

Drivers of Gasoline Prices in 2019

April 9, 2019

There has been considerable discussion lately regarding the reasons for rising gasoline prices in the late winter and early spring of 2019, including the potential role of ethanol following the Midwest floods in March. This paper is intended to provide perspective on the issue.

Summary

The recent increase in gas prices is largely due to a confluence of factors, most notably:

- A surge in crude oil prices since the start of the year;
- Typical seasonal patterns in gasoline pricing, partially reflecting the changeover to summer specifications; and
- Refinery maintenance and unplanned outages.

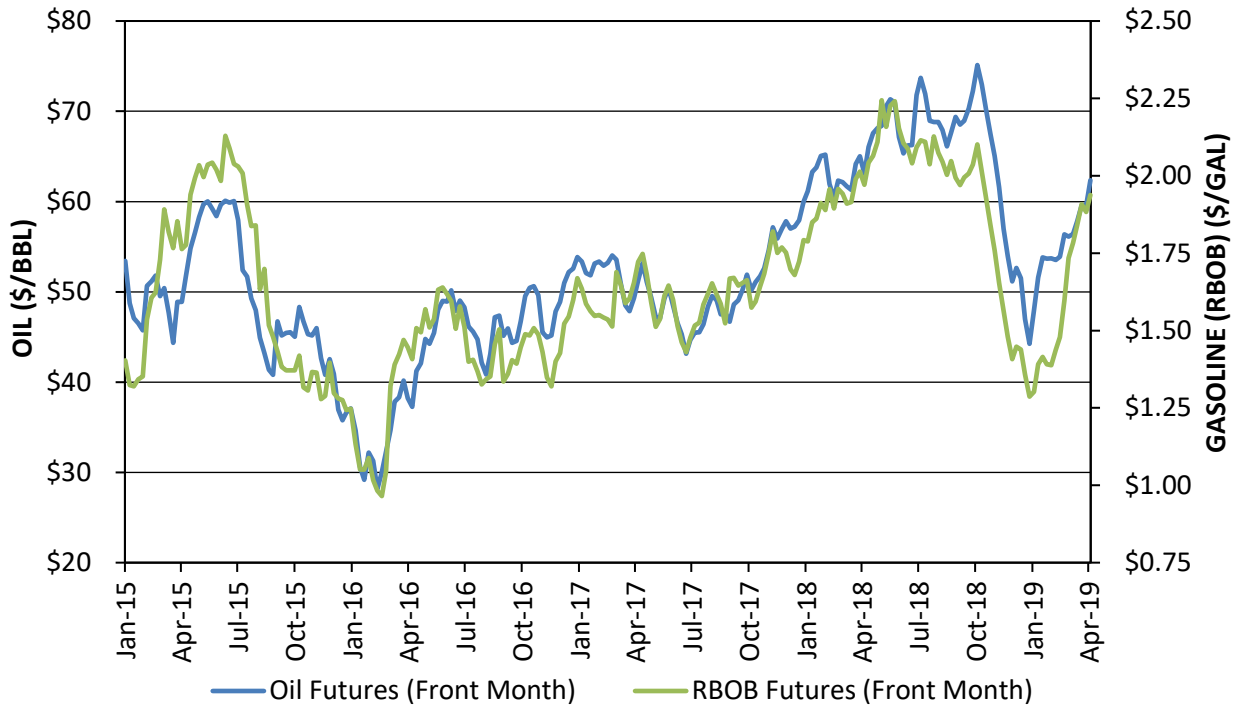
Ethanol prices are at a steep discount to gasoline prices (and to other sources of octane), and inventories have recently been at record levels. While transportation challenges caused issues with delivery to isolated locations in the immediate aftermath of the floods, production was not significantly affected. In the vast majority of the country, ethanol has been helping to hold down gasoline prices for consumers.

Analysis

It has long been recognized that crude oil prices are the primary driver of gasoline prices (Figure 1). Crude oil prices sold off sharply in late 2018 and then rebounded sharply in the first quarter of 2019, and gasoline prices followed. Since late December 2018, crude oil futures prices have increased by approximately 40%, while gasoline (RBOB) futures have risen by roughly 50%.

