

# MICROECONOMICS I. B





NEW

SZÉCHENYI PLAN

# MICROECONOMICS I.

## B

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ELTE Faculty of Social Sciences, Department of Economics

# Microeconomics I. "B"

week 8

## CONSUMPTION AND DEMAND, PART 2

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The course was prepared 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)*.

# Approaches to income compensation

week 8

Kőhegyi-Horn-Major

Income and  
substitution effects  
of a price change

How should the government compensate for the effects of price change, which made some groups in the society worse off?

# Two types of effects of price change

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Income and  
substitution effects  
of a price change

The effect of price change upon consumer demand may be separated into two components.

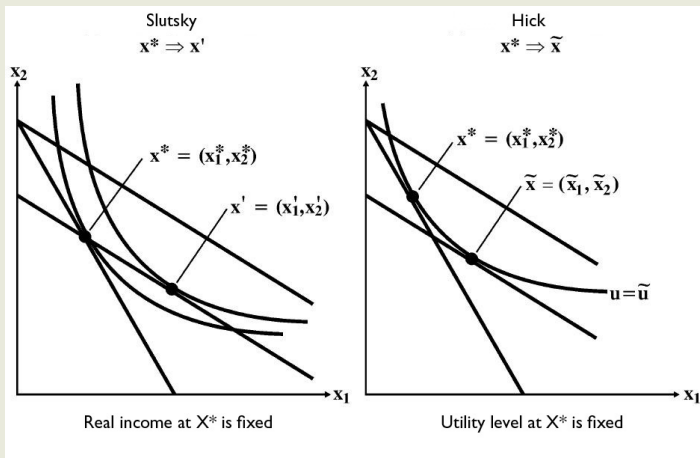
- Fall in  $P_x$  increases the consumer's real income. He or she could buy the same bundle of goods as before, and have something left over. If  $X$  is a superior good, the consumer will use some of the excess to buy more  $X$ . This is called the *income effect* of the fall in  $P_x$ .
- Furthermore, at the lower  $P_x$  the substitution balance equation tells us that even if real income or utility had remained the same, more  $X$  would have been purchased. This is called the pure substitution effect of the price change.

# Two types of effects of price change (cont.)

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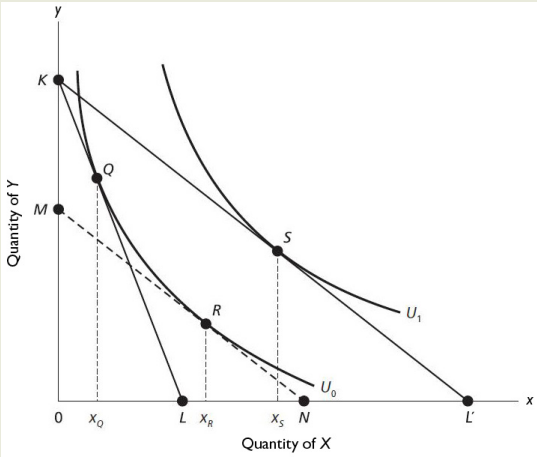
Income and substitution effects of a price change





# Hicks decomposition

Income and substitution effects of a price change



# Hicks decomposition (cont.)

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Income and  
substitution effects  
of a price change

A fall in price  $P_x$  with income and  $P_y$  held constant shifts in the budget line from  $KL$  to  $KL'$  so that the consumption optimum changes from  $Q$  to  $S$ . Because  $S$  lies on a higher indifference curve, there has been an increase in real income. We construct an artificial budget line  $MN$  parallel to  $KL'$  and tangent to the original indifference curve  $U_0$ . The income effect of the price change is therefore  $x_S - x_R$  and the pure substitution effect of the price change is  $x_R - x_Q$ .

