishes, so does our willingness to pay.
- According to the law of demand, the quantity of a good demanded in a given time period increases as its price falls, *ceteris paribus*.

Continued in
The Demand for Goods Part II