Rabobank

Flashpoint

Could Oil and Gasoline Trends Further Boost Ethanol and Sugar Prices in 2022?

RaboResearch
Food & Agribusiness
far.rabobank.com

Andy Duff
Global Strategist – Sugar
+55 11 5503 7235

Contents

Connected Markets	1
Brazil's Fuel Market: Structure and Economics	2
Recent Developments	2
Where to From Here?	3
Final Thoughts	5

Summary

Import parity is the reference for gasoline pricing in Brazil. It connects international oil and gasoline prices to Brazilian ethanol prices and, ultimately, to world sugar prices.

On March 10 this year, Petrobras, the dominant supplier in Brazil's motor fuel market, announced increases of 19% and 25% to its ex-refinery prices of gasoline and diesel, respectively. Before that, the prices had remained unchanged since mid-January 2022. Between then and Petrobras's announcement, oil prices had risen 29% in USD terms and 17% in BRL terms.

Looking ahead, the key drivers of the import parity price of gasoline will be international oil and gasoline prices and the BRL/USD exchange rate. International oil and oil derivatives prices remain volatile, as the market struggles to respond to the consequences of the Russia-Ukraine war. The BRL/USD exchange rate is also volatile, as the market weighs the effects of interest rate trends in Brazil and the US, plus the upcoming election in Brazil.

Meanwhile, skyrocketing diesel prices suggest that ex-refinery gasoline prices may have to rise significantly in order to persuade refiners to dedicate sufficient capacity to gasoline production. This is especially the case in the US, which supplies the majority of Brazil's gasoline imports, where the seasonal peak in demand during the US summer 'driving season' is approaching.

All of this points to upside risks for world oil and gasoline prices during 2022, which could spill over into the Brazilian ethanol and world sugar markets.

Connected Markets

International oil prices were already high, at USD 90/bbl (basis Brent), before Russia invaded Ukraine at the end of February 2022. Since then, the market has seen considerable volatility and some sharp price spikes.

In Rabobank's recent report, *Lack of Capacity: Oil Market Outlook*, energy strategist Ryan Fitzmaurice sees more upside than downside for international oil prices in the coming months. He also highlights that, with diesel prices skyrocketing around the world since the start of the Russia-Ukraine war, US refiners, already operating at the limit of their capacity, are currently maximizing their diesel output. This suggests that, with the beginning of the US driving season imminent, gasoline prices may well have to rise in order to ensure that US refiners produce sufficient gasoline. This movement would likely be reflected in world market gasoline prices.

Oil, gasoline, and sugar markets are connected via links tracing international oil and gasoline prices to Brazilian gasoline prices at the pump, which, in turn, influence local ethanol prices. (Hydrous ethanol is a substitute for gasoline and is sold at every gas station in the country

alongside gasoline.) The pump price of ethanol impacts ex-mill ethanol prices, which millers compare with ex-mill returns from sugar in order to allocate cane use between the two products in a way that maximizes margins. The sugar market tends to be sensitive to any significant change in this allocation, because Brazil is by far the world's largest exporter of sugar.

Brazil's Fuel Market: Structure and Economics

Petrobras is the dominant local producer of gasoline and diesel, and the company's ex-refinery price is a benchmark for local gasoline prices. Petrobras uses the import parity price of gasoline as a reference for domestic pricing.

There is