**To:** Severin Borenstein

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**Date:** XX

**Subject:** Analysis of Retailer and Refiner margins in relation to the MGSThis memo provides an analysis of refiner and retailer margins based off rack pricing data from the commercial data providers DTN and OPIS. These lead to the following conclusions:

1. Using the commercial data, we reconstruct the MGS using the same methodology as Borenstein (2017) and find the results are largely identical to calculating the MGS using the publicly available data.
2. The CA Mystery Gas Surcharge (MGS) appears to be generated between the **spot and rack markets**, *not* between the rack and retail markets. This would suggest the MGS is associated with *refiner*, not *retailer* margins.
3. Since approximately the date of the Torrance Refinery Fire in February 2015, there is an increasing gap between branded and unbranded rack prices. We believe this likely reflects market power in the distribution component of the supply chain, with branded, Dealer Tankwagon (“DTW”) prices resulting in higher costs for retailers, which is reflected in higher retail prices.

**MGS calculation**

**Rack – Spot Differential**

With rack prices, a natural place to start is comparing rack prices to spot prices. Recall that refiners consider spot prices ‘spot replacement costs’, or the cost of making up for gaps in their rack contracts. Our intuition is that rack prices are more susceptible to refiners’ pricing powers than spot prices. Below I have plotted the real difference (in March 2023 $) between rack prices at various rack terminals across CA and their associated Spot Markets.[[1]](#footnote-1)

Chart, histogram

Description automatically generatedAlthough our rack price data does not go as far back in time as the MGS estimate does, we can see for the approximately 2 years before the Torrance Refinery Fire that the differential was near 0 and increased almost immediately after the Fire and has been largely increasing since, with some stagnation post-2020.

**Retail – Rack Differential**

Next, I subtracted rack prices from the state average for CA retail prices, taken from EIA. This is once again real, in March 2023 $. This is an approximate of the exact spread; using OPIS gas-station level data we can create a more granular approach to this data. However, for an initial assessment this gives us an idea of the retail-rack spread.

Graphical user interface, chart, histogram

Description automatically generated

First, this spread was very elevated prior to the Refinery Fire, and its level has been approximately unchanged *overall* from 2015-2024 when the data ends. Second, the MGS does not appear to follow this spread the same way trends in MGS reflect changes in the rack – spot differential. This contrast suggests that the MGS is showing up in *refiner*, not *retailer* margins. This result has also been independently discovered by the California Energy Commission staff.

**Branded-Unbranded Rack Spread**

Below I’ve plotted the spread between the average branded rack price and average unbranded rack price at selected rack terminals, all in March 2023 $.

Chart, histogram

Description automatically generated

As this plot makes clear, there is a large gap between unbranded and branded averages; this gap has been widening since before the Torrance Refinery Fire and has remained elevated since 2012.[[2]](#footnote-2) This further suggests that there is a story about market/pricing power; branded gasoline is sold in a completely different way at the rack than unbranded gasoline is, with contracts and requirements of retailers. We are working with the CEC to understand these contractual requirements better.

1. I matched each individual rack terminal with its associated Spot Market. For example, San Jose

   is matched to the San Francisco spot market and San Diego is matched to the Los Angeles spot market. CA only has two spot markets: San Francisco and Los Angeles. [↑](#footnote-ref-1)
2. This gap between branded and unbranded rack prices does *not* hold for all brands. For example, for some rack fuel terminals where Valero has a large share of rack sales, this relationship is inverted. We hypothesize that this is because of Valero-specific market strategies. If we were able to create a branded average *excluding* Valero, this spread would likely be greater. Thus, this plot should be thought of as a minimum for the difference between branded and unbranded rack prices. [↑](#footnote-ref-2)