

BEC1116 Principles of Economics

Consumer Behavior and Demand

Consumer Behavior

Utility Theory

- Concepts related to utility and the diminishing marginal utility phenomenon
- Consumer equilibrium
- Using utility theory to derive the demand curve

Utility Theory

Concepts Related to Utility and the Diminishing Marginal Utility Phenomenon

Utility refers to the ability of a good to satisfy a consumer's wants.

Goods that satisfy a large want >> **High utility goods**

Goods that satisfy a small want >> **Low utility goods**

Theory of Utility

The utility for each consumer does not necessarily have to be the same. Even for the same consumer using the **same product, the utility obtained from that product may differ** if considered at different times. For example, the utility of a meal for the same consumer may differ when the consumer is hungry compared to when they are full or thirsty. The utility will vary.

Utility Theory

Measuring Utility from Consuming Goods

The level of total utility and the utility of each unit of consumed goods can be quantified. As the number of consumed goods increases, so does the total utility. Utility can be measured in units called utils (Util).

1. Total Utility (TU)

TU refers to the total utility that a consumer receives from consuming various quantities of a product.

For example, consuming the first unit provides **5 utils** of utility, while consuming the second unit provides **9 utils** of utility.

► Total Utility amounts of 5 and 9 utils

Refers to the total utility that a consumer receives from consuming the first and second units, and sequentially.

The total utility amounts from other quantities can be calculated as well, for example.

Quantity (Q)	Total Utility (TU)
1	5
2	9
3	12
4	14
5	15
6	15
7	15
7	14
8	12

► 2. Marginal Utility (MU)

MU refers to the utility from the last unit consumed, equivalent to the increase in total utility that a consumer experiences when consuming one more unit of a product.

When consuming each unit

$$MU_1 = TU_1 - TU_0$$

For example, Mr. A consumes 1 unit and receives a total utility of 5 utils. When Mr. A consumes 2 units, his total utility increases to 9 utils.

In this scenario, the increase in utility from consuming one additional unit to two units is calculated as follows:

$$MU = 9 - 5 = 4 \text{ utils}$$

When consuming multiple units

$$MU = \frac{\Delta TU}{\Delta Q}$$

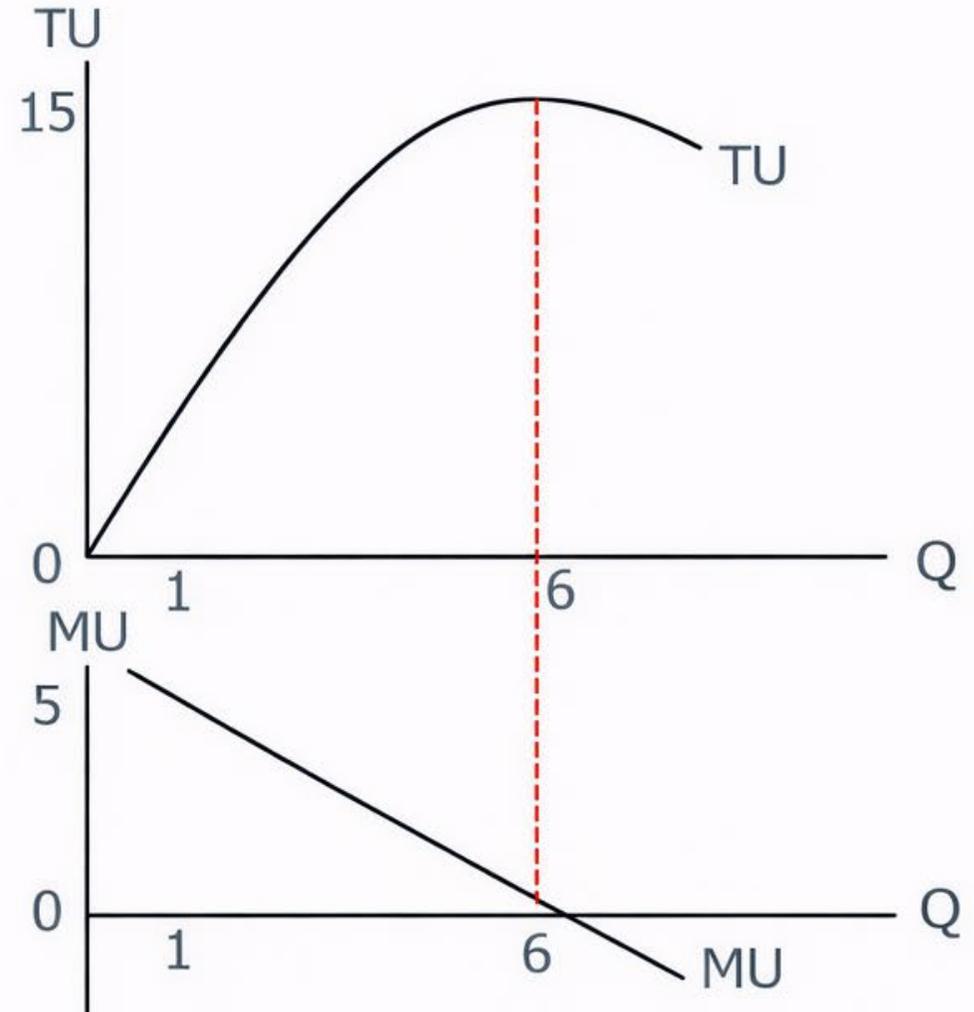
- ΔTU is the change in total utility
- ΔQ is the change in quantity consumed

