Market Demand and Supply (part 4-Prices and Behavior)

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Prices are important in the market. They carry much information that allows markets to operate more efficiently. When prices rise due to an excess demand, they carry the message to consumers that the product is less available than before and that the consumers might consider buy more of other substitutes and less of the product. Rising prices tell producers that there is less of the product in the market than consumers want to buy and that they might want to produce more of the product and less of the other products.

When prices fall due to an excess supply they carry the opposite message. Falling prices tells the consumers that the product is plentiful and that the consumer might want to consider buying more of it instead of its substitutes. Falling prices tells the producers that they are producing more of the product than consumers want to buy at the current price. Thus, they might want to consider producing less of it and more of other products.

Both rising and falling prices sent a message to consumers and producers that they should consider changing their behaviors. A measure of how much consumers change their behavior is called the **price elasticity of demand** or demand elasticity for short. The price elasticity is the percentage change in the quantity demanded for each percentage change in the price of a good. If the price of cucumbers rises from fifty cents to sixty cents a pound, its price has risen twenty percent. If this price rise induces consumers to change their behavior and reduce their purchases of cucumbers from 2,000 pounds a week to 1,500 pounds a week, they have reduced the quantity demand by 25 percent. Thus, each percentage increase in price leads to 1.25 percent reduction in quantity demanded and the elasticity of demand is 1.25.

The equivalent measure of producers behavior is the **elasticity of supply**. If a 10 percent increase in the price of cucumbers induces producers to sell 20 percent more cucumbers, then each percentage point of price increase produces a 2 percent increase in the quantity supplied and the elasticity of supply is 2.0.

Elasticity of supply and demand are useful for making quick judgements about how changes in the market will effect the quantity demanded and the quantity supplied, prices and income to the farmers.

A few examples might help us to see how they are useful. Say, the elasticity of demand for cucumbers on Guam is 0.5; the price of cucumbers is fifty cents and 2,000 pound a week are being sold. We are interested in what will happen if the weekly production is increased to 2,500 pounds. First, we calculate the percentage change in production which is 25 percent. Second for each percentage change in quantity, price will decrease by 2 percent. Thus, the price of cucumbers will fall by 50 percent to 25 cents per pound. Finally, we can say that the income for all farmers from growing cucumbers will decrease from $1,000 ($0.50 x 2,000) dollars a week to $625 ($0.25 x 2,500) a week.

If the elasticity of demand were 2.0, the same increase in production would reduce the price of cucumber by only _ percent. Prices would fall only to $0.4375 and the income to all farmers would increase from $1,000 to $1,094 ($0.4375 x 2,500) a week.

If the elasticity of demand is less than one, increases in production of an industry will cause the amount of total sales for the industry to decrease. We say that the demand for the product is **inelastic** because consumers do not change their behavior easily and it takes a large change in prices to induce them to make significant changes in their quantity bought. If the elasticity of demand is greater than one, then increases in production will increase the value of total sales for the industry. Demand is said to be **elastic** because it takes a small change in price to induce consumers to make a significant change the quantity purchased. These same terms apply to the elasticity of supply. If the producers make significant change in their production for small price changes, supply is elastic.

Please refer to the examples on the following page...

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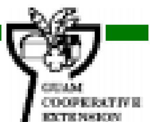

Cucumber supplies and prices on Guam with a price elasticity of demand of 0.5

Quantity Supplied	Market Price	Total Revenue
3,000	0.150	450
2,500	0.250	625
2,000	**0.500**	**1,000**
1,500	0.750	1,125

Example 10. Changes in prices and total revenue to farmers as the quantity supplied changes with an inelastic demand schedule (elasticity = 0.5).

Cucumber supplies and prices on Guam with a price elasticity of demand of 2.0

Quantity Supplied	Market Price	Total Revenue
3,000	0.394	1,181
2,500	0.438	1,094
2,000	**0.500**	**1,000**
1,500	0.563	844

Example 11. Changes in prices and total revenue to farmers as the quantity supplied changes with an inelastic demand schedule (elasticity = 2.0).

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