THEORY OF CONSUMER BEHAVIOUR

Preferences

Utility

Indifference curves

THEORY OF CONSUMER BEHAVIOUR Preferences; Utility; Indifference curves

STRUCTURE OF PRESENTATION

- 1. Preferences

- 2. Total and marginal utility

- 3. Cardinal and ordinal utility

- 4. Indifference curves

1. Preferences   (1/2)

- **<u>UTILITY = THE ABILITY OF A GOOD TO SATISFY HUMAN WANTS</u>**

- the utility or how the **consumer values different commodities** is connected with his **<u>PREFERENCES</u>**.

Axioms of preferences:

<u>1. Completeness</u>:

Consumer can rank (compare) all available consumption bundles. So for any two bundles of goods A and B he can establish a preference ordering and choose one of the following possibilities:

a) **A is preferred to B (A≻B, or A≽B)**,

b) **B is preferred to A (B≻A, or B≽A)**,

c) **A and B are equally good, consumer is indifferent between A and B(A∼B)**.

1. Preferences   (2/2)

2. Transitivity:

For any three consumption bundles A, B and C it is valid that **if consumer prefers A to B**, and **he prefers B to C**, then **he must prefer A to C**. Consumer is consistent in his preferences.

3. Non-Satiation or Greed:

Consumer always places positive value on more consumption; he **prefers more of a commodity to less**.

4. Reflexivity:

For any two **bundles of goods** A and B which are **identical** the consumer will consider A to be at least as good as B (A is weakly preferred to B). Alternatively we can say, the **consumer is indifferent between A and B**.

1. Total and marginal utility

- **TOTAL UTILITY (TU)** = **the total satisfaction received from consuming goods or services and it depends on quantities of goods consumed.**

Total utility of N goods is a function of quantities consumed:

$$TU = f(Q_1, Q_2, \ldots, Q_i, \ldots, Q_N), \; i=1,2,\ldots,N$$

TU – total utility,

Q_i – quantity consumed of good i,

i – good.

1. Total and marginal utility

- **MARGINAL UTILITY (MU)** = extra utility received from consuming one additional unit of good *i* while holding constant the quantity consumed of all other goods.

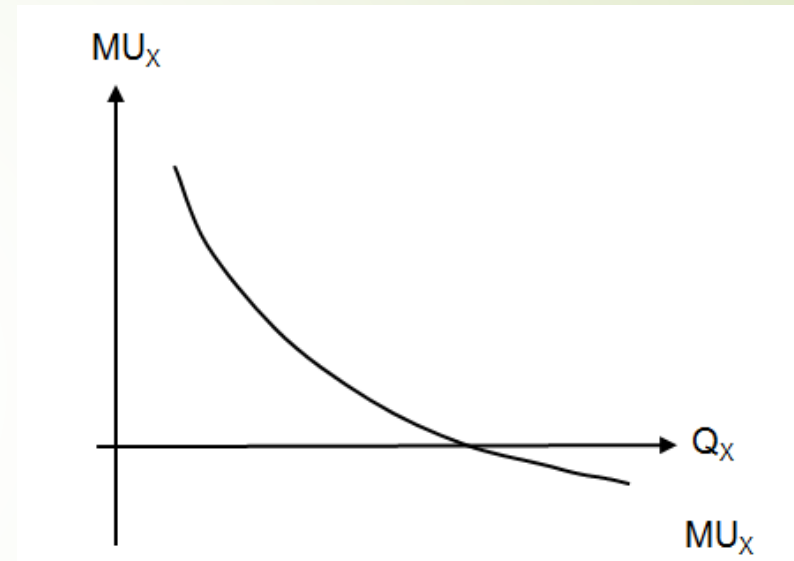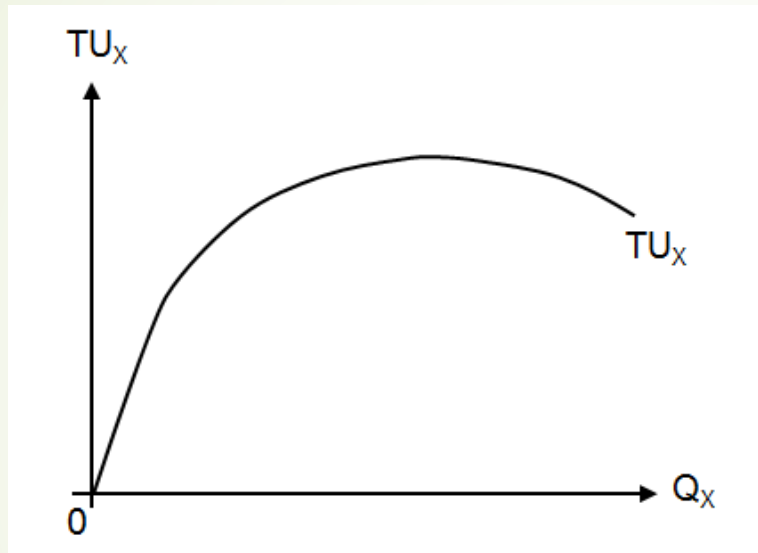$$MU_i = \frac{\partial TU}{\partial Q_i}, \qquad i=1,2,\ldots,N$$

