

Emory Report

Emory Report

January 25, 1999

Volume 51, No. 17

FIRST PERSON

Daniel Levy looks close to 'home' to examine markets



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of "rigid" prices is important because it suggests that markets sometimes fail to allocate the economy's scarce resources efficiently.

It is generally believed that prices adjust to clear supply-demand gaps in a market. For example, the minute-by-minute variation in individual stock prices at the New York Stock Exchange reflects precisely such a price adjustment to changes in market conditions. Other examples include commodities' markets, where sugar, coffee, soy beans and other commodities are traded, and auction markets for rare artworks and collectors' items. Price adjustments in these markets are almost instantaneous.

There may be no need for a price change if market conditions don't change. For example, Mark, my hair cutter, may not experience much variation in costs or demand from week to week: he may pay the same price for the limited supplies he buys, and there may be little fluctuation in the number of customers he serves. The rent he pays may be fixed through a contract with the shopping center management company. Therefore, it would make sense for him to keep prices unchanged.

In some markets, however, prices do not change even though our read of market conditions would lead us to predict otherwise. For example, in a study of magazine newsstand prices, Stephen Cecchetti of Ohio State University reports that magazine publishers delay newsstand price changes for four to seven years. Other studies document similar rigidity in

mail-order catalog prices and in industrial goods' prices.

One of the most extreme cases of price rigidity I am familiar with is the price of Coca-Cola. In a study I am undertaking with Andrew Young, a PhD student in the economics department, we report that the retail price of a 6.5-ounce Coke remained 5 cents for almost 60 years—from its introduction in late 1880s until the mid-1950s. During this period there were substantial changes in Coca-Cola market conditions—the number of Coca-Cola consumers increased due to population growth, there were several recessionary economic downturns, and there were changes in the prices of substitute/imitation products and in the costs of ingredients such as sugar (during wars) and caffeine (due to weather-related coffee shortages). Despite this, Robert Woodruff insisted the price of Coke be held at 5 cents.

If prices do not respond to changes in market conditions, then the price system may misallocate resources. This has important policy implications because it suggests that market mechanisms alone may not guarantee economic efficiency. Therefore, when prices do not adjust, relying solely on market mechanisms will likely lead to inefficient outcomes.

Before declaring the market system a complete failure, however, consider the following possibility: what if markets respond to changes in market conditions not through price, but through other product dimensions like quantity or quality. Consider the following examples from Emory Village.

About three years ago I noticed the size of Starbucks' oatmeal-raisin cookie had shrunk by about half. Originally these cookies were so large that after enjoying one myself there was always enough left to take home to my two sons. Concerned about my family's gastrointestinal welfare loss, I remarked, "Ooh! I see you have increased the price of my favorite cookies!" The young seller was defensive. "No, sir, the price of the oatmeal-raisin cookie always was \$1.45!" After explaining to him that for the same price I am now getting only half of what I got before, he finally agreed that shrinking the cookie had de facto doubled the price. This despite the fact that the stated price hadn't changed.

I have noticed a similar "quantity adjustment" mechanism at Saint Louis Bread Company, where the size of their popular sourdough bread "soup bowl" mysteriously shrank one day by almost a third, while its stated price remained unchanged.

About four years ago, when bad weather in California led to a lettuce shortage, I had a lunch at Lit'l Dino (since replaced by Burrito Art), where I ordered my usual combination of a sandwich with fries, a drink and a small tossed salad. The manager politely warned me that because of the lettuce shortage my salad would contain only tomatoes and crou-tons.

Soon after I dined at Cox Hall where, to my astonishment, the salad bar was overloaded with lettuce. Naturally, I talked to the manager, who ex-

plained to me there are seven different types of lettuce, and the California weather had not affected them all. So, he was just substituting one lettuce for another.

These are examples of "quality adjustment." In both cases the price had not changed, but the recipe had changed in response to changes in market conditions.

Other types of non-price adjustment mechanisms include changing a product's "delivery time" by sending a phone-ordered product using surface instead of air mail, or changing a product's "delivery place" by asking people to pick up their pizzas rather than delivering them to their homes.

Price rigidities can have a first-order impact on markets by distorting the efficiency of market outcomes. This provides a first-order reason for activist economic policy, i.e., economic policy that does not rely solely on market mechanisms. When prices are rigid, adjustments must occur through non-price mechanisms. We do not know how common such mechanisms are or what impact they have on how well markets function. Exploring them remains an important future research agenda.

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Why is it that some prices remain unchanged for long periods of time? You have no doubt noticed that the price you pay for a haircut doesn't change each time you visit a hair salon. The price you will pay next week for your favorite entree in a restaurant is likely to be what it was on your last visit. Ticket prices at movie theaters are changed infrequently, and the price at my neighborhood car wash has been the same the last four years. My monthly paycheck remains the same over a given year, and I have been paying the same hourly rate to our babysitter for four years.

It is true that some prices change frequently. For example, a recent series of studies I co-authored report that each week large supermarkets change prices for about 15 percent of the approximately 25,000 products they carry.

However, such frequent price changes are an exception—most prices actually go unchanged for substantial periods of time. This phenomenon