

Our View: Prices Matter

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Electric vehicle (EV) sales have fallen in recent months. Auto manufacturers have reduced investment in plants and cut production runs. The declines have been attributed to market saturation, the higher price of EVs, concerns regarding charging station availability, and other issues. The key explanation, though, has been ignored: gasoline prices. A close look at the data suggests that decreasing prices have undercut EV sales.

However, gasoline price changes cut two ways. The data also reveal that gasoline purchases today may be more sensitive to the availability of a clear substitute: electricity. Evidence from California, the state with the largest number of registered EVs, indicates an upward shift in consumers' sensitivity to prices. Their heightened sensitivity could increase over time as consumers owning EVs and conventionally fueled vehicles adjust their use in response to petroleum price fluctuations. This trend could spread to the commercial sector as EV and hybrid vans and trucks become more common.

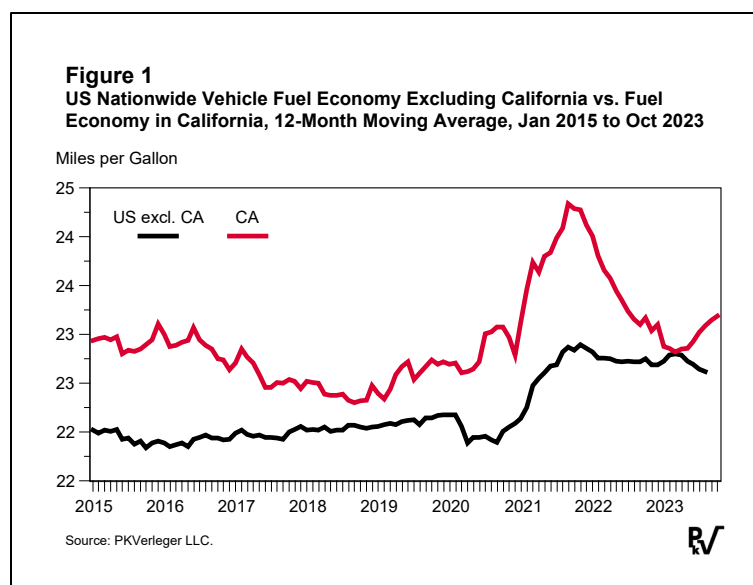
The greater sensitivity of consumers to motor fuel price fluctuations will not be limited to the United States. Consumers in Europe, Asia, and especially China with access to petroleum and electricity-powered vehicles will likely develop the same sensitivity to oil prices. This sensitivity will almost certainly rise over time, which will diminish the oil producers' ability to push crude prices higher.

These conclusions are clearly confirmed by the data. PKVerleger LLC has been tracking nationwide fuel economy by state using the best available data on motor fuel consumption: reports from state tax authorities on gasoline sales volumes.

While these data come with a long lag (the most recent are for October 2023), they represent the gold standard because retail gasoline sellers must report their sales to the authorities that collect federal and state fuel taxes or face stiff penalties.

When averaged over a twelve-month period, these data show that, since the end of the Covid pandemic crisis, fuel economy has increased significantly in California but not anywhere else in the United States (see Figure 1).

California stands out because gasoline prices are much higher there and because the state leads the nation in EV registrations. Many Californians, unlike residents of other states, can look at current fuel prices and choose, for trips that do not require recharging, whether to drive their



EVs or their traditional gasoline or diesel-powered vehicles. Having that option has clearly affected fuel economy in the state. Our results clearly show that changes in month-to-month fuel economy levels in California are closely related to changes in gasoline prices (see Figure 2).

Gasoline prices also affect EV sales. Numerous reporters have commented on the decline in EV sales. In our analysis, we compared the EV market share in each month with the price of gasoline five months earlier and found that the EV market share surged sharply when gasoline prices rose in 2022. It then declined as gasoline prices fell (see Figure 3). We believe that buyers watching gasoline prices rise placed EV orders during the spring and summer of 2022, taking delivery later in the year.

Our message is simple: decreasing gasoline prices slow EV sales while increasing prices accelerate EV sales and use. Fluctuations in crude prices that lead to lower or higher gasoline prices will have the same effect.

