MICROECONOMICS I.
"B"

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ELTE Faculty of Social Sciences, Department of Economics

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week 6

Preferences, utility, part 2

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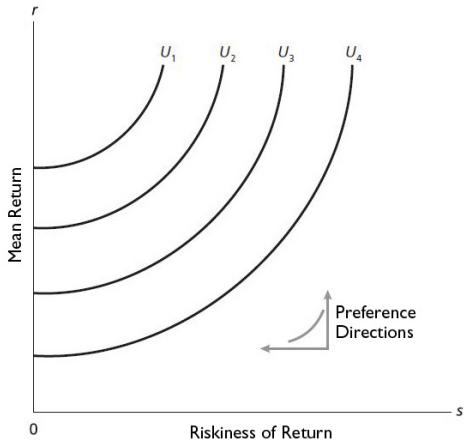
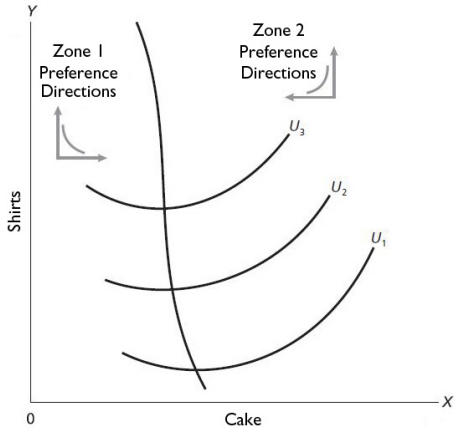
The course was prepaerd by Gergely Kőhegyi, using *Jack Hirshleifer, Amihai Glazer and David Hirshleifer (2009) Mikroökonómia. Budapest: Osiris Kiadó, ELTECON-books (henceforth HGH)*, and *Gábor Kertesi (ed.) (2004) Mikroökonómia előadásvázlatok. http://econ.core.hu/ kertesi/kertesimikro/ (henceforth KG).*

Special preferences

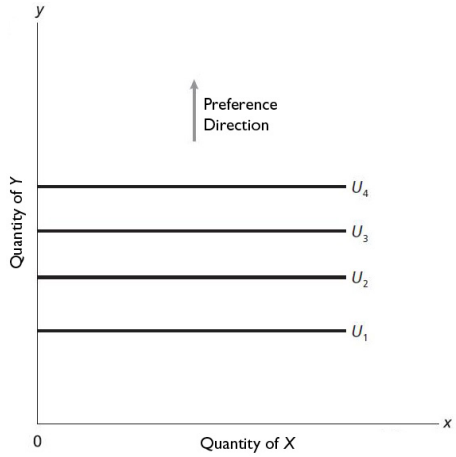
Mean return r on assets is a good, but riskiness of return s is a bad. The preference directions are therefore north and west (up and to the left), so the indifference curves slope upward.



In Zone 1 both commodities, X and Y, are goods, so the indifference curves have negative slope. Zone 2 is the region of satiation for Y; in this region the preference directions are north and west (up and to the left), and the indifference curves have positive slope. In this region an individual would have to be paid to eat another piece of cake.



Y is a good, but X is a neuter commodity. The consumer does not care bout having more or less of X. The only preference direction is up, and so the indifference curves are horizontal.



Example.: Arisztid wants to buy light bulbs. He reckons that the brilliance of the normal and the energy saving bulbs are the same, but the energy saving lasts three longer. Arisztid would like to light up his castle with an unlimited amount of bulbs for the longest possible time. Which function represents his preferences?

Example: The ham sandwich of Arisztid is always a ham and a roll. He would not eat either the roll or the ham alone, but he feels better if he eats more ham. Which function represents his preferences? How would it change if he had two hams with each roll?

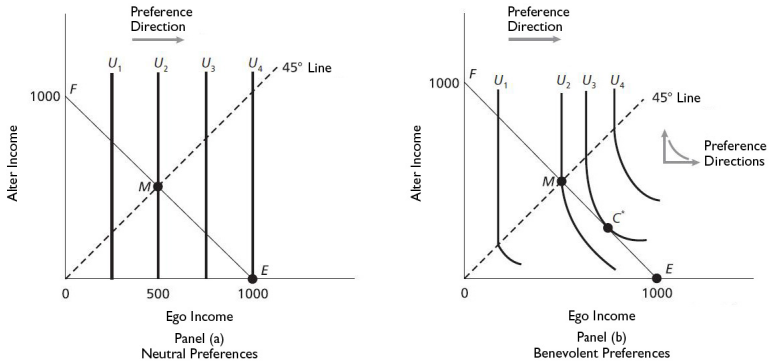
Example: Tasziló makes "lettuce-fluid". He has unlimited amounts of water and sugar. The only scarce commodity is vinegar. For one deciliter of "lettuce-fluid" he needs 2 tablespoons of 10% pure vinegar (x) or 1 tablespoon of 20% pure vinegar (y). The more liquid he makes the better he feels. Which function represents his preferences?

Example: Tasziló throws a garden party, and buys plastic garden furniture for that. At each table (x) 6 guests can sit down on chairs (y). He likes to have as many guests as possible, who can sit, but disprefers those who cannot sit down. He would not invite more quests than chairs he has. Which function represents his preferences in terms of chairs and tables?

Notable utility functions

- Cobb-Douglas utility function:
$$U(x,y) = x^a y^b$$
- Perfect substitution:
$$U(x,y) = ax + by$$
- Perfect complementarity:
$$U(x,y) = \min\{ax; by\}$$

Modeling charity



Charitable giving in 1994 – selected income levels

Family income (dollar)	Percentage contribution	Average contribution (dollar)	Average as percentage of income
10 000–19 000	64	209	1,36
30 000–39 999	80	474	1,37
50 000–59 999	84	779	1,44
100 000–124 999	92	1846	1,71
150 000–199 999	96	3546	2,09
500 000–999 999	97	27 491	4,15
more then 1 000 000	100	244 586	4,88
Overall	75	960	2,14

Origin of preferences, evolutionary approach

e.g. Step children

Food consumption at home, 1972–1985, as related to family structure (mean = 4,305 dollars)

Variable	Adjustment of mean (dollars)
Child with adoptive mother	−204
Child with stepmother	−274
Child with foster mother and father	−365

e.g. Heritage

	Male testator	Female testator
to spouse (percentage)	69,8	42,4
to children (percentage)	21,7	47,6
Total	91,5	90,0

Defining preferences methodologically

With statistical-econometrical methods: e.g. linear regression:

If utility function is of e.g. Cobb-Douglas type, then it can be linearized by taking its logarithm assuming ordinal preferences.

$$U(x_1, x_2, \ldots, x_n) = \beta_1 x_1 + \beta_2 x_2 + \ldots + \beta_n x_n$$

Example. (Varian): Utility of commuting:

- TW: total walking time (to bus or car)
- TT: total travel time, in minutes
- C: cost of travel, in dollars
- A/W: cars/workers within household
- R: race of household (0, if black, 1, if white)
- Z: 1, if white collar, 0, if blue collar worker

$$U = -0,147TW - 0,0411TT - 2,24C + 3,78(A/W) - 2,91R - 2,36Z$$