Quantity (Q)	Total Utility (TU)	Marginal Utility (MU)
0	0	
1	5	5
2	9	4
3	12	3
4	14	2
5	15	1
6	15	0
6	15	0
7	14	-1
8	12	-2

Total Utility and Marginal Utility

- From the table, we can see that TU and MU increase as more units are consumed.
- You'll notice that as consumption increases, TU rises until the 6th unit is consumed, after which it peaks and then declines.
- It shows that a consumer reaches a saturation point when consuming 6 units where $\Delta MU = 0$.
- We can illustrate the relationship between TU and MU as follows.

The Relationship between Total Utility and Marginal Utility



Theory of Utility

Law of Diminishing Marginal Utility

The relationship between TU and MU follows the Law of Diminishing Marginal Utility (Law of Diminishing Marginal Utility)

Which states that as a **consumes consecutive units of a single type of product**, the marginal utility (MU) derived from each additional unit will eventually decrease and fall to the lowest point.

Theory of Diminishing Marginal Utility

Example:

Ms. B receives a new shirt. This shirt gives her a high marginal *utility*. But if Ms. B receives another shirt that is identical in style, color, and pattern to the first shirt,

the second shirt will provide less marginal utility to Ms. B than the first shirt.

The second shirt inherently provides less utility to Ms. B than the first shirt.

Consumer's Equilibrium:

Analyzed by the Theory of Utility

Consumer's Equilibrium

Refers to a condition where the consumer receives maximum satisfaction from the choice of goods or services, which is the most appropriate quantity that is not expected to change.

This implies that factors that may change include price of goods, income, or budget change.

Consumer's Equilibrium:

Analyzed by the Theory of Utility

Analysis of Consumer's *Equilibrium* in Spending Money on Goods can be categorized as follows:

1. Case of Buying
Only One Type
of Good

2. Case of Buying
Several Types of Goods

Consumer's Equilibrium

1. Case of Buying Only One Type of Good

In deciding whether to buy a good or not, the consumer compares the utility or satisfaction gained from the good with the utility or satisfaction lost from the amount of money to be spent, which is the **price of the good**.

Consumer's Equilibrium

If the utility gained from purchasing the good is greater than the utility lost from the money spent (**price of the good**), the consumer will decide to buy the good.

In this case, the consumer directly compares the utility gained against the **price of the good** to determine whether it is worthwhile to make the purchase.

Consumer's Equilibrium

Given that:

Marginal utility per unit = MU ,
and Price of the good = P

The consumer compares MU and P :

- Buys the good if $MU > P$
- Does not buy the good if $MU < P$

Consumer's Equilibrium

Thus, the condition that makes the consumer in equilibrium and fully satisfied from purchasing the good is...