MU$_i$ = the marginal utility of good i,

TU – total utility,

Q$_i$ – quantity consumed of good i,

i – good.

1. Total and marginal utility   (3/3)

- **Law of diminishing marginal utility** – each additional unit of a good eventually gives less and less extra utility than the previous additional unit.

2. Cardinal and ordinal utility   (1/1)

CARDINAL UTILITY

- means that an **individual** can **measure** his **utility** and can **attach specific values** of utility **from** consuming **each quantity of a good** or basket of goods.

- provides an **actual measure** of satisfaction **in units**.

ORDINAL UTILITY

- **ranks utility** received from consuming different amounts of goods or baskets of goods; ranks various consumption bundles (**! no units !**).

- in fact it is the **preference function of the consumer** (and applies properties of preferences completeness, transitivity, non-satiation, reflexivity).

- **INDIFFERENCE CURVE = the curve showing the various combinations of two commodities that give the consumer equal level of total utility.**

Higher indifference curve = higher level of satisfaction
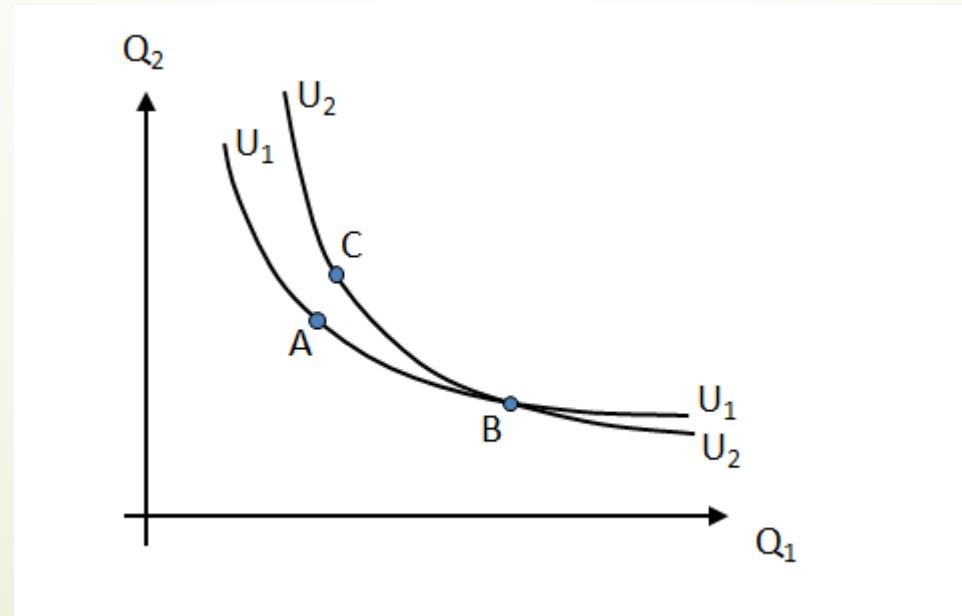
Lower indifference curve = lower level of satisfaction
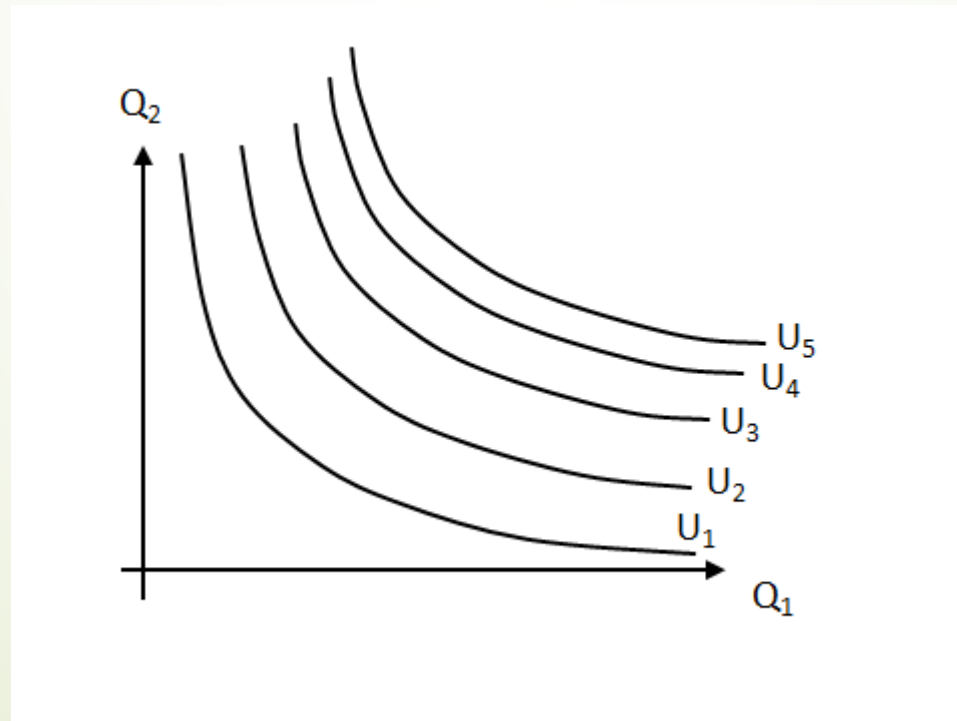
3. Indifference curves

