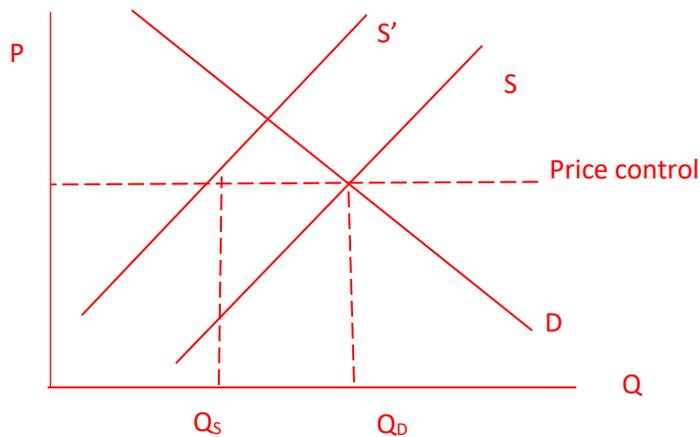


Problem Set #5
ECNS 204
Due Monday, Oct. 26th by 10am
Submit to via email to TA at alectruax@gmail.com

_____Name

1.) Suppose a freeze in Florida destroys a citrus crop. In response, the government has issued a ruling that forbids sellers from raising prices on their citrus fruit (i.e., the government has enacted a price control in this market).

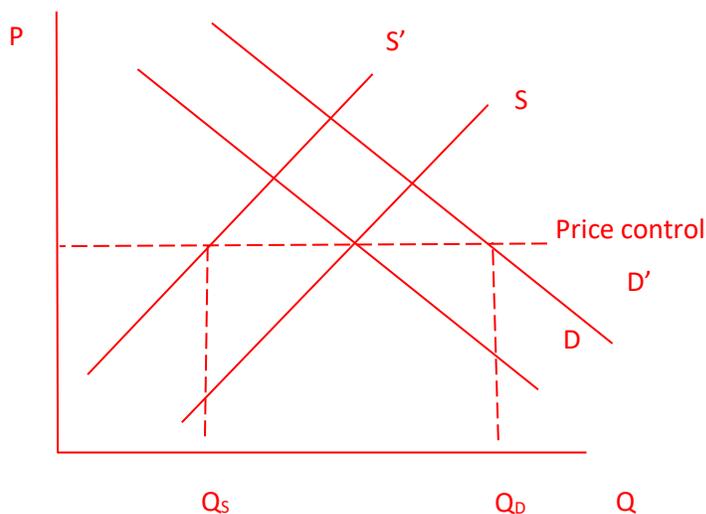
a.) Illustrate graphically how this causes a shortage in the market for citrus.



$Q_D > Q_s$

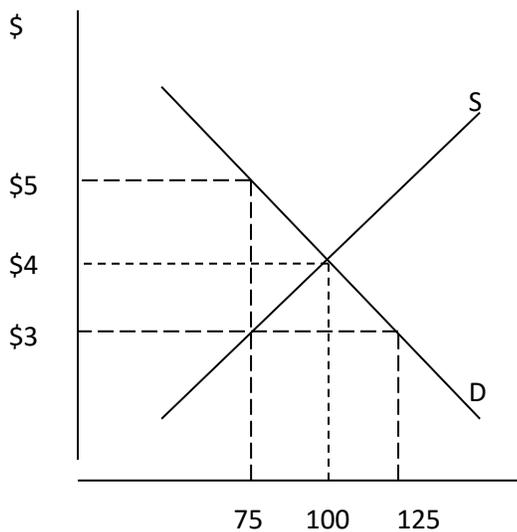
Thus, we have a shortage.

b.) Suppose that new information comes out on the health benefits associated with eating citrus fruit. As a result, the demand for citrus fruit goes up. Despite this change in demand, the government still decides to maintain the price control imposed in part a.). How is the market for citrus further affected by this change? Show with a graph.



The shortage simply gets larger.

2.) Suppose in an unrestricted market for gasoline that the equilibrium price is \$4.00/gallon and the equilibrium quantity is 100 gallons. Now suppose the government has enforced a price control of \$3.00/gallon. This is depicted in the graph below:



a.) How much of a shortage does the price control create in the gas market?

$$Q_D - Q_S = 125 - 75 = 50 \text{ gallons}$$

b.) Suppose the average consumer fills their car up with 15 gallons of gas each time they go to the pump. Also, suppose the average consumer earns a \$20/hour wage. Under the price control, how long would the average consumer be willing to wait in line to fill their tank up with 15 gallons of gas?

We see that the consumer who is lucky enough to fill his/her tank up with gas is essentially receiving a \$2/gallon “gift.” Given that filling up their tank requires 15 gallons of gas, then their total “gift” is \$30 per each fill up. So, since the opportunity cost of the average consumer’s time is \$20/hour, this implies the average consumer would be willing to wait in line for up to 1.5 hours.

3.) How is it that the quantity demanded of some good can change even though there has been no change in demand? Can the quantity supplied change even though there has been no change in supply? (Silberberg and Ellis, Ch. 5, #2).

When the price of the good in question changes, the changes in the quantity supplied (demanded) are represented by movement along the supply (demand) curve. A change in demand or supply occurs when something other than the price of the good changes, particularly, income or the price of some closely related good changes.

4.) Why is it that *all* goods presently consumed by a consumer must initially be *normal* (i.e., noninferior in consumption)? That is, why is it that goods can be inferior *only at the margin*? (Silberberg and Ellis, Ch. 5, #4)

Goods that consumers are in fact consuming must initially be normal because otherwise they would never be consumed. Goods can be inferior only at the margin. If a good were inferior at a zero level of income, then the good would never be consumed.

5.) Many states do not levy a sales tax on professional services, e.g., the services of lawyers, doctors, accountants and the like. If you visit one of these professionals, they do not add a sales tax to their fee for services. (Silberberg and Ellis, Ch. 5., #16)

a.) Draw a supply and demand diagram that reasonably represents the market for, say, lawyers' services *in the short-run*, and explain why you have drawn the curves as you have. Pay particular attention to the slopes of the demand and supply curves, in particular, whether they appear flat or steep, and justify why you have drawn them as you have.

In the short run, the supply of professional services, say, lawyers, is relatively fixed and the supply curve is essentially vertical. It takes considerable time for an individual to become a lawyer. The demand for lawyer's services is relatively more elastic. There are substitutes for lawyer services (i.e., mediation or settling out of court as opposed to litigation).

b.) If a sales tax is levied on these services, who will pay most of the tax *in the short run* – clients or the lawyers?

In the short run, if a sales tax is levied on these services, lawyers, because their curve is relatively more inelastic, will pay most of the tax.

c.) How does the market for lawyers' services and the shares of tax paid by the lawyers versus their clients respond *in the long run* to this imposition of taxes?

In the long run, the supply of professional services will be more elastic because there will be more lawyers entering the labor force and offering their services. As a consequence, the burden of the tax will be borne more equally by both clients and the lawyers.