Chapter 7

WHEN HIGH PRICES ARE LOW PRICES

Every few years, some important commodity, such as gasoline, electricity, or food, experiences a spike in prices. Reporters examine such price spikes and plaster newspapers, magazines, and Web sites with the appropriate headlines—sometimes day after day. Television commentators interview frustrated and worried Americans who proffer the expected negative reaction to the higher prices of essential items in their budgets. The world, it would seem, is coming to an end.

Let's just take one often-in-the-press example: gasoline prices. The authors of the book you are reading are old enough to remember the TV interviews that ensued when the price of gas first hit the unprecedented level of $1 per gallon, back in 1980. The same sorts of interviews occurred when the price of a gallon of gas broke the $2 barrier, early in 2005. Not surprisingly, virtually the same types of interviews occurred when the price of a gallon of gas rose to $3 in 2006 and then to $4 in the summer of 2008. At each point in time, everyone interviewed had the same response, even though years had passed between the price spikes: "I guess I'll just have to stop driving." "I'm going to get a bike." "I'm selling my big car and getting a small one." And of course, each time there was an accompanying story about how record numbers of people were (or soon would be) flocking to their neighborhood motor scooter dealerships.

If we wish to analyze sensibly the effects of higher prices on the quantity demanded and the quantity supplied of any good or service, we can rely neither on what journalists report nor on what Americans say when they are interviewed. After all, what is important is not what people say but what they do. As economists, we best understand consumers by their **revealed preferences.** Similarly, business owners are best understood by their actions, not their words. What people do is reflected in how much they actually buy of any good or service after its

price changes—not by their complaints to a TV reporter or what they post on their blog or on Facebook or MySpace or Twitter.

For demand and supply analysis, the relevant price is the price *relative to* all other prices, because people's decisions are based on **relative prices,** not **nominal prices.** The latter simply tell us the number of pieces of paper (dollar bills) we must hand over for a good. Nominal prices tell us nothing about the real sacrifice (measured in terms of goods or our labor services) that we must make to obtain those goods. Relative prices, in contrast, tell us the real sacrifice involved in acquiring a good, because they tell us how much of other goods we must sacrifice.

Said another way, we have to separate the rise in the general price level, called **inflation,** from the rise in the nominal price of a particular good or service. If *all* nominal prices went up 3 percent in a given year, there would be no change in relative prices, but this inflation of 3 percent per year would not change the real sacrifice entailed in acquiring any particular good. In the real world, even during periods of inflation, some prices go up faster than others and some prices even go down—witness the price of computing power, of DVD players, and of MP3 players. Nevertheless, if we want to predict people's behavior, we must know what has happened to the *relative* price of a good, and to determine this, we must adjust for inflation.

Now let's get back to our example of gasoline prices. Your grandparents might be able to talk about buying gas for 30 cents a gallon (its typical nominal price most of the time between 1956 and 1964). Today, what you pay in dollars per gallon is many times that level. People still drive nonetheless; indeed, the use of gasoline for cars and trucks in the United States is roughly *triple* what it was when the nominal price of gas was only 30 cents. Something must have happened. The most important is a general rise in all nominal prices, including gasoline prices.

In the summer of 2008, the price of gasoline edged beyond $4 per gallon. Then-presidential candidate Barack Obama argued that the government should intervene on gas prices to "give families some relief." Two-thirds of American voters at that time said they thought that the price of gas was "an extremely important political issue." (Of course, when gas prices started tumbling in the fall of 2008, there were not many front-page articles or TV interviews with happy consumers. And the politicians simply became silent on this subject.) Consider, though, that at its nominal price at the end of 2008, the *relative* price of gas was lower than it had been in 1980, after correcting for overall inflation. For many people, this is a shocking revelation. But correcting for inflation is absolutely essential if you want to sensibly analyze the price of anything over time.

There is something else that we should mention here, particularly relevant when thinking about the real burden of gasoline. People are becoming more productive over time, because they are getting better educated and because ongoing technological change enables us to produce more with a given input of our time. As a result of this higher productivity, U.S. consumers' **disposable income** generally rises from one year to the next—and rises on average over longer periods of time. As Americans become richer on average, they are financially able to handle even higher relative prices of the items they wish to purchase, gasoline included.

