

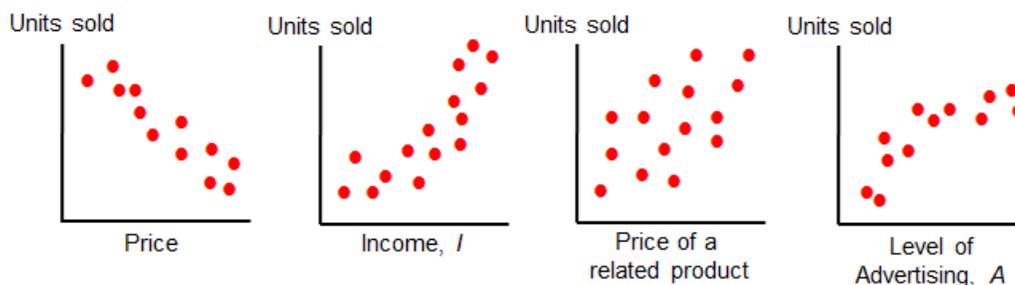
2.1: Demand and Supply Review

To prepare for this lecture, read Hirschey, chapter 3. The material in Hirschey's chapter 3 is basically a review of demand and supply fundamentals and will not be covered in detail here, although students are responsible for knowing the material. The material in the first half of Hirschey's chapter 4 is a "rough cut" of consumer theory which is covered in far greater detail in IA350, Intermediate Microeconomics, and will not be covered here, nor are students responsible for it.

Demand

Market demand refers to the various quantities of a good or service that consumers are willing and able to purchase under various conditions. In a very abstract sense, market demand is merely the summation of all individual consumer demands, which are, in turn, the various quantities of a good or service that an individual is willing and able to purchase subject to budgetary and other constraints that they face.

It is easy to hypothesize about different factors that will affect the market demand for a particular good or service. Here are four hypothetical scatterplots of demand relationships:



[?] What differences do you see in the above plots, and what significance do they have? Alternatively, what beliefs about demand are embedded in these plots?

A **demand function** is a mapping of such assumed relationships. If the four factors represented above were all incorporated in the demand function for good x , we could write a general form of the function:

$$Q_x = f(P_x, I, P_y, A)$$

If we knew the precise relationships between the right hand, explanatory variables, and the left hand dependent variable, we could write out a demand function in explicit form:

$$Q_x = b_0 + b_1(P_x) + b_2(I) + b_3(P_y) + b_4(A)$$

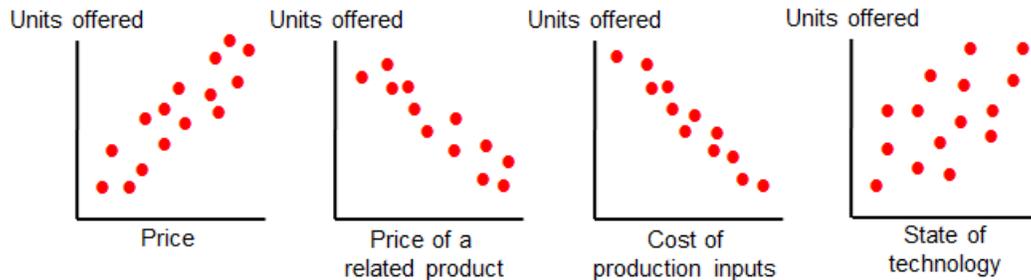
If we focus only on the first of these relationships – between quantity and the price of the good or service, we are considering the **demand curve**:

$$Q_x = f(P_x, I, P_y, A); Q_x = [b_0 + b_2(I) + b_3(P_y) + b_4(A)] + b_1(P_x) = b_0 + b_1(P_x)$$

Accounting for the **law of demand**, which stipulates an inverse relationship between the quantity demanded of a good or service and its price, this is commonly written as $Q_x = a - bP_x$. The **inverse demand curve**, $P_x = \alpha - \beta Q_x$ is the function that we graph when we draw a demand curve.

Supply

Market supply refers to the various quantities of a good or service that producers are willing and able to produce and offer for sale under various conditions. Market supply is simply the summation of all individual suppliers. It is easy to hypothesize about different factors that will affect the market supply for a particular good or service. Here are four hypothetical scatterplots of supply relationships:



A **supply function** is a mapping of such assumed relationships. If the four factors represented above were all incorporated in the supply function for good x , we would write a general form of the function:

$$Q_x = g(P_x, P_y, v, T)$$

If we knew the precise relationships between the right hand, explanatory, variables, and the left hand dependent variable, we could write out a supply function in explicit form:

$$Q_x = d_0 + d_1(P_x) + d_2(P_y) + d_3(v) + d_4(T)$$

If we focus only on the first of these relationships – between quantity and the price of the good or service, we are considering the **supply curve**:

$$Q_x = g(P_x, P_y, v, T); Q_x = d_0 + d_1(P_x) + d_2(P_y) + d_3(v) + d_4(T) = d_0 + d_1(P_x)$$

Accounting for the **law of supply**, which stipulates a positive relationship between the quantity supplied of a good or service and its price, this is commonly written as $Q_x = c + dP_x$. The **inverse supply curve**, $P_x = \gamma - \delta Q_x$ is the function that we graph when we draw a demand curve.

Relevant Textbook Problems: 3.5, 3.6, 3.7, 3.8, 3.9, 3.10