

## Microeconomics — class 8

1. Richard works on a construction site and he earns 5 zł per hour. Every week he has 60 hours, which can be divided between work and leisure. His utility function concerning choice between leisure and money for consumption is  $u(R, c) = R \cdot \frac{c}{10}$ .

a) Calculate work and leisure hours and money for consumption, and illustrate Richard's labour supply problem on a diagram.

b) The government increased taxes in order to have money for planned expenditures and consequently Richard's wage rate decreased to 4zł per hour. On the other hand, the government wants to introduce a program for people with lowest wages and every worker with wage below 6 zł per hour will obtain the difference between previous and current earnings.

How much is Richard going to work after the change? What about consumption? Does he regard this situation as better or worse than in a)? Is something unclear?

c) The government contacted an economist, who advised that, in order to avoid negative results on labour market, it is better to return only the difference between wages before and after the change but only for fixed number of hours — the number of labour hours before the change.

How much is Richard going to work after the change? What about consumption? Does he regard this situation as better or worse than in a)?

2. Joan designs artistic jewellery and she obtains 20zł per hour. She has 90 hours weekly to divide between labour and leisure. Her utility function is  $u(R, c) = R \cdot c^2$ .

a) How much is she going to work and consume?

b) Current election was won by populists whose slogan was "take from the rich, give away to the poor".

They plan to impose a tax of 50% for people earning more than 800zł weekly. Draw Joan's new budget set and indifference curves, essential for the problem. How her choice is going to change?

c) After one week populists resigned from this project and now 50% tax is imposed only on the surplus over 800zł.

Why did they do (economic reasons).

Draw Joan's new budget set and indifference curves, essential for the problem. How her choice is going to change?

3. Generalize Slutsky equation of labour supply for situations when a worker has some extra non-wage income  $\bar{m}$

4. Janka lives on her work as a cook and royalties for her book issued some time ago. Every time her royalties are lower, Janka works longer.

What is going to happen with the number of working hours in the following cases:

- a) the government imposes a proportional income tax on her wage income;
- b) the government imposes the same proportional income tax on her wage and now-wage income;
- c) the government imposes a proportional income tax on her wage income and at the same time it funds a grant, which happens to be equal to the tax due for the labour hours before the change.