To help us understand this point better, researchers Indur Goklany and Jerry Taylor came up with an "affordability index." They compared family income to the price of gas from 1949 to 2008. They arbitrarily set 1960 at an affordability index of 1; relative to this, a higher affordability index number means that something is more affordable. Even when gas was $4.15 per gallon, the affordability gas index was 1.35. In other words, the ratio of the average person's disposable income to the price of gasoline was higher by about 35 percent in 2008 than it was in 1960; gasoline was *more* affordable than it had been back in 1960, when your grandparents were filling up their tanks at 30 cents a gallon—hard to believe for some of us, but true nonetheless. And once gas prices started going down at the end of 2008, the gas affordability index rose even more, passing 2.0.

The quality of gasoline does not change over time. But the quality of many other products does change over time, usually for the better. Often we forget about this crucial aspect when we start comparing prices of a good or service over time. If you ask senior citizens today how much they paid for their first car, you might get prices in the range of $2,000 to $5,000. The average new car today costs around $24,000. By now, of course, you know that if you want to compare these numbers, you must first account for the inflation that has occurred over the time period you are examining. In this case, adjusting for inflation still means that the relative price of a car appears to be about 30 percent higher than it was, say, fifty years ago.

Does that necessarily mean that a car is really 30 percent more expensive than it was in 1960? Probably not. We must take into account improved quality features of cars today compared to those of half a century ago. Today, the average car has the following:

- Computer-controlled antilock power brakes
- Power steering
- Digital radio with CD or MP3 player
- Air conditioning
- Steel-belted radial tires

- Cruise control
- Power windows and locks
- Air bags
- Forty percent better fuel economy

The list of improved and new features is actually much longer. Today, the average car is safer, breaks down less often, needs fewer tune-ups, has a host of amenities that were not even dreamed of fifty years ago, and almost certainly lasts for at least twice as many miles. If you correct for not only inflation but also for these quality increases, the relative price of cars today has almost certainly *fallen* appreciably in the past fifty years, despite the "sticker shock" that you may experience when you go shopping for a new car. That is, appearances to the contrary, the inflation-corrected **constant-quality price** of automobiles is actually lower today than it was five decades ago.

The necessity of adjusting for inflation and quality changes continues to apply even when we are examining goods whose nominal prices have declined over time. A good example is computing power. The nominal price of the average personal computer has gone down in spite of general inflation over the past several decades. These days, a Windows-based desktop computer has an average price of about $550; for a laptop, the average price is around $700. A decade ago, the average machines in each category would have had nominal prices twice as high. You might be tempted to conclude, then, that the price of personal computing has fallen by 50 percent, but you'd be wrong. The price has actually fallen by more than 50 percent.

Why? There are two reasons. First, over the past ten years, the average dollar prices of all goods increased by 30 percent; that is how much overall inflation there has been. That means that the *relative* price of the average computer has fallen by two-thirds, which of course is greater than 50 percent. But even here we are missing something extremely important: The quality of what you are buying—computing power—has skyrocketed. The processor speed of the average computer today is at least ten times greater than it was ten years ago and is increasing exponentially. Moreover, hard drives are bigger; monitors are flat-screen LCDs instead of bulky old cathode ray tubes; laptops are lighter; RAM is larger—so the list of improvements grows. And despite people's frustrations with both the hardware and software of the personal computer today, longtime users can tell you that both are vastly more reliable than they were a decade ago. Thus if you look only at the inflation-corrected decrease in computer prices, you will be underestimating the true decrease in the *relative* price of computers.

The moral of our story is simple. At some point in your education, you learned that "what goes up must come down." Now you know that when it comes to prices, it is often the case that "what goes up has actually gone down." It is a lesson worth keeping in mind if you really want to understand the behavior of consumers and businesses alike.

DISCUSSION QUESTIONS

1. Try to explain why price increases for crude oil, gas, heating oil, electricity, and food are widely reported by the media, yet when these prices decline, there is almost no discussion in the media.
2. Make a list of goods (or services) whose qualities have improved over time to such an extent that the prices do not accurately reflect their real prices, even after adjusting for inflation. Now see if you can come up with a list of items whose quality has systematically *decreased* over time. Can you suggest why it is easier to find examples of the former than it is of the latter?
3. The demand for small-engine motor scooters jumped when the price of gasoline started moving up in the summer of 2008. Make a prediction about the demand for this form of transportation in, say, two years from today. Explain your answer.
4. Explain why you will make more accurate predictions if you focus on the changing incentives people face rather than listening to what they say they are going to do.