- $MU > P$
- Stops buying when $MU = P$

This condition represents the point where the consumer achieves the highest overall utility.

Analysis of Consumer's *Equilibrium*: Graph

Let $P = 3$

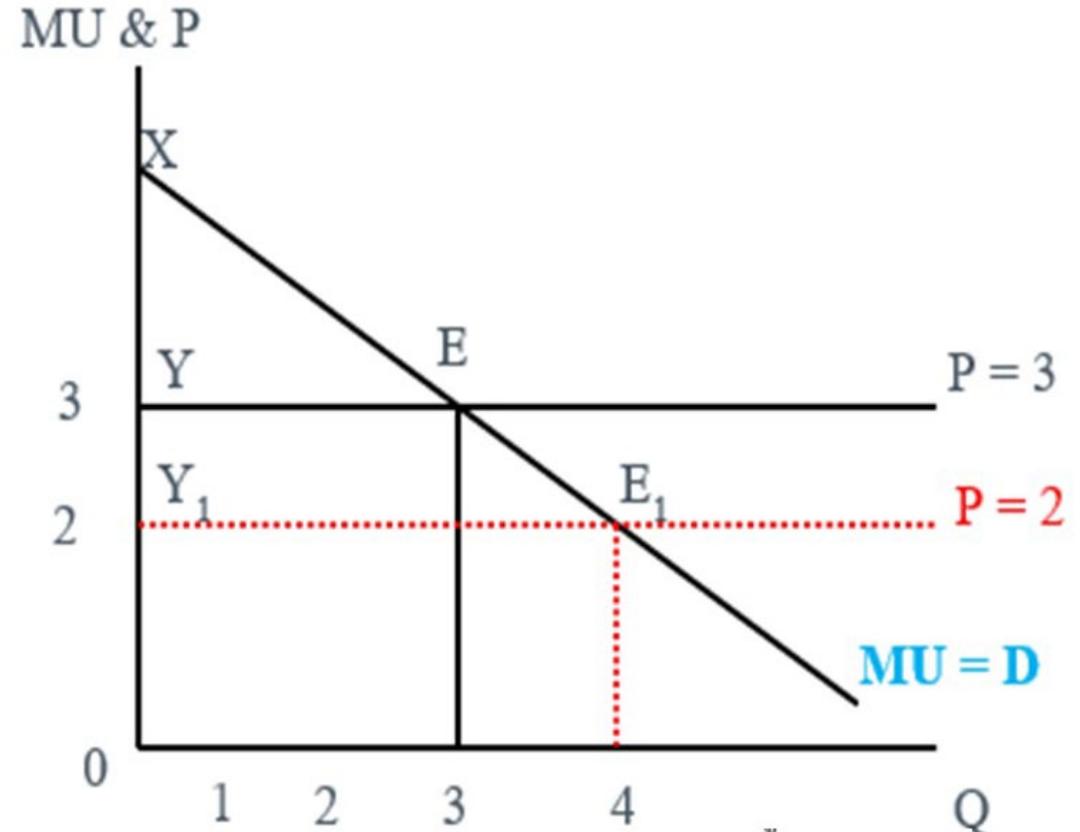
The consumer buys 1 & 2 units $\gg MU > P$
stops at the 3rd unit $\gg MU = P$

\therefore The surplus utility exceeds the money spent
area = area XEY

Let $P = 2$

4 units of the good $\gg MU = P$ as the consume
increases the quantity of goods as P decreases.

\therefore The surplus utility exceeds the money spent
area is now larger = area XE $Y_1 Y_1 1$



Consumer's Equilibrium of purchasing goods

Buying Quality of Consumers

2. Case of purchasing a variety of goods

In cases where consumers must purchase multiple types of goods within a limited budget, the primary challenge consumers face is budget allocation—deciding which products to buy and in what quantities. This requires them to maximize the total utility to the highest value possible.

Since the utility of each product varies, **comparing products** must be done to determine which product **provides the higher utility**. Therefore, it is essential to **compare** the usage of each product and the quantity sacrificed against the **benefits gained** from them.

