

**GOVERNMENT INTERVENTION – ADDITIONAL PROBLEMS**

Problem #4

The total demand for American wheat consists of domestic demand and foreign demand. The total demand function takes the form  $Q(p) = 3550 - 266p$ , while the domestic demand function is  $Q(p) = 1000 - 46p$ , where  $p$  is the price per bushel in USD. The supply function for this good is given by the formula  $Q(p) = 1800 + 240p$ . Assume that foreign demand for American wheat suddenly decreases by 40% for every price level.

- In what way will this change the equilibrium price in the entire market?
  - How many bushels of wheat will the US Government have to buy in order to maintain the price at the 3 USD level?
  - Find the government expenditure for point b).
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Problem #1

The inverse demand function for wheat in a certain country is given by the formula  $p(q) = 1000 - q$ , while the inverse supply function takes the form  $q(p) = 100 + q$ , where  $q$  is the quantity in tons and  $p$  – the price in USD.

- Determine the equilibrium conditions in this market, i.e. the price and quantity of wheat sold.
- The government wants to support the producers of wheat. Two independent experts at the Ministry of Agriculture propose the introduction of two different economic instruments aimed at improving the situation of wheat producers:
  - A dotation (subsidy) amounting to 50 USD for every ton of wheat sold;
  - The minimum price amounting to 600 USD per ton.

How will the equilibrium conditions change following the introduction of such instruments of economic policy?

- Which of these instruments is more beneficial for the government? Assume that the government commits to buy out the entire supply surplus in the event of introducing the minimum price.

Problem #2

The demand function for coffee in country ABC takes the form  $d(p) = 5000 - p$ , while the supply function is  $s(p) = -500 + p$ . The quantity of coffee is given in tons and  $p$  is the price in USD. This country does not produce coffee.

- Find the equilibrium in this market (the price and quantity of coffee sold)?

The government wants to restrict the import of coffee. Two independent experts at the Ministry of Finance propose the introduction of two different economic instruments restricting the import of coffee:

- Convincing the producers of coffee to voluntarily restrict their import of coffee to 1500 tons;
  - Imposing an import tariff amounting to 1500 USD for every ton of coffee sold.
- How will the equilibrium conditions change following the introduction of such restrictions?
  - How will these restrictions affect the social welfare in this country? (graphical solution)
  - Which of these instruments is more beneficial for the government?
  - Which of these instruments is more beneficial for producers of coffee?
  - Which of these instruments is more beneficial for consumers of coffee?

Problem #3

The inverse demand function for SOMETHING in country ABC takes the form  $p(q) = 150 - q$ , while the inverse supply function is  $p(q) = 30 + q$ , where  $q$  is the quantity of SOMETHING in tons and  $p$  is the price in USD.

The inverse demand function for SOMETHING in country XYZ takes the form  $p(q) = 230 - q$ , while the supply is constant and amounts to 100 tons regardless of the price.

a) Assume these markets are separated. Find the equilibrium conditions in both of them.  
b) Next year countries ABC and XYZ will become members of an economic union with countries of a much stronger economic potential. The union imposed the following restrictions regarding the trade in SOMETHING:

- 1) The countries must fix the price of SOMETHING at the union level amounting to 100 USD.
- 2) The countries must eliminate all trade barriers for countries of the union. The supply in countries of the union is perfectly elastic at the price level of 100 USD.
- 3) Temporarily the countries are not allowed to export SOMETHING to countries of the union.
- 4) The union buys out the entire surplus of SOMETHING in a given country.

In what way will these restrictions influence the market for SOMETHING in both countries? (provide the algebraic solutions and relevant graphs)