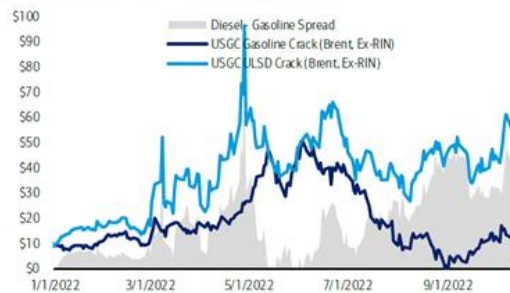


## High RIN Costs are Putting Fuel Supplies at Risk

- The “crack spread” represents the difference between the posted benchmark price of gasoline (RBOB/CBOB) and diesel and the price of crude oil.
  - While a proxy for refinery profitability, it doesn’t take into account differences in operational costs or other factors that determine what portion of the crack spread refiners can capture as profit.
- While merchant refiners do not have the same ability as integrated oil companies to recover the full crack spread, and not all refiners pay the same price for crude or receive the benchmark price for gasoline and diesel, the price of the RIN is reflected in the benchmark “crack spread.”
- However, while the RIN price is reflected in the benchmark price of RBOB/CBOB, it is a cost and, as such, does not contribute to profitability. As a result, financial analysts subtract RINs from crack spreads to assess refining sector earnings potential.
- As an example, in October, Bank of America expressed concern that gasoline cracks minus RINs were flirting with negative territory:
  - “Gasoline cracks are trading in positive territory through the forward curve, which is an improvement from recent levels suggesting negative gasoline cracks (ex-RIN) several weeks ago.”<sup>1</sup>

**Exhibit 2: Diesel, USGC Gasoline, ULSD historical**

Cracks have fallen from summer high but have risen off lows

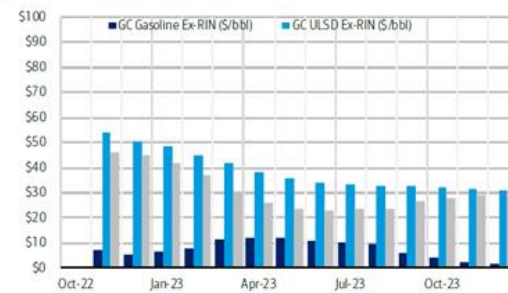


Source: BofA Global Research

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**Exhibit 3: GC gasoline and diesel crack forward curve**

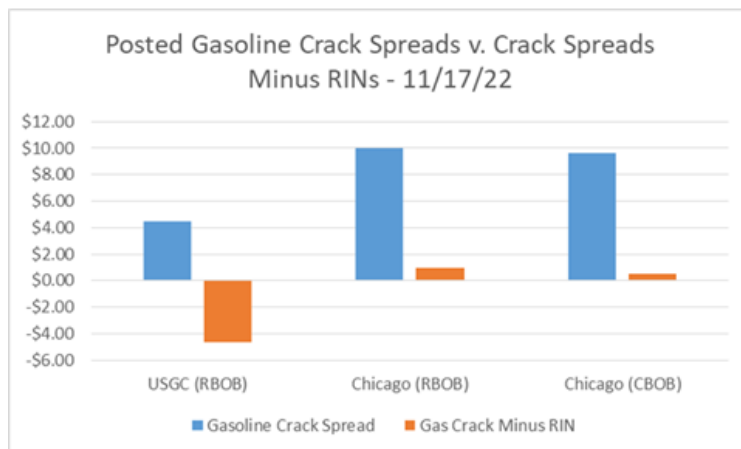
Diesel crack are now above \$53



Source: BofA Global Research

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- Unfortunately, in recent weeks, gasoline crack spreads minus RINs in the Gulf Coast have turned negative, with Mid-Continent near break-even.



Y axis = \$/barrel; RINs = \$9.06/barrel

- Since gasoline represents two thirds of a refinery’s output, negative gasoline margins after subtracting RINs incentivizes run cuts, regardless of distillate margins, putting both gasoline AND diesel supplies at risk as the nation faces West Coast gasoline and Northeast heating oil supply shortfalls.

<sup>1</sup> Bank of America Global Research – U.S. Oil and Gas. “OIM# 610: Revisiting the Regional Golden Age of Refining: the winter seasonal trade.” October 14, 2022