On the Relationship Between Gasoline Prices and Vehicle Demand

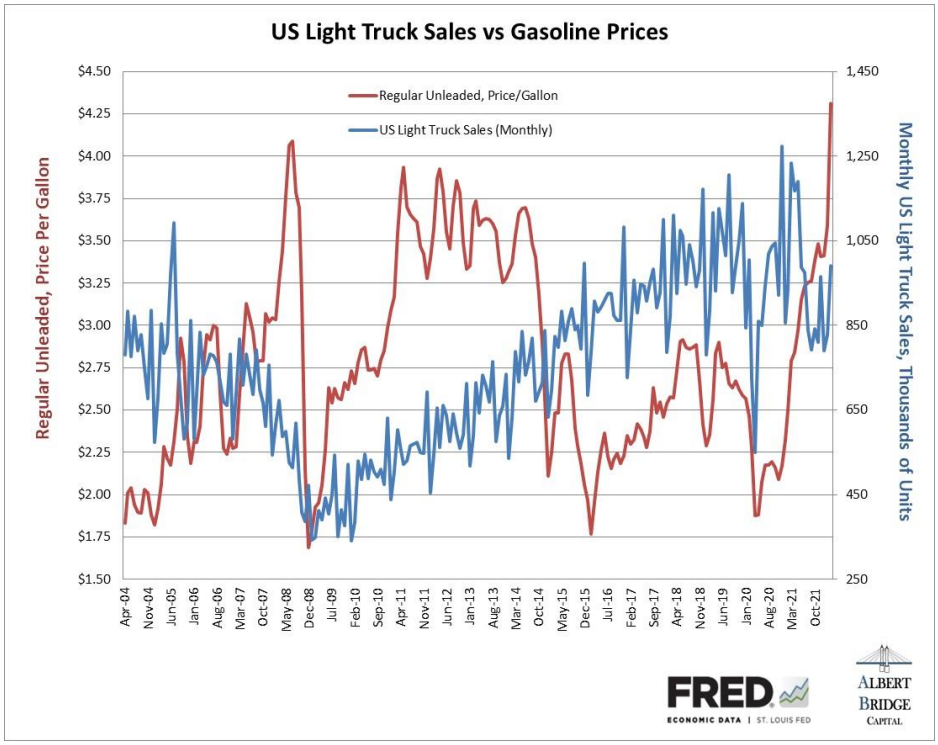
Bill McBride @calculatedrisk asked an interesting question this past weekend about the relationship of gasoline prices to car or light truck demand. You can find the link here.

In it, he had a very illuminating chart showing how the mix has shifted away from passenger cars toward light trucks (SUVs and pick-ups). Basically, back in the early 80s, 80% of the total market was for automobiles, and 20% was held by light trucks (pickups and SUVs). Fast forward to 2022, and that has reversed.

Bill then asks if higher "gasoline prices will lead to a higher percentage of passenger car sales?" He also is implicitly asking if higher gas prices will lead to lower pickup truck and SUV demand. He suggests that when oil prices are high, at least historically, that the trend toward light trucks (or away from passenger cars) tends to slow or reverse; and when using longer term datasets (like those including the energy crisis in the 1970s), this may be true.

However, we suggest that appetites may have changed, and changed for reasons other than oil prices.

We do agree that purchases of cars and light trucks are sensitive to the general economy (see 2008) or to pandemics and supply constraints (see 2020 and 2021). However, when we look specifically at light truck demand and compare it to gasoline prices, we see that over the past 20 years or so, they don't seem terribly related.



You'll notice above that from early 2009 through to mid-2011, the average price of regular unleaded gas across the US surged from $1.75 to nearly $4.00. During this period, light truck sales *increased* considerably, from 300K units a month to 550K units. This, however, was perhaps at least partly a recovery from the GFC lows, and the 550K got us back to where we were in late 2007.

However, gasoline prices then stayed pretty high. From March of 2011 all the way through October of 2014, gasoline prices bounced around between $3.25 and $3.90, and yet light truck demand continued to surge to over 800K units per month.

Oil prices subsequently weakened, and the upward trend of light truck sales continued to over 1 million units a month). Given what had been happening to the appetite for light trucks from 2008 through 2014, I think it is hard to give low gas prices credit for the continued surge in light truck demand over the balance of the decade.

Now that we are seeing oil prices spike again, this doesn't imply that the secular trend toward light trucks will necessarily reverse (at least to us).

I mean, it may, but there is so much more at work. For one, automakers have dramatically shifted their production capacity toward light trucks.

Chrysler, for example, makes just one sedan (the 300) and Dodge only makes the muscle cars (the Challenger and Charger). And Ford only makes one car! It too is a "muscle car". The Mustang.

Meanwhile, GM's Chevy brand still makes a Malibu, and it also has its muscle offerings too (the Camaro and Corvette). GM's Cadillac brand only makes two cars (the CT4 and CT5); and Buick makes precisely zero cars (for the US market).

The bottom line is that if someone wants an American "car", it better be a muscle car, because there really isn't much else to choose from.

Foreign manufacturers like Toyota and VW still make a handful of sedans, so there some options, but based on their model decisions, it appears that automobile manufacturers may believe that demand is less sensitivity to oil prices than it was before.

Sure, they could be wrong, and as light truck sales now approach 80% of total sales, one wonders if the mix has hit some natural ceiling. But we think it is at least possible that, yes, the economy matters, but that, no, the price of gasoline may not really, or perhaps not matter as much as we used to think it did.

And once all these models go 100% electric (e.g. at Ford from Mustangs to F-150s) then comparisons on MPG just won't even be a thing at all. Other things will matter more.