CHARACTERISTICS OF INDIFFERENCE CURVES:

1. There are infinitely many indifference curves

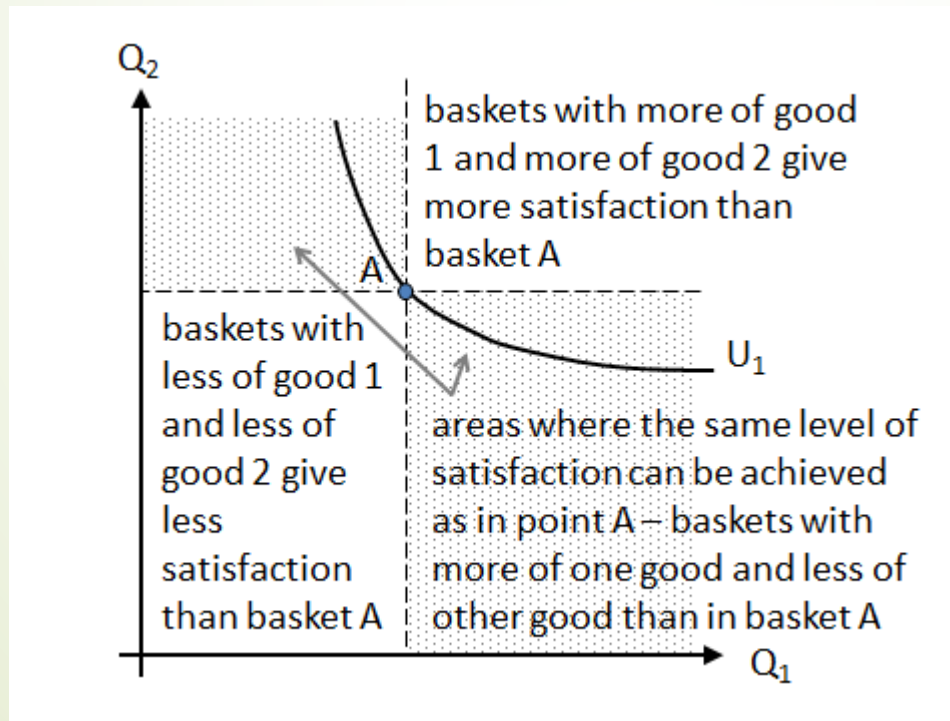2. Indifference curves cannot intersect = it violates transitivity of preferences.

