Mathematics in Economics: Demand and Supply Curve

In today's world, the cost of energy is climbing everyday. You may wonder why the price of oil fluctuates so much in the market. What is the driving force of the soaring oil price? The answer is the theory of demand and supply. The current situation is that the demand for oil worldwide is increasing while oil-exporting countries are not supplying enough to meet the needs of the world. In this case, the oil becomes so valuable because it is in very limited supply, and every country has to fight for it. To better understand the mechanism of the price of oil, let's take a moment to learn the basic concept of demand and supply.

Demand curve is negative

A simple example: If there were *n* customers buying a product at $5, would there be more or less customers if the price of the product were cut to $2 (while the quality of the product remained the same)? According to normal consumer behavior, there should be more customers buying the less expensive product. If we put this data on a graph, with the x- and y-axis labeled as the number of customers and price respectively, we will see a curve with negative slope.

Supply curve is positive

Consider the following example: If a product can be sold at a higher price with higher profit, do you think there will be more or less people trying to provide the product and trying to earn as much profit as possible? In normal situation, there will be more suppliers of the products because the idea of the profit is so attractive. If we translate the above statement onto a graph paper, with the x- and y-axis labeled as the number of suppliers and price respectively, we should see a curve with a positive slope.

If we put both demand and supply curve onto the same graph, we will see the two curves intersecting each other. The intersection of the two curves is known as the equilibrium point, where all products supplied, will be purchased by the consumer at this specific price. If there is a change in the demand/supply, the curve will shift correspondingly. The curve will shift to the right with an increase and to the left with a decrease. A shift of either or both curves will affect the equilibrium price; hence, the market price will be affected. Right now, we are experiencing a higher demand (shift to the right) and a lower supply (shift to the left). Both factors contribute to a higher price in the market.