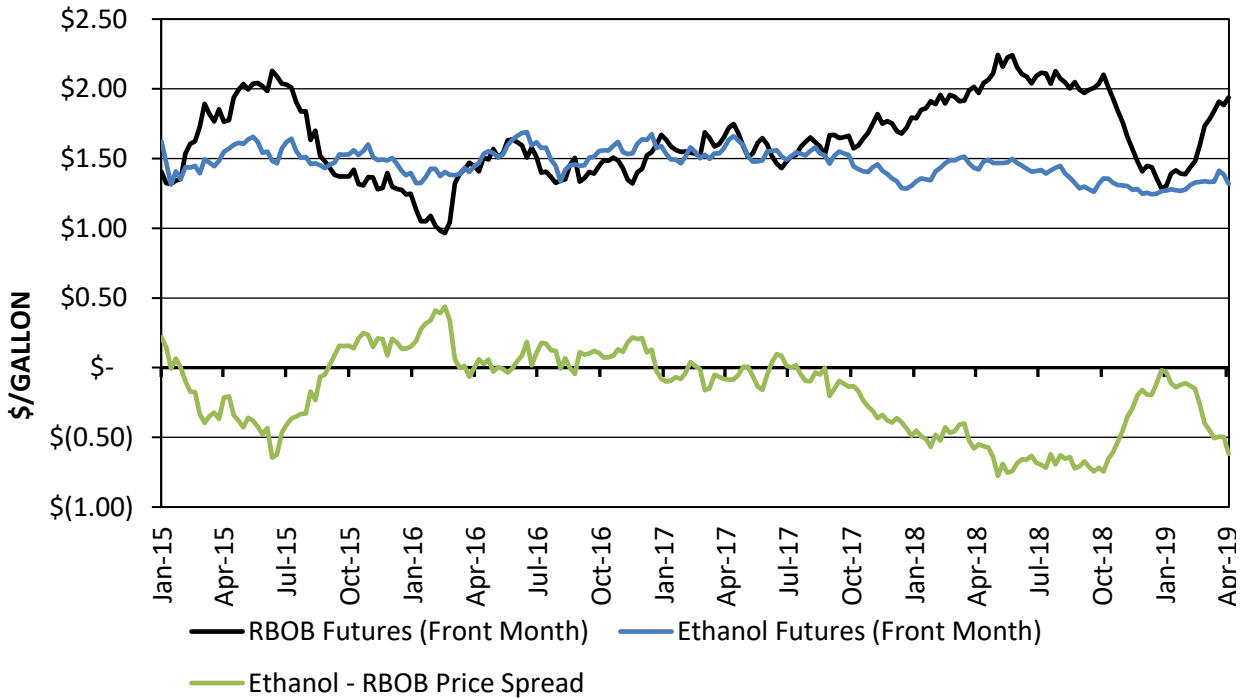
By comparison, ethanol futures prices have increased only about 5%. In fact, ethanol prices have been at a steep discount to gasoline prices for most of 2018 and 2019, with ethanol futures recently trading at a 60 cent/gallon discount to gasoline futures (Figure 2). The discount to competing sources of octane is even more pronounced.

Figure 1. Crude Oil vs. Gasoline (RBOB) Futures Prices



Source: CME

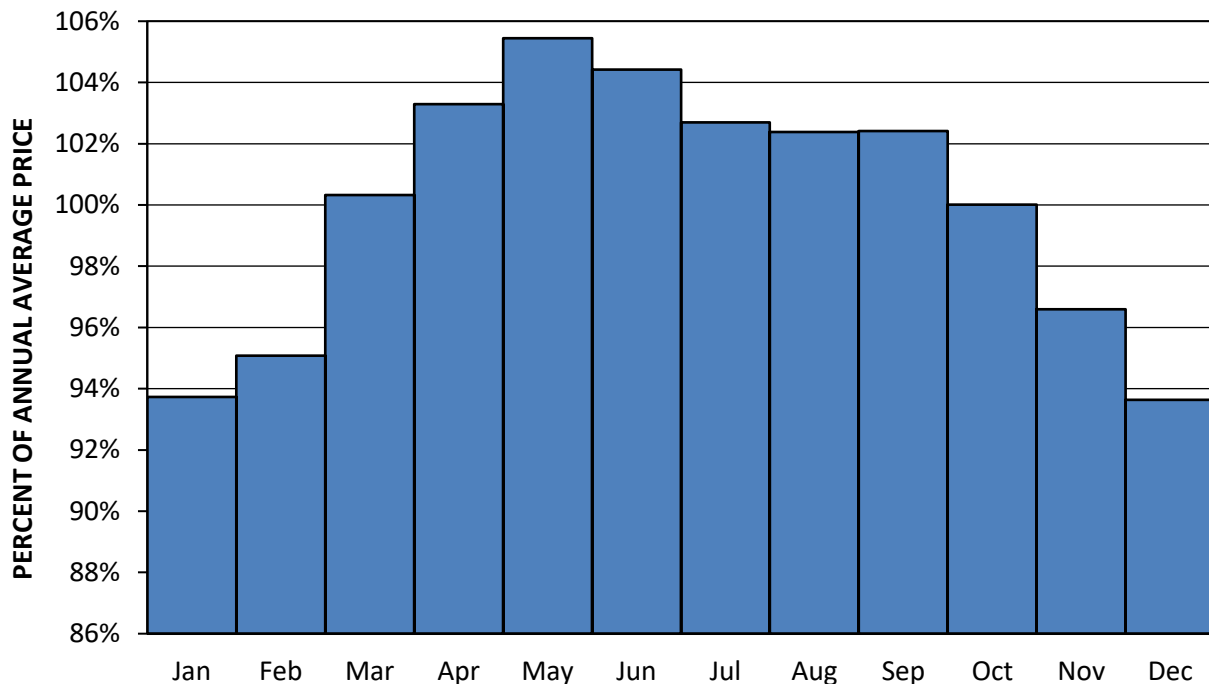
Figure 2. Gasoline (RBOB) vs. Ethanol Futures Prices



