MARKETS AND WELFARE ECONOMICS

The global economy is, in part, the collection of markets for the goods and services, financial assets, and foreign currency traded between people and firms from different countries. In order to understand the global economy we must first have a rudimentary understanding of how markets work. Since all the students in the class have had at least one previous course in economics, this topic should be a review of what they/you already know. I encourage you to review your notes and books about this topic. In this handout I will only provide a brief outline of the topics we will develop more fully in class.

Market – an arrangement between buyers and sellers in order to exchange

Behavior of Buyers - Demand

Demand – relationship between amount buyers willing to buy at all possible prices, holding all else constant.

Law of demand

Demand Curve

Change in price brings about a change in quantity demanded, not demand.

Determinants of demand - bring about changes in demand.
Income, price of related goods, etc.
Increase and decrease in demand – Shift right or left

Behavior of Sellers - Supply

Supply – relationship between amount sellers willing to sell at all possible prices, holding all else constant.

Law of Supply

Supply Curve

Change in price brings about a change in quantity supplied, not supply.
Determinants of supply - bring about changes in supply.
Costs, technology, etc.
Increase and decrease in supply – Shift right or left

Market - interaction between buyers and sellers
Bring Demand and Supply curves together

Role of Price
Shortages
Surpluses
Equilibrium Price
Market Equilibrium

Changes in determinants of supply or demand shift supply and demand curves bringing about a new equilibrium
Changes in market equilibrium
Further examination of markets – Welfare Economics

Welfare Economics

Demand, of course, reflects the behavior of consumers and supply reflects the behavior of producers. But what drives consumers and producers? To partially answer this question, we need to examine their motivations in consuming and producing.

Demand

We start on the demand side of the market. The demand curve shows how much of a particular good consumers are willing to buy at different prices. As consumers purchase more and more of the good, the price they are willing to pay decreases. How do we explain this?
Figure 1 portrays a demand curve. Direct your attention to the fifth unit of the good. The height of the demand curve at that unit is the price (Po) that some consumer is willing to pay for that unit of the good. Would the consumer be willing to pay less? Of course they would, with a smile on their face. Would they be willing to pay more? No, not if the demand curve truly reflects consumer behavior. The price Po, therefore, is the highest price that someone will pay for the fifth unit of the good.

The highest price, or the maximum someone is willing to give up, reflects their value they place on that good. Think of an auction. When does a bidder quit bidding on an item? It is when the price rises beyond the value they place on the good, i.e., their maximum price. This price is called a reservation price and is the height of the demand curve.

What is true for the fifth unit is also true for all other units. The height of the demand at each unit reflects some consumer’s reservation price for that unit. If we sum these heights, for example from 0 to 5 units in Figure 1, we would have the consumer’s total value for the first five units or the hatched area under the demand curve.

What motivates the consumer? The value they place on the good and the height of the demand curve reflects that value for a single unit, whereas, the area under the demand curve reflects the total value over some range of units.

Supply
The supply curve represents the quantity producers are willing to produce and sell at different prices. Generally, supply curves are upward sloping. This means that producers require higher prices as an incentive to produce and sell more of a good.

A typical supply curve is depicted in Figure 2. Again we focus our attention on the 5th unit of the good. The height of the supply curve represents some firm’s willingness to produce and sell the fifth unit if it receives a price of \( P_1 \). Would the firm be willing to accept a higher price? Of course, their profits would increase. Would they be willing to accept a lower price? No, not if the supply curve represents their behavior. Therefore, the height of the supply curve represents the lowest price the firm would accept. The lowest price the firms would be willing to accept is the one that just covers its costs of producing that unit of the good.

The cost to the firm of producing and selling a unit of a good reflects the opportunity costs of all the inputs that went into its production. Thus, the height of the supply curve at the fifth unit, \( P_1 \), is the opportunity costs of the inputs used to produce the fifth unit. Again, the fifth unit was an arbitrary choice, and what is true for it, is true for all units. We can, again sum all the heights of the supply curve over sum range, say from 0 to 5 units. The sum of all these heights is the hatched area under the supply curve representing the opportunity cost of the inputs used in the production of the first five units.

To sum up, the area under the demand curve represents consumer value in consuming a good, whereas, the area under the supply curve represents the opportunity cost of producing a good.
Market

Now we combine demand and supply in a market in Figure 3 and re-examine market equilibrium. Equilibrium is achieved at a price of $10/unit and at 5 units. Consumer value for these five units is the area under the demand curve up to the fifth unit. The opportunity costs of these five units is the area under the supply curve up to the fifth unit. The value consumers’ place on five units of the good is larger than their opportunity costs by an amount equal to the shaded area between the two curves.

This is the profit to society of having this market. For a market to exist there must be a positive amount of societal profit.

An important question is how this profit is divided up between consumers and producers. Consumers whose value is the area under the demand curve pay $10 for each of the five units. These consumer expenditures of $50 are illustrated as the rectangular area bordered by $10 and 5 units. Therefore they obtain value for the good greater than what they pay. This is called **consumer surplus**. This is that good feeling you have when you get a really good bargain. Graphically, consumer surplus is the triangular area below the demand curve and above the price.

Producers receive what consumers paid for the good, which is that rectangular area of $50. The producers’ opportunity costs of producing the good are the area below the supply curve. Therefore, producers receive more for the good then their opportunity costs. This is called **producer surplus**. It is similar to, but not exactly the same as, firm’s profits. Graphically, producer surplus is the triangular area below price but above the supply curve.
Let us return to the notion of societal profit. Notice that at the market equilibrium in Figure 3 all societal profit is obtained as either consumer or producer surplus. Let us suppose that the market was prevented from achieving this equilibrium then not all societal profit is exploited. This foregone profit would be a measure of the inefficiency in the market. Figure 4 illustrates the example of a price ceiling, or a maximum price allowable by law such as rent control. Here the market can not achieve equilibrium. At the price ceiling only four units of the good are exchanged between buyers and sellers, instead of the equilibrium of five units. The small shaded triangle between demand and supply from four to five units represents this market's inefficient allocation of resources. There exist consumers who have a greater value for the good than the opportunity cost of producing it. This inefficiency is called deadweight loss.

The concepts of societal profit, deadweight loss and consumer and producer surpluses are important tools by which we can measure the effects of changes in markets. They can be used to examine if the change was overall beneficial and who wins and loses as a result.