

# Why the Tepid Response to Higher Gasoline Prices?

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Americans consume 45 percent of all gasoline produced worldwide. Our appetite for gasoline leads to dependence on Mideast suppliers and contributes to greenhouse gases, creating risks for national security and the environment.

Some have seen a silver lining in the sharp rise in gasoline prices in recent years: higher prices should lead Americans to conserve. This is just a simple application of the law of demand. An increase in the price of a good usually leads consumers to buy less of it.

When it comes to gasoline, however, there are reasons to be pessimistic that the higher prices we have seen lately will have much effect, particularly in the near term.

Research shows that in the short run -- over a year, say -- the response to higher gasoline prices is weak. Most studies find that a 10 percent increase in gas prices in a year is associated with a 1 to 2 percent drop in the quantity of gasoline purchased in that year.

Recent experience suggests a more muted response. From September 2004 to September 2005, the average retail gasoline price jumped to \$2.90 a gallon from \$1.87, or 55 percent, according to the Energy Information Agency. Yet gasoline consumption dropped only 3.5 percent, to 8.83 million barrels a day in September 2005 from 9.15 million barrels a day in September 2004 -- and these figures may overstate the drop because the Energy Department measures gasoline distribution before it reaches the retailer, and retailers may have used more of their inventories when Katrina disrupted the supply chain. Regardless, past estimates would have predicted a larger drop of 5.5 to 11 percent.

In the short run, some people drive less when gas prices rise or they buy a more fuel-efficient car, but most do not change their lifestyle and just complain about prices.

Over a longer period, a bigger response is expected as additional people replace their cars with more fuel-efficient models.

Estimates of the long-run response to past movements in prices imply that a 10 percent price rise causes 5 to 10 percent less consumption, other things being equal.

This points to a recent puzzle. The nationwide average price of gasoline surged 53 percent from 1998 to 2004, after adjusting for inflation. Yet consumption was up 10 percent in this period. Conventional wisdom would have predicted the price rise, which was mainly a result of external factors, to cause a 26.5 to 53 percent drop in gas consumption.

Of course, many other things changed in this period. Perhaps most important, the real gross domestic product grew by 19 percent from 1998 to 2004. This would ordinarily be expected to push gasoline sales up about 20 percent, which is not enough to overwhelm the anticipated drop caused by higher prices.

Three factors might explain this puzzle.

First, many consumers probably viewed recent price increases as temporary. If the price jumps today but is expected to return to normal tomorrow, there is little reason to buy a more fuel-efficient car. In the 1980's and 1990's, most gas price increases did not last. By my calculation, about half of all price gyrations were eroded within four years.

Second, Pinelopi Goldberg of Yale says car companies often cut prices of large cars when gas prices rise. Third, new research by Kenneth Small and Kurt Van Dender of the University of California, Irvine, suggests that consumers responded less to price increases in the late 1990's than previously because income growth meant spending on gasoline had become a smaller share of the cost of driving.

A change in the way people respond to gas prices affects policy. A 2003 study by the Congressional Budget Office considered two ways to reduce gas consumption by 10 percent: a 46-cent increase in the gas tax and stricter average fuel economy standards, which penalize automakers if their fleet fails to achieve a specified number of miles per gallon. The study found that the tax cut consumption at a slightly lower cost to society.

But if consumers cut consumption less in response to higher gasoline costs than they used to, the balance would tilt more toward stricter mileage standards for automakers.

In August, Transportation Secretary Norman Y. Mineta made a step in this direction by proposing stricter standards on S.U.V.'s, pickup trucks and minivans.

He could curb gasoline use further and close a loophole by placing miles-per-gallon standards on vehicles that weigh 8,500 to 10,000 pounds when loaded, like the Hummer H2. Of course, a gas tax has an advantage over fuel efficiency standards: it raises revenue, and even more so if demand is less responsive to gas costs. A higher gas tax would also immediately affect drivers of existing cars and afford flexibility, whereas stricter mileage standards would affect only new cars and would rigidly apply to all carmakers.

But tougher fuel efficiency standards and a gasoline tax increase are not mutually exclusive. Indeed, consumers would probably complain less about a higher gasoline tax if their cars got more miles to the gallon.