CHARACTERISTICS OF INDIFFERENCE CURVES:
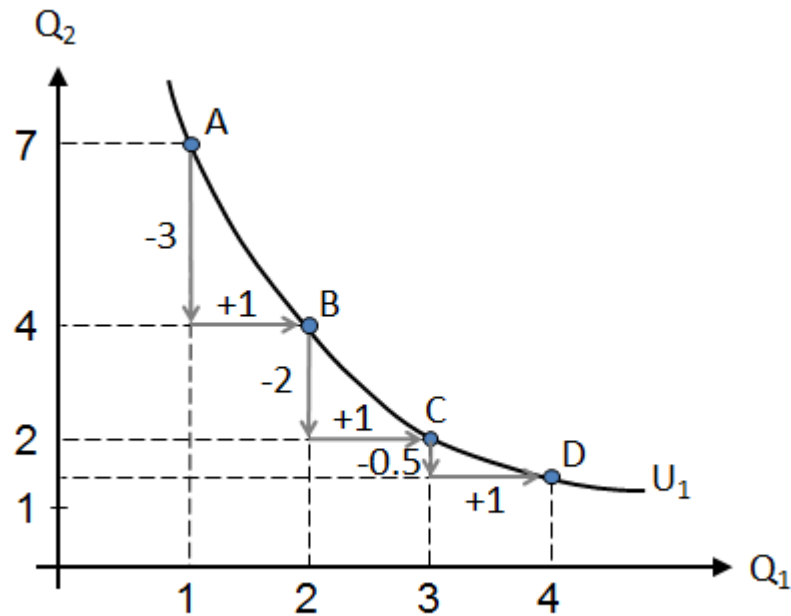
3. Indifference curves are negatively sloped.

CHARACTERISTICS OF INDIFFERENCE CURVES:

4. Indifference curves are convex to the origin.

3. Indifference curves

SLOPE OF INDIFFERENCE CURVES:

- is **negative**

- refers to the **amount of one good** that an individual **is willing to give up for** an **additional unit of another good** while maintaining the **same** level of **total utility.**

- **MARGINAL RATE OF CONSUMER SUBSTITUTION (MRCS)** = **absolute slope of the indifference curve**

- may be **different at every point** along the curve.

- to find the slope of a curve in certain point we must **find the slope of a line tangent to the curve** at the selected point.

- $\dfrac{\partial Q_2}{\partial Q_1}$ (or $\dfrac{\Delta Q_2}{\Delta Q_1}$)

- **all combinations of good 1** and **good 2** on a given indifference curve **bring the same level of total utility** for the consumer (**change of total utility is zero**)

$$\partial TU(Q_1, Q_2) = 0$$

$$\frac{\partial TU(Q_1, Q_2)}{\partial Q_1} \cdot \partial Q_1 + \frac{\partial TU(Q_1, Q_2)}{\partial Q_2} \cdot \partial Q_2 = 0$$

$$MU_{Q1} \cdot \partial Q_1 + MU_{Q2} \cdot \partial Q_2 = 0$$

$$\frac{\partial Q_2}{\partial Q_1} = -\frac{MU_{Q1}}{MU_{Q2}}$$

- MRCS is equal to the ratio of marginal utilities:

