

The supply curve

As stated in the text, the basic determinants of market supply for a specific good such as *Good 1* are (1) resource prices, which we can denote by P_{R1} , P_{R2} , and so on; (2) the state of technology, T ; (3) the number of producers in the market, N ; (4) taxes and subsidies, S_1 , S_2 , and so on; (4) the prices of related goods, P_2 , P_3 , and so on, and (5) expectations E .

Consider a typical firm, which we will denote with the superscript “ i .” This firm produces some amount of good 1, Q_i which provides it with the greatest profit. This amount will of course vary, depending on the price of good 1, the prices of its inputs, the available technology, taxes and subsidies, and the prices of related goods. We can write this relationship as: $Q_i^i = g^i(P_i; P_{R1}, P_{R2}, \dots; P_2, P_3, \dots; S_1, S_2, \dots; T^i; E^i)$. This individual’s supply curve for good 1 is found by holding constant the value of all variables other than the price of good 1 and graphing the resulting relationship between Q_i^i and P_i . This relationship is typically written $Q_i^i = g^i(P_i | P_{R1}, P_{R2}, \dots; P_2, P_3, \dots; S_1, S_2, \dots; T^i; E^i)$.

There are N firms, each of whom has similar supplies for good 1. The market supply for this good is simply the sum of all of the quantities supplied by the N firms at each possible price:

$$Q_I = \sum_{i=1}^N Q_i^i = \sum_{i=1}^N g^i(P_i | P_{R1}, P_{R2}, \dots; P_2, P_3, \dots; S_1, S_2, \dots; T^i; E^i). \text{ For simplicity, this can be written as } Q_I = G_I(P_I | P_R, P_2, S, T, E, N).$$

Written in this form, the function clearly shows that the market supply for a good is a relationship between the quantity supplied of a good and its price, holding constant the prices of its resources, the prices of all other goods, subsidies and taxes, the state of technology, and the number of suppliers. A change in any of the factors previously held constant will result in a different relationship between Q_I and P_I . We would call this new relationship a change in supply.