Consumer Utility

By comparing it to 1 unit of money, it is called the last utility of 1 unit of money used to buy a product.

For example, if product A has a price of P_A baht and provides utility to the consumer as MU_A . Finding the last utility of 1 unit of money used to buy product A can be compared to spending an amount P of baht provides utility to the consumer as MU_A , if 1 baht

$$\gg A = MU_A$$

$$1 \text{ baht } \gg A = MU_A$$

$$\frac{A}{P_A}$$

Suppose that one unit of money used to buy product A provides utility to the consumer as

$$\frac{MU_A}{P_A} = MU_A$$

In the same manner, one unit of money spent to buy product B provides utility to the consumer as

$$\frac{MU_B}{P_B} = MU_B$$

Buying product C provides utility to the consumer as

$$\frac{MU_C}{P_C} = MU_C$$

Optimal Satisfaction from the Selection of Multiple Goods

The condition at which a consumer achieves the highest satisfaction from using a given budget in the purchase of multiple goods is that the consumer must allocate the budget across different goods until the marginal utility per dollar spent on the last unit of each good is equal, which is:

$$\frac{MU_A}{P_A} = \frac{MU_B}{P_B} = \frac{MU_C}{P_C} = \dots = \frac{MU_n}{P_n}$$

This condition is called consumer equilibrium. If the consumer's preferences change, the allocation of the budget across different goods will change as well, such as the amount of money the consumer has or the price of the goods.

Using Marginal Utility Theory in Demand Analysis

We can use marginal utility theory to demonstrate, under equilibrium assumption, that consumers A and B buy goods.

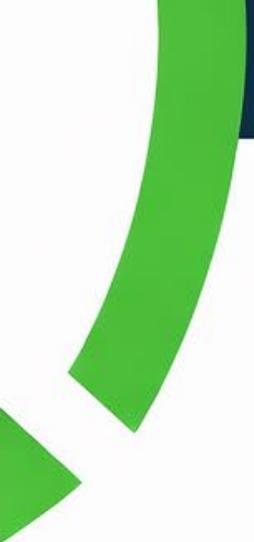
- At price P_A consumers buy O_A units of good A in equilibrium showing that
$$\frac{MU_A}{P_A} = \frac{MU_B}{P_B}$$
- If price of good A decreases to P_{A1} \gg MU_A will increase
 - Creates more satisfaction from good A than B
 - Consumers buy more of good A \gg MU_A decreases
- In accordance with the law of diminishing marginal utility
 - At the same time, when buying less of good B \gg MU_B increases

- Until equilibrium returns, equalizing once again

$$\frac{MU_A}{P_A} = \frac{MU_B}{P_B}$$

- Until equilibrium returns, equalizing once again



A green decorative graphic consisting of a thick, curved line that starts from the top left and curves downwards and to the right, ending near the top of the slide.

Demand

- Meaning of demand and different types of demand
- Individual demand and market demand
- Changes in quantity demanded and changes in demand level

Demand

Demand refers to the quantity of goods or services that consumers are willing and able to purchase at a particular point in time.

The amount demanded may be large or small, but is determined by important factors such as the price of the good itself, consumer income, and the prices of other goods related to that good.

In general, the relationship between demand and each independent variable is considered one at a time, while other variables that affect demand are assumed to remain constant (*ceteris paribus*).

Demand

- Demand requires both willingness to buy (*Willingness*) and the ability to buy (*Ability*) or having purchasing power (*Purchasing Power*).
- Considering the purchase of something in the absence of the ability to buy, Economics considers that to be only a *want*, not a *demand*.

Types of Demand

When considering only the main variables, demand can be classified into three types as follows:

- Price Demand
- Income Demand
- Demand for the price of other goods, or Cross Demand

In economic analysis, each type of demand is examined separately.

Price Demand

Price demand refers to the quantity of a particular good or service that consumers are willing and able to buy at various prices at a specific point in time. It is determined by **other relevant factors** that are held constant, such as **the prices of other goods, consumers' income, and their preferences.**

In general, the **relationship between quantity demanded and the price is inverse**; that is, when the price of a good rises, *the quantity demanded decreases*, and when the price falls, *the quantity demanded increases*.