# How can the Giffen case come about?

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Kőhegyi-Horn-Major

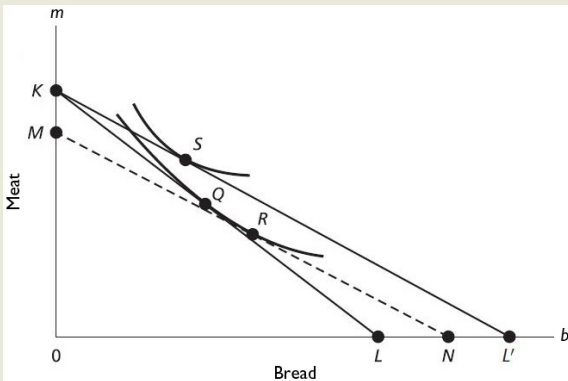
Income and  
substitution effects  
of a price change

A Giffen good must have the following properties.

- It must be inferior, so that the income effect of a price change is negative.
- It must account for a large fraction of the budget. This makes the "perverse" income effect large in magnitude. (It has to be large if it is to overcome the pure substitution effect.)

# How can the Giffen case come about? (cont.)

At the initial high bread price the budget line is  $KL$  and the optimum is  $Q$ . A fall in the price of bread shifts the budget line to  $KL'$ . The consumer is sufficiently enriched to prefer buying less bread and more meat at point  $R$ . The movement from  $Q$  to  $R$  consists of a small substitution effect ( $Q$  to  $S$ ) and a large negative income effect ( $S$  to  $R$ ). For this Giffen result to occur, bread must be strongly inferior.



# Market demand

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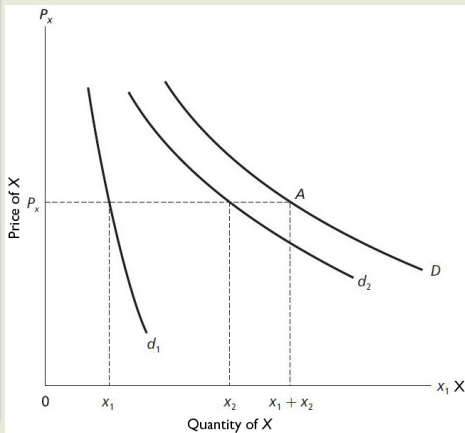
Kőhegyi-Horn-Major

Income and substitution effects of a price change

## Summing individual demands

$$X \equiv \sum_{i=1}^N x_i$$

Here  $d_1$  and  $d_2$  are demand curves for two individuals. If these are the only two potential purchasers of the good, the overall market demand curve  $D$  is the horizontal sum of  $d_1$  and  $d_2$ .

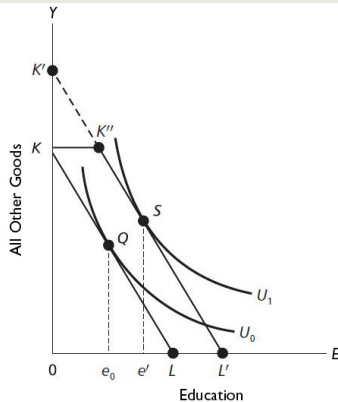
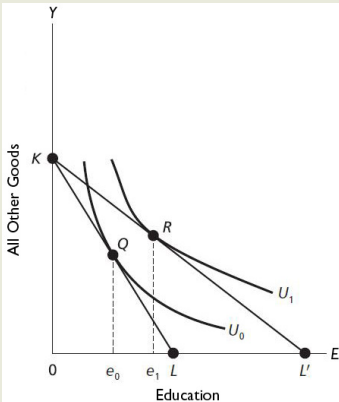


# Subsidy versus voucher

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Kőhegyi-Horn-Major

Income and substitution effects of a price change



# Subsidy versus voucher (cont.)

week 8

Kőhegyi-Horn-Major

Income and substitution effects of a price change

## Voucher

The initial optimum is a corner solution at  $K$ ; no education is purchased. A voucher gift of income in the amount  $KK'$  leads to a new optimum at  $K''$ . The voucher leads to an increased consumption of education, provided only that education is a good rather than a bad for this individual.

