Lecture 7 – Government Policies, Part 1

I. Some More Questions Related to the Market for Oil

a) What would we expect to happen to the price of oil in the short-run if production of oil in Iraq that were to make it to the world market (at each level of the price) were to increase and nothing else changed.

b) If you were an advisor to OPEC, would you care if Iraq increased the amount of oil that it offered to the world market?

c) What would you expect to happen to the price of oil in the long-run if there is an increase in supply because of increased production in Iraq?

d) What would you expect to happen to the price of oil in the short-run if divisions in the Middle East disrupt the production of oil?

e) What would you expect to happen to the price of oil if Congress requires that cars get 40 MPG?

f) What would you expect to happen to the price of oil if Congress allows companies to develop oil production in national parks?

g) Should the companies alone decide whether developing production of oil in national parks is a good idea? Why or why not?

II. Controls on Prices

The first type of government policy we will consider is a control on prices. This could be a policy that sets the maximum that a price can be (price ceiling) or a policy that sets the minimum that a price can be (price floor).

One of the most important things to consider when evaluating a government policy is the cost of enforcing the policy. In the case of price controls, there has to be some positive probability that violators will be caught and that there is a penalty for violating the law. This takes resources of the government. So deciding that there should be a price ceiling or a price floor is not costless to the government.

**Key Idea** — A price ceiling only makes a difference if the market price would have been higher than the price ceiling. A price floor only makes a difference if the market price would have been lower than the price floor. In other words, only if the price control is binding, will the equilibrium price and equilibrium quantity be altered.
A. Price Ceiling

A price ceiling is a maximum price that can be charged or paid in the market. We first need to determine whether the price ceiling is binding. First consider the case in which the price ceiling is set above the equilibrium price:

In this case, the market would adjust to the point where quantity demanded equals quantity supplied at $P^*$ and $Q^*$. When the government sets a price ceiling that sets a maximum price, this is not binding. If the price were at the ceiling, there would be excess supply and producers would bid down the price to the equilibrium price.

Now consider the case in which the price ceiling is set below the equilibrium price:
In this case, the price ceiling is binding. At the price ceiling, there is excess demand and the consumers would like to bid up the price to the equilibrium price. But because there is a price ceiling, they cannot do so. The result is that there is a shortage of the good.

What happens when there is a shortage? More people want to buy the good than can do so. The mechanism that rations the available goods among those consumers that want to buy them could be:

1) First-come first serve
2) A lottery
3) A black market

Each of these solutions involves the allocation of resources to the distribution of goods. In contrast, allowing the market to allocate goods by letting the price adjust does not require any resources.

**Price Ceiling and Shifts in Curves**

It is very important to note that a price ceiling that is not binding today could become binding if the demand curve or the supply curve shifts:
Before the shift in the supply curve, the price ceiling was not binding. But after the shift, the price ceiling is below the equilibrium price and a situation of excess demand develops.

**Example 1 – Price Ceiling in Market for Gasoline**

What would happen if the government now decided that there should be a price ceiling on the price of gasoline?

**Example 2 – Rent Control**

A real-world example in which a price ceiling is applied is rent control. The idea of rent control is a maximum rent that can be charged even if the market price would be higher. The justification for such a policy is that housing is a necessary expenditure that must be affordable. But the consequences of this policy could be different. To see this, note that the short-run demand for apartments is inelastic (because everyone who is looking for housing needs an apartment now) and the short-run supply of apartments is close to perfectly inelastic (because it takes time to make new apartment units, the housing stock in the short-run is fixed). Thus we might have a situation that looks like:
In this case, the imposition of a price control at $P^{\text{max}}$ significantly lowers the rent that is paid and because both demand and supply are inelastic, the shortage of housing units is not very large. If we stopped the clock here, it would look like rent control accomplished its goal – nearly everyone gets an apartment at a lower price – though the owners of apartments receive much less rent for their units.

Stopping the clock here would not be a good idea. Because the number of housing units offered in the market can be responsive to the price in the long-run, the supply of apartment units is elastic in the long-run. Owners of apartment units will pull them off the market, convert them to other units, or sell duplexes to become owner-occupied units. On the demand side, demand also more elastic in the long run -- once people in other localities see the rent control, they will move to the city that has rent control. We would then have a situation that looks like:
Now, while it is true that those who get an apartment pay a much lower price, the problem is that there is a large shortage of apartments.

**B. Price Floors**

A price floor is a minimum price that can be charged or paid in the market. We first need to determine whether the price floor is binding. First consider the case in which the price floor is set below the equilibrium price:
In this case, the market would adjust to the point where quantity demanded equals quantity supplied at \( P^* \) and \( Q^* \). When the government sets a price floor that sets a minimum price, this is not binding. If the price were at the ceiling, there would be excess demand and consumers would bid up the price to the equilibrium price.

Now consider the case in which the price ceiling is set above the equilibrium price:
In this case, the price floor is binding. At the price floor, there is excess supply and the producers would like to bid down the price to the equilibrium price. But because there is a price floor, they cannot do so. The result is that there is excess supply of the good.

**Example – Minimum Wage**

A common example of a price floor is the minimum wage. The justification for a minimum wage is that working persons should earn enough to keep their families out of poverty. In this case, supply is persons offering their labor to the market and demand is firms that want to hire persons to work for them. When the price floor is binding, there are more people looking for work than positions in firms to hire them. The resulting excess supply is called unemployment.

So how should we evaluate a minimum wage policy? The objective of the policy is to make sure that those who work earn at least the minimum necessary to keep their families out of poverty. To evaluate the policy, we would need to know at least the following:

1) **Are those workers that have jobs with the minimum wage earning a wage that is able to support their families at the desired level?**

2) **How many workers around the minimum wage are members of one-earner families?**

The idea of the minimum wage is that the worker who earns minimum wage should be able to support a family. But it may be the case that most of the workers around the minimum wage are teenagers or other second-earners in the family. In that case, the earnings of the person who earns the minimum wage are supplemental earnings in the family, not the main source of livelihood.
3) How many persons lose their jobs because of the minimum wage policy? If we look at the graph and compare the equilibrium quantity with the quantity supplied with the floor, we can see that the quantity (in this case employment) goes down. That is, there are fewer jobs because of the minimum wage policy. If the number of persons that lose their jobs is high, this negative effect may be more important than having those persons with jobs earning a higher wage.