Price Demand

Price Demand Schedule

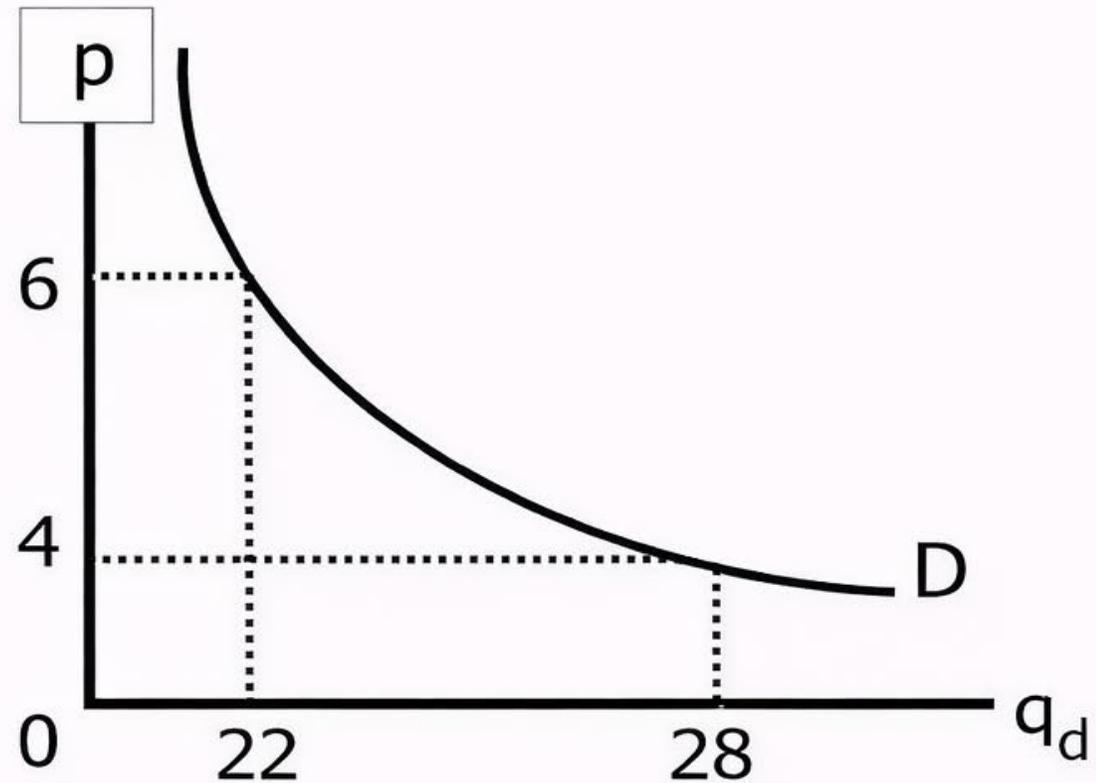
A **Price Demand Schedule** is a table that shows the quantity demanded of a good under various prices that are being considered.

Price (p)	3	4	5	6	7
Quantity Demanded (q_d)	31	28	25	22	19

Price Demand

Price Demand Curve

- The Price Demand Curve is a curve that shows the relationship between the quantity demanded and the price of a good or service.
- It is plotted by taking the data points from the price demand schedule and joining them to create a downward-sloping curve.



Price Demand

Price Demand

Law of Demand

The **Law of Demand** shows the relationship between the quantity demanded of a good or service and its price: “If all other factors are held constant, then the quantity demanded will move inversely with the price.”

Symbolically, it is shown as:

$$p \uparrow \rightarrow q_d \downarrow \qquad p \downarrow \rightarrow q_d \uparrow$$

However, for some goods and services, the Law of Demand may not apply:

$$p \uparrow \rightarrow q_d \uparrow \qquad p \downarrow \rightarrow q_d \downarrow$$

Price Demand

Goods that do not follow the Law of Demand

Conspicuous Goods are a type of product that wealthy people often buy to display wealth in order to show off and be noticed by others. Therefore, if the prices of these goods increase, they become even more appealing to certain groups of buyers.

