

3.21: Changes in Equilibrium

Learning Objectives

- Create a graph that illustrates equilibrium price and quantity
- Predict how economic conditions cause a change in supply, demand, and equilibrium (using the four-step process)

Finding Equilibrium using the Four-Step Process

We know that equilibrium is the place where the supply and demand curves intersect, or the point where buyers want to buy the same amount that sellers want to sell. Let's take a closer look at how to find the equilibrium point using the four-step process. These steps explain how to first, draw the demand and supply curves on a graph and find the equilibrium. Next, consider how an economic change (e.g. a natural disaster, a change in production technology, a change in tastes and preferences, income, etc.) might affect supply or demand, then make adjustments to the graph to identify the new equilibrium point.

Step 1. Draw demand and supply curves showing the market before the economic change took place. Think about the shift variables for demand, and the shift variables for supply. Using this diagram, find the initial equilibrium values for price and quantity.

Step 2. Decide whether the economic change being analyzed affects demand or supply. In other words, does the event refer to something in the list of demand shift variables or supply shift variables?

Step 3. Determine whether the effect on demand or supply causes the curve to shift to the right or to the left, and sketch the new demand or supply curve on the diagram. In other words, does the event increase or decrease the amount consumers want to buy or the amount producers want to sell?

Step 4. Identify the new equilibrium, and then compare the original equilibrium price and quantity to the new equilibrium price and quantity.

Let's consider one example that involves a shift in supply and one that involves a shift in demand. Then we will consider an example where both supply and demand shift.

Exercise 1: Good Weather for Salmon Fishing

Let's suppose that during the summer of 2015, weather conditions were excellent for commercial salmon fishing off the California coast. Heavy rains meant higher than normal levels of water in the rivers, which helps the salmon to breed. Slightly cooler ocean temperatures stimulated the growth of plankton, the microscopic organisms at the bottom of the ocean food chain, providing everything in the ocean with a hearty food supply. The ocean stayed calm during fishing season, so commercial fishing operations did not lose many days to bad weather. How did these climate conditions affect the quantity and price of salmon?

Let's consider this situation using the four-step process and the data below.

Price per Pound	Quantity Supplied in 2014	Quantity Supplied in 2015	Quantity Demanded
\$2.00	80	400	840
\$2.25	120	480	680
\$2.50	160	550	550
\$2.75	200	600	450
\$3.00	230	640	350
\$3.25	250	670	250
\$3.50	270	700	200

Let's walk through the four steps together using this example, and see how the graph changes. Use the interactive graph below (Figure 1) by clicking on the arrows at the bottom of the activity to navigate through the steps.

A link to an interactive elements can be found at the bottom of this page.

Figure 1 (Interactive Graph). Good Weather for Salmon Fishing: The Four-Step Process.

In short, good weather conditions increased supply of the California commercial salmon. The result was a higher equilibrium quantity of salmon bought and sold in the market at a lower price.

Exercise 2: Newspapers and the Internet

According to the Pew Research Center for People and the Press, more and more people, especially younger people, are getting their news from online and digital sources. The majority of U.S. adults now own smartphones or tablets, and most of those Americans say they use them in part to get the news. From 2004 to 2012, the share of Americans who reported getting their news from digital sources increased from 24 percent to 39 percent. How has this trend affected consumption of print news media and radio and television news? Figure 2 and the text below illustrate the four-step analysis used to answer this question.

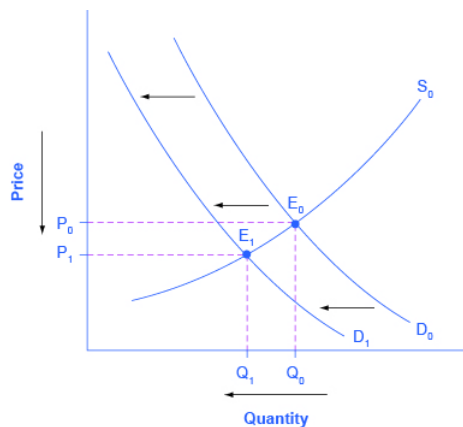


Figure 2. Graph depicting the changing market for print news.

Step 1. Draw a demand and supply model to think about what the market looked like before the event.

The demand curve D_0 and the supply curve S_0 show the original relationships. In this case, the curves are drawn without specific numbers on the price and quantity axis.

Step 2. Did the change described affect supply or demand?

[reveal-answer q="225238"]Show Answer[/reveal-answer]

[hidden-answer a="225238"]A change in tastes, from traditional news sources (print, radio, and television) to digital sources, caused a change in *demand* for the former.[/hidden-answer]

Step 3. Was the effect on demand positive or negative?

[reveal-answer q="58864"]Show Answer[/reveal-answer]

[hidden-answer a="58864"]A shift to digital news sources will tend to mean a lower quantity demanded of traditional news sources at every given price, causing the demand curve for print and other traditional news sources to shift to the left, from D_0 to D_1 . [/hidden-answer]

Step 4. Compare the new equilibrium price and quantity to the original equilibrium price.

[reveal-answer q="5745"]Show Answer[/reveal-answer]

[hidden-answer a="5745"]The new equilibrium (E_1) occurs at a lower quantity and a lower price than the original equilibrium (E_0). [/hidden-answer]

The decline in print news reading predates 2004. Print newspaper circulation peaked in 1973 and has declined since then due to competition from television and radio news. In 1991, 55 percent of Americans indicated that they got their news from print sources, while only 29 percent did so in 2012. Radio news has followed a similar path in recent decades, with the share of Americans getting their news from radio declining from 54 percent in 1991 to 33 percent in 2012. Television news has held its own during the

last fifteen years, with the market share staying in the mid to upper fifties. What does this suggest for the future, given that two-thirds of Americans under thirty years old say they don't get their news from television at all?

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