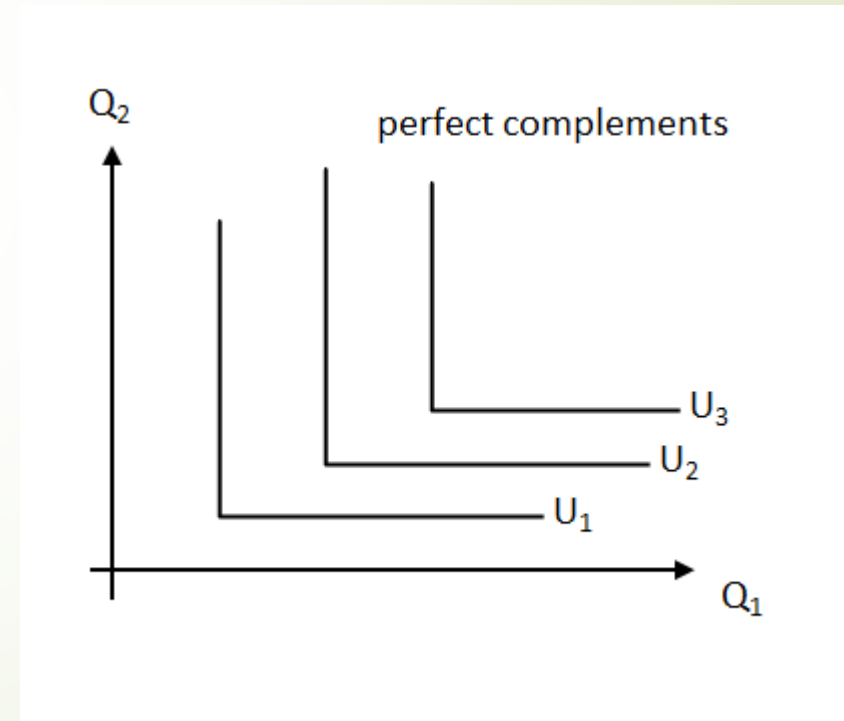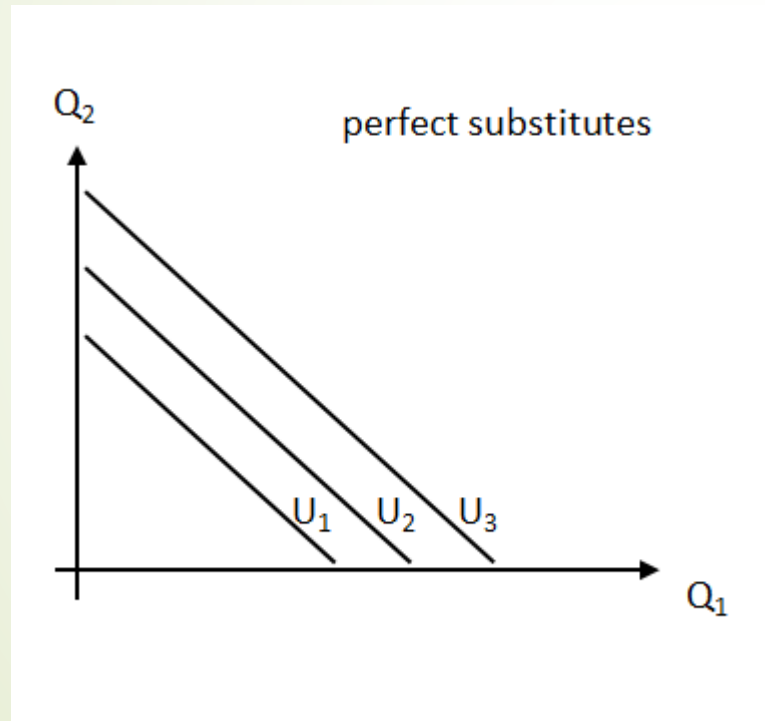$$MRCS = \left| \frac{\partial Q_2}{\partial Q_1} \right| = \left| -\frac{MU_{Q1}}{MU_{Q2}} \right|$$
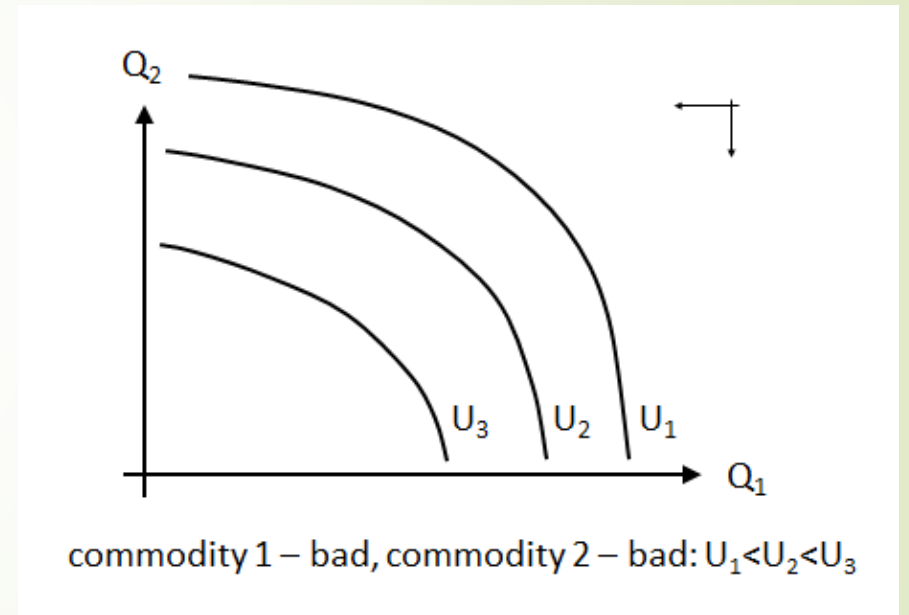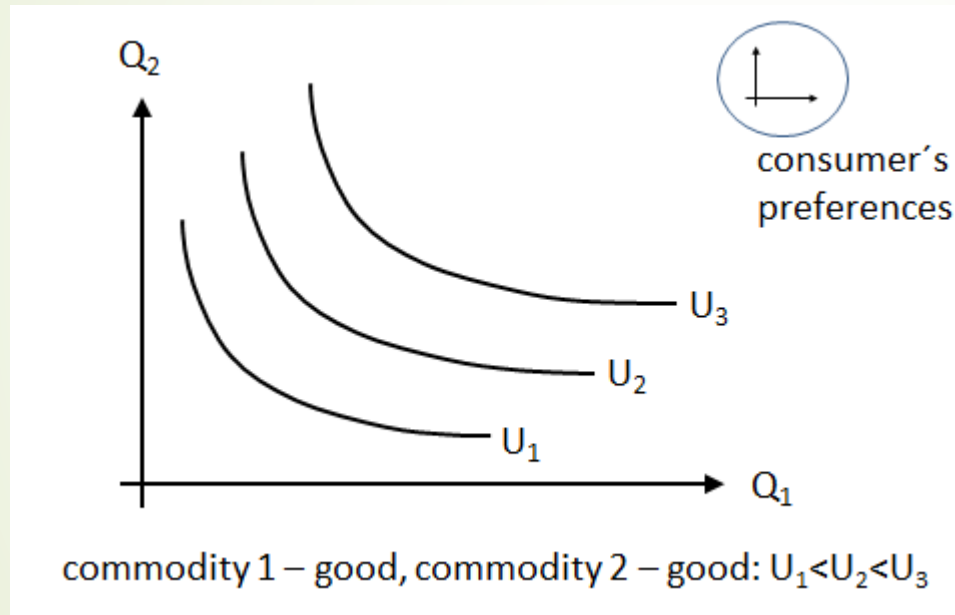
$$MRCS = \frac{MU_{Q1}}{MU_{Q2}}$$

