

Летние школы РЭШ и Фонда Егора Гайдара по микроэкономике

## Quiz

1. Suppose there is a sudden strike by subway workers.
  - a. What, if anything, can you say about the price of a taxi?
  - b. Now suppose the strike is expected and thought to last for several weeks. Does your answer to above change? If so, how?
  - c. Describe the effects of a policy in which the government imposes a price cap on the price of a taxi during the strike?

*The use of graphs in this problem is recommended.*
2. Suppose individuals require a certain level of food ( $x$ ) to remain alive. Let this amount be given by  $x_0$ . Once  $x_0$  is purchased, individuals obtain utility from food and other goods ( $y$ ) of the form  $U(x, y) = (x - x_0)^\alpha \cdot y^\beta$  where  $\alpha + \beta = 1$ .
  - a. Suppose that income  $I > p_x \cdot x_0$  what will the individual spend on  $x$  and  $y$ ?
  - b. How do the budget shares change as income increases?
3. Suppose a household consists of two income earners; that is, in equilibrium, both individuals are supplying positive amounts of labor.
  - a. Suppose one individual of household becomes unemployed but receives full compensation. Argue that the other individual will work more or less depending on whether the leisure of the unemployed is a substitute or complement to the leisure of the employed.
  - b. What would happen if unemployment compensation, instead of being full compensation, varied with the extent of substitution of leisure between the two members of the household? How should it vary?
  - c. Assuming that one member of the household will lose his/her job, in your opinion, would the household be better off or worse off under the compensation scheme in a) or in b) if compensation were paid for by a decrease in the wages of the employed.
4. Consider a small country that has 10 identical car plants. Each domestic firm's cost function is  $1 + q^2$ . Domestic demand for cars is  $30 - p$ .
  - a. Find firms' supply assuming that they are price takers. Find the market equilibrium in a closed economy. Suppose the government allows importing cars from abroad. The world price for cars is  $p^*$ . Find production of the domestic firms for all values of  $p^*$ . Does opening up the economy change the social welfare?
  - b. In order to support domestic producers, the government introduces an import quota of 6. Find production of the domestic firms. Find the deadweight loss if any.
  - c. How can the government achieve the same production of domestic firms (as in b) by using taxes? What tax should be introduced?
  - d. Could the government use subsidy instead of tax? Find the respective level of subsidy. What policy is socially preferable: quota, tax or subsidy?
  - e. Suppose that domestic producers merge into one firm and behave as a monopoly. What is production of this firm if there are no quotas, taxes and subsidies (the world price is  $p^*$ )? How many plants does it use?