Source: CME

Retail gasoline prices are driven by wholesale prices. Additionally, gasoline prices have a marked seasonal trend, with prices rising during the spring and remaining high through the summer driving season (Figure 3). As explained by the U.S. Energy Information Administration (EIA), “Retail gasoline prices tend to be lowest in the winter months (December-February) before increasing in the spring. This trend occurs, in part, because refineries begin producing summer-grade gasoline, which is more expensive to manufacture, in February and March after they have produced enough winter-grade gasoline to last through the winter driving season.”¹ The increase in 2019 has been accelerated due to the strong rebound in crude oil prices.

Figure 3. Seasonality of U.S. Retail Gasoline Prices, 2010-2018



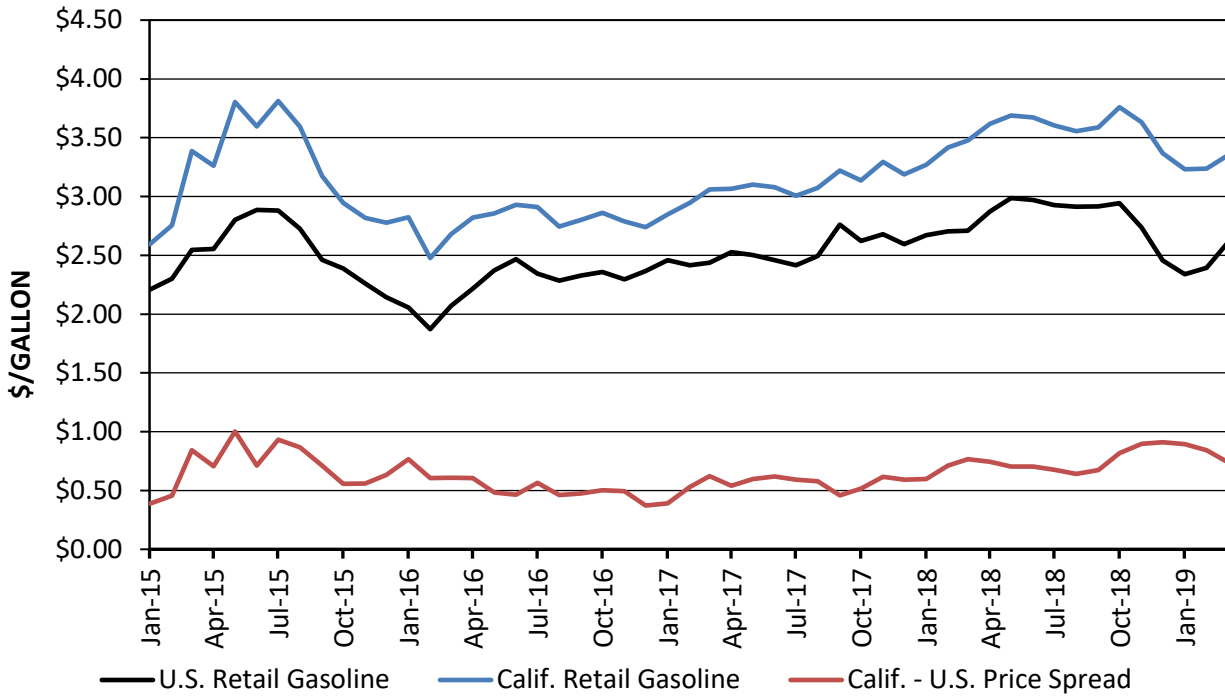
Source: EIA

Over time, retail gasoline prices in California have generally tracked those for the U.S. (Figure 4). However, as noted by the EIA, “Gasoline prices on the West Coast tend to be higher than in other parts of the country because of strict fuel specifications in California, the region's relative isolation from other markets, and higher state and local taxes.”²