SPECIAL TYPES OF INDIFFERENCE CURVES

3. Indifference curves

SPECIAL TYPES OF INDIFFERENCE CURVES ACORDING TO PREFERENCE ORDERING

consumer´s preferences

commodity 1 – good, commodity 2 – good: $U_1 < U_2 < U_3$

commodity 1 – bad, commodity 2 – bad: $U_1 < U_2 < U_3$

Good / normal / superior good = more of a commodity is preferred to less
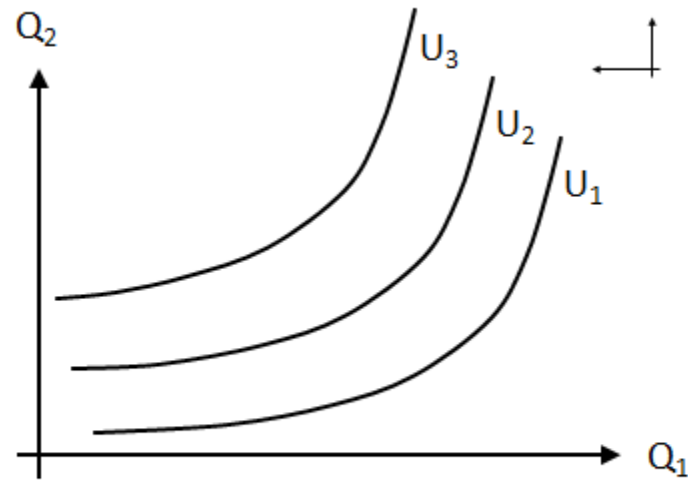**Bad / inferior good** = less of a commodity is preferred to more
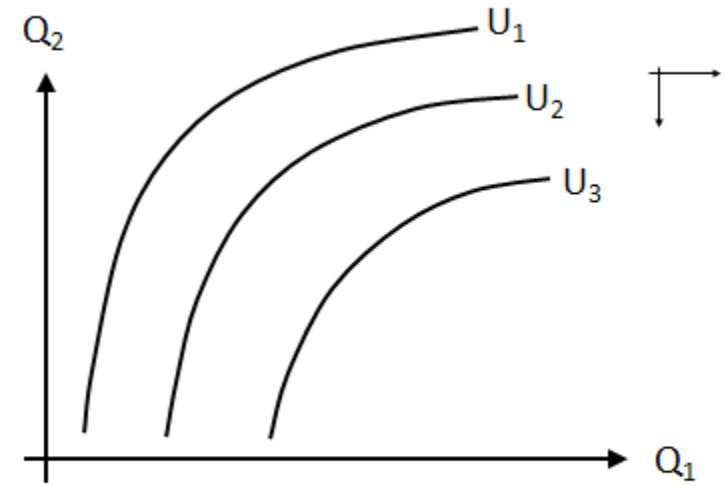**Neuter** = indifference between having more or less of a commodity

