When gasoline prices fell, most consumers did not change their minds about how much they felt they could pay

Results from 6 quarterly samples, Oct 2013 - Jan 2015

June 2015

KEY FINDINGS

► When gasoline prices dropped over the past year, most American consumers did not change their views on how high the price would have to be before it greatly strains their household budgets.

► Those consumers who are most challenged by fuel costs (who comprise about 12% of Americans) do change their views on what they say they can afford when pump prices change.

► Of 3,000 consumers surveyed over six quarters, a clear majority (about 70%) regard $6 per gallon gasoline as unaffordable, while about 40% would find $5 gasoline to be unaffordable.

► Relative to recent pump prices, a 50% price hike would increase by only a few percent the fraction of consumers for whom gasoline costs become a serious strain on their household budgets.

Over the past year, Americans enjoyed a notable decline in the price of gasoline, which fell to an average of $2.27 per gallon in January 2015. In June 2014, it had been $3.77 per gallon. As shown in Figure 1, over the prior year and a half the national average for all grades was $3.56 ($0.16), over 50% higher than the recent January level. Since then, pump prices have risen, up to $2.80 per gallon as of May, but were still nearly a dollar lower than they were a year ago, saving drivers over $40 per month.

How does this price drop affect how Americans feel about the affordability of gasoline? As it turns out, most consumers haven’t significantly changed their views of how expensive either gasoline or home energy would have to be before the cost hits a threshold level of strain on their household budget sufficient to force changes in everyday activities.

The University of Michigan Energy Survey asks consumers questions about how much they think they can afford for motor fuel and home energy (the latter including electric and home heating fuel bills). The survey was launched in October 2013; since then we have analyzed six quarterly polls based on in-depth telephone interviews, amounting to a cumulative sample of more than 3,000 households.

The upper points in Figure 1 show the average responses to our question about how much gasoline would have to cost before consumers would find it unaffordable in the sense of greatly crimping their household budgets. This threshold of strain averaged $5.61 ($0.08) per gallon over the six quarterly samples of October 2013 to January 2015. Although there is a hint of decline, it was not statistically significant even as pump prices plummeted in the months leading up to January. So even as consumers enjoy lower costs, their views of the price at which gasoline would become unaffordable have not changed on average.

What has changed is the difference between the most that consumers feel they can afford—that is, their threshold of serious pain at the pump—and the price they were paying when we conducted the survey. The gap between those two prices provides a measure of how consumers themselves perceive the affordability of gasoline. We field a similar question about home energy bills, asking each respondent how high the cost would have to be before they would view it as unaffordable in the sense that they would have to make significant changes in their lives.

The U-M Energy Survey runs quarterly as a rider on the University of Michigan Surveys of Consumers; it is based on telephone interviews with a representative sample of 500 U.S. households. See www.energy.umich.edu/project/energy-survey.
Figure 2. Cost increases that consumers say would be a strain for home energy and gasoline.

Figure 2 shows the relation between consumers’ thresholds of energy unaffordability and how much they were paying when asked about their home energy bills [blue] and gasoline prices [red]. The error bars represent 90% confidence intervals for the mean responses based on each quarterly sample. We see a big jump in the perceived affordability of gasoline in January 2015, when prices were at their lowest point in several years.

On average over the first five quarters of the survey, consumers believed that a 60% price increase would make gasoline unaffordable. Once the price had fallen, the increase needed to make gasoline unaffordable jumped to nearly 140%. This percent increase can be interpreted as indicating how affordable consumers themselves believe energy to be.

Looking at this same indicator for home energy, the percent increase consumers felt to be unaffordable varied relatively little and averaged roughly 110% over the period. The larger error bars for home energy compared to gasoline indicate that the responses to questions on affordability were much more variable for home energy than they were for gasoline.

When gasoline prices were higher, in the roughly $3.50 per gallon range seen over the first year of the survey, we found no difference between the views of the middle and bottom household income terciles regarding the highest gasoline price they felt they could afford. In contrast, consumers in the top income tercile could tolerate almost a dollar more per gallon before they would consider it a budgetary strain.

Our data also illustrate the fraction of the population likely to be most pressed by gasoline price hikes. Figure 3 shows the percentage of consumers who said they would find gasoline unaffordable if it reached a given price range. The bars compare the distribution of responses in January, when gasoline averaged $2.27 per gallon, with the average pattern seen over the prior five quarters, when the price was around $3.50 per gallon.

Significant changes are seen at lower price ranges. Last year, when the pump price was around $3.50 per gallon, 4% of consumers thought that gasoline was already unaffordable. In January, when it was $2.27 per gallon, this fraction of the population fell to zero statistically speaking. We also see a jump in fraction of respondents who felt that gasoline was affordable when the survey was taken but who said it would start to strain their budget at some price less than $4.00. In other words, consumers who find themselves already near the limit of what they can afford are the ones whose views on what they feel they can afford shift as gasoline prices rise or fall. This most price-sensitive fraction of the population was about 12% of the January 2015 sample.

There were no statistically significant shifts in the fraction of consumers who felt that gasoline would remain affordable as long as it remained under $4 per gallon. About 40% of the population believe that $5 gasoline would strain their household budgets and a consistent majority of about 70% regard $6 as a strain.

Our findings offer some insights for policy makers. Gasoline price increases fall quite heavily on about one out of eight Americans. But a 50% increase relative to recent fuel prices would raise by only a few percent the fraction of consumers whose household budgets are severely strained by fuel costs. More modest price hikes would increase that fraction very little.