Alternatively, buyers believe that quality is directly linked with price. They believe that an expensive product must be of high quality. Therefore, if prices of these goods decrease, those buyers may end up buying less of them, such as brand-name luxury goods.

Individual Demand and Market Demand

- **Individual Demand**

Refers to the **quantity** of a good an individual buyer is willing and able to purchase at various prices.

- **Market Demand**

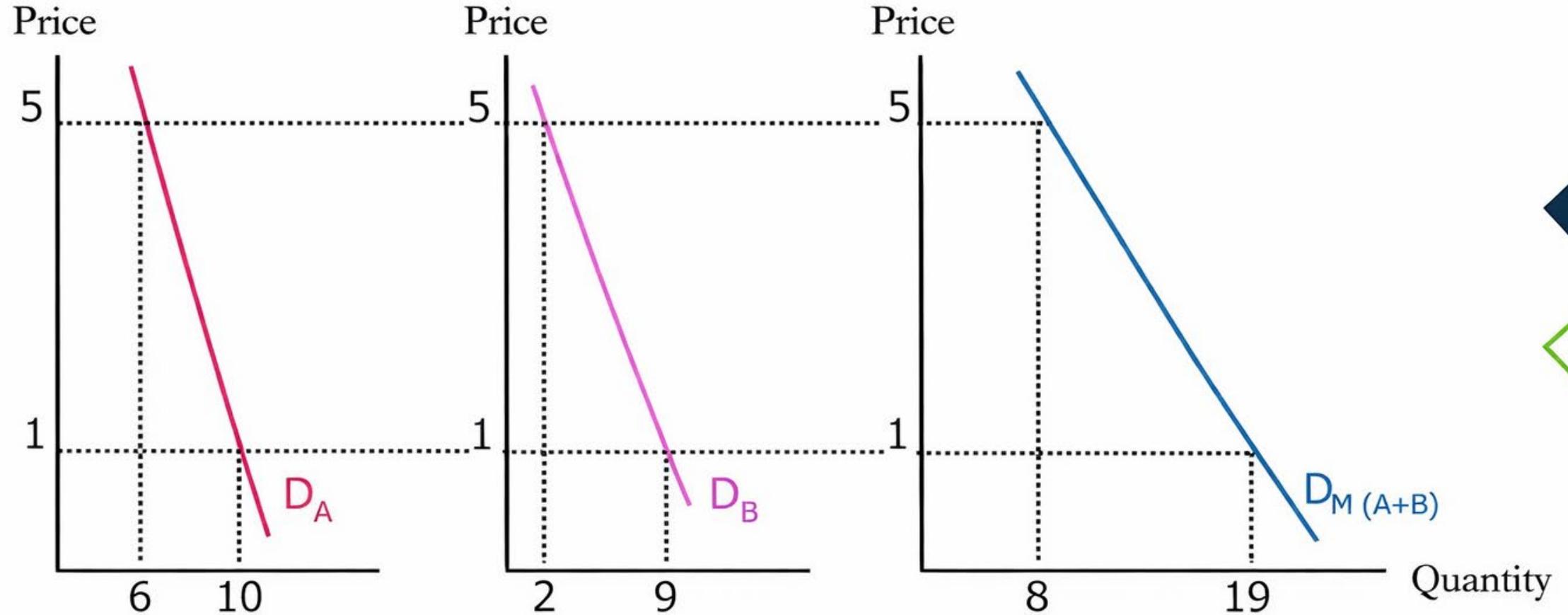
Is the **total quantity** of a good demanded by all buyers **in the market** at each price level.

Individual Demand and Market Demand

For example, if there are 2 buyers in a market, namely A and B, who want to purchase a good at different price levels as shown below.

P	Q_A	Q_B	Market Demand $Q (A+B)$
1	10	9	$(10+9) = 19$
2	9	6	$(9+6) = 15$
3	8	4	$(8+4) = 12$
4	7	3	$(7+3) = 10$
5	6	2	$(6+2) = 8$

Individual Demand and Market Demand



Individual Demand A

Individual Demand B

Market Demand

The market demand curve is less steep than the individual demand curves of A and B.