SPECIAL TYPES OF INDIFFERENCE CURVES ACORDING TO PREFERENCE ORDERING

commodity 1 – bad, commodity 2 – good: $U_1 < U_2 < U_3$

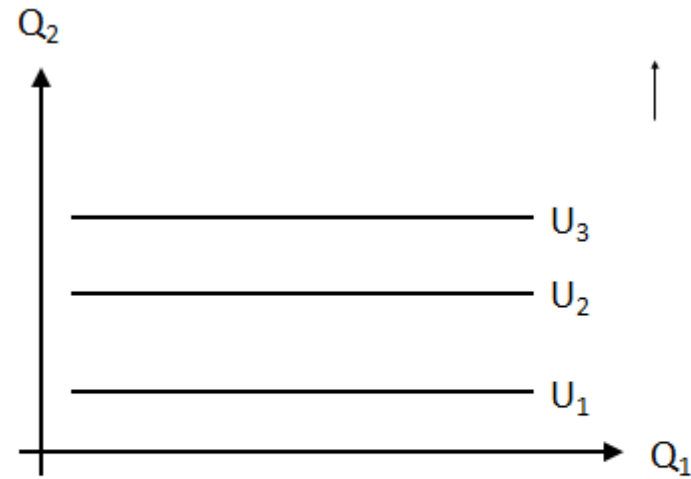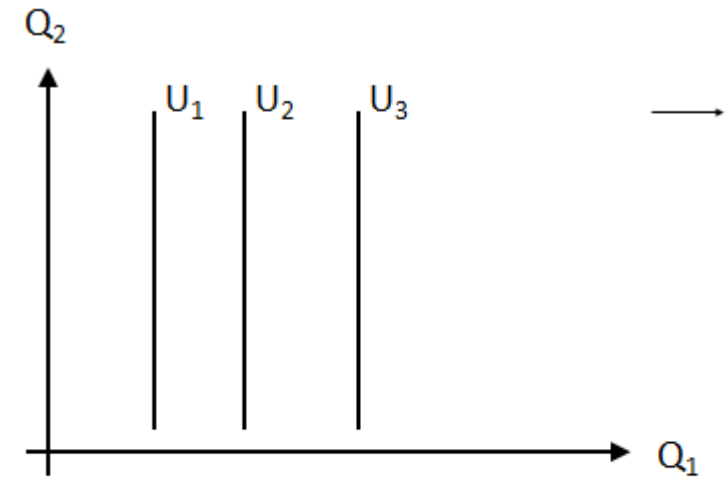commodity 1 – good, commodity 2 – bad: $U_1 < U_2 < U_3$

SPECIAL TYPES OF INDIFFERENCE CURVES ACORDING TO PREFERENCE ORDERING

commodity 1 – neuter, commodity 2 – good: $U_1 < U_2 < U_3$

(if comm. 1 – neuter, comm. 2 – bad: same shape of indifference curves, but $U_1 > U_2 > U_3$)

commodity 1 – good, commodity 2 – neuter: $U_1 < U_2 < U_3$

(if comm. 1 – bad, comm. 2 – neuter: same shape of indifference curves, but $U_1 > U_2 > U_3$)

Sources

http://thismatter.com/economics/total-and-marginal-utility.htm
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https://www.youtube.com/watch?v=i6RPEjpOCVI
http://eprints.whiterose.ac.uk/2544/1/ITS2094-On_ordinal_utility_uploadable.pdf
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http://www.slideshare.net/CarmelaGraceGavino/indifference-curves-6187452

Next lesson

➡ **THEORY OF CONSUMER BEHAVIOUR**

   1. Consumer`s utility

   2. Budget constraint

   3. Choice of rational consumer

THANK YOU FOR YOUR ATTENTION!