¹ https://www.eia.gov/petroleum/weekly/archive/2019/190306/includes/analysis_print.php

² <https://www.eia.gov/todayinenergy/detail.php?id=37872>

Figure 4. U.S. vs. California Retail Gasoline Price, All Grades

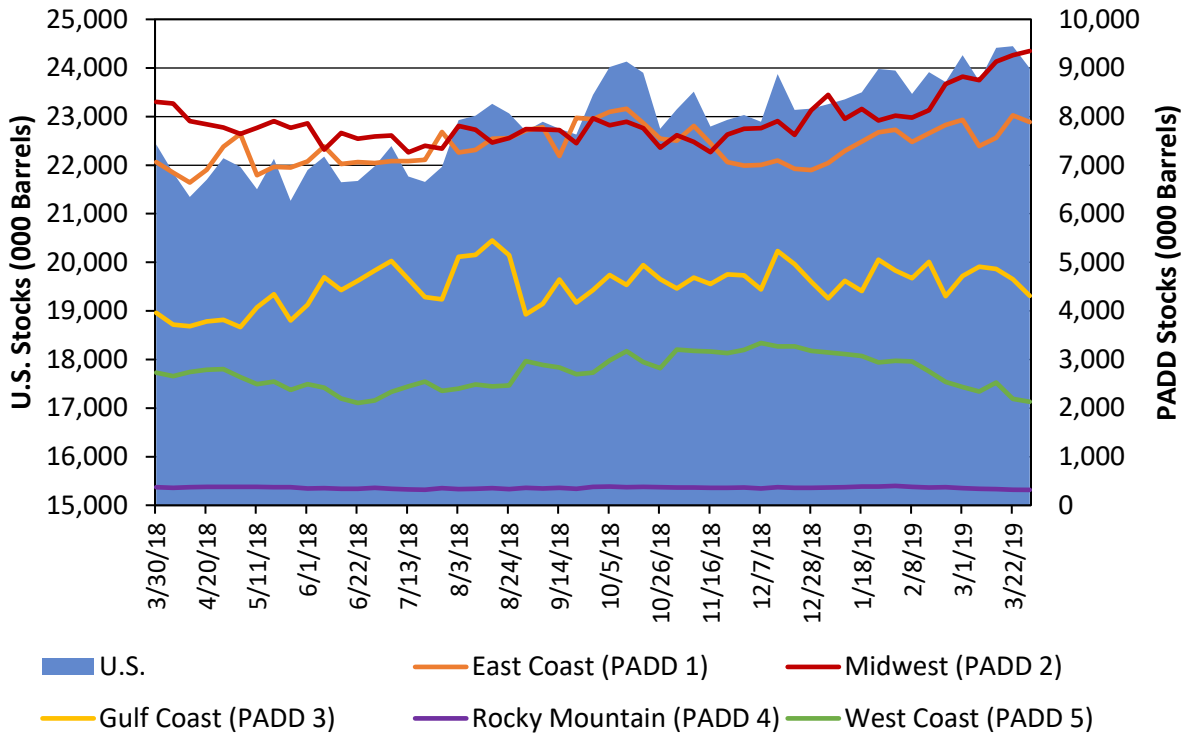


Source: EIA

The California retail gasoline price premium to the U.S. average declined in February and March compared to the levels that were experienced from November 2018 through January 2019. Very recently, refinery outages have affected California prices. As noted by AAA in the post *Unplanned Refinery Maintenance Boosts Pump Prices While Gas Stocks Continue to Shrink*, “Refinery maintenance season has hit some unexpected bumps in the road, leading to higher pump prices as the nation settles into spring. According to new data released from the [EIA], total domestic refinery utilization ... fell to 86.4 percent last week. At this time last year, EIA measured total refinery utilization at 93 percent. The year-over-year difference underscores the impact of unplanned refinery maintenance on markets across the country, including Marathon’s 383,000-b/d Los Angeles refinery’s Carson facility and the 200,000-b/d McKee refinery in West Texas, which has led gasoline production to tighten.”

While the Midwest floods in mid-March did affect ethanol transportation and some individual facilities, this occurred at a time when ethanol inventories were at record levels (Figure 5). Stocks in most regions, including the Gulf Coast and East Coast, are above year-ago levels. West Coast inventories have been declining since the start of the year but are slightly above the minimum levels experienced over the last 12 months.

Figure 5. Ethanol Stocks for the U.S. and by PADD



Source: EIA

In summary, given the steep discount of ethanol prices to the prices of gasoline and competing sources of octane, ethanol has been helping to hold down gasoline prices for consumers in the vast majority of the country.