

HOMEWORK II SOLUTIONS

1.a. When $P_z = 2$ and $Y = 100$

P_x	Q_x
1	51
2	25.5
3	17

b. When $P_z = 4$ and $Y = 100$

P_x	Q_x
1	52
2	26
3	17.3

c. When $P_z = 2$ and $Y = 200$

P_x	Q_x
1	101
2	50.5
3	33.7

- d. i. By comparison of (a) and (b), ceteris paribus when price of Z increases from 1 to 4, Q_d of X increases at every price so X and Z are substitutes.
 ii. By comparison of (a) and (c), ceteris paribus when income increases from 100 to 200, Q_d of X increases at every price so X is a normal good.

2.a. Market for hotel beds in Antalya: Demand may increase due to increase in income of Germans. Therefore, P_e and Q_e increase. However, demand may decrease due to fall in prices of hotel beds in Greece. In that case, P_e and Q_e decrease. If taken together, the final effect is indeterminate.

b. Market for Turkish textiles that are exported: Costs fall, then supply increases. P_e falls and Q_e increases.

Domestic Turkish market for textiles: No change

c. Market for new cars: Demand falls, so P_e and Q_e decrease

Market for second-hand cars: Demand increases, so P_e and Q_e increase

3. a. $Q_d = Q_s$

$$24000 - 500P = 6000 + 1000P; P_e = 12$$

Substitution of P_e in either demand or supply equation yields

$$Q_d = 24000 - 500(12) = 18000$$

c. If people do not like shirts then, there should be a decrease in demand. Initially when $P = 0$, $Q_d = 24000$. When $P = 0$; with (1) $Q_d = 21000$ and with (2) $Q_d = 27000$. Since $21000 < 24000$, (1); i.e. $Q_d = 21000 - 500P$, might be the new demand curve.

d. $P_e = 10$; $Q_e = 16000$

e. Demand curve should shift to the left corresponding to a lower equilibrium price and quantity.

f. As a result supply should have increased. Initially when $P=0$, $Q_s = 6000$. When $P=0$; with (1) $Q_s = 3000$ and with (2) $Q_s = 9000$. Since $9000 > 6000$ (4); i.e.) $Q_s = 9000 + 1000P$ might be the new supply curve.

g. $P_e = 10$; $Q_e = 19000$

4. Price per gallon (TL.)	5	4	3	2	1
Market demand	5	10	13	15	22
Market supply	26	19	16	15	7

a. Note that market demand and supply curves are horizontal summation of individual demand and supply curves, respectively (summation of individual quantities at each price).

b. Equilibrium price and quantity are at the intersection of demand and supply curves; i.e. $P_e = 2$ and $Q_e = 15$

c. Since price is set below equilibrium price it is a price ceiling. At $P=1$, $Q_d = 22$ and $Q_s = 7$. Therefore, there is excess demand (shortage) of 15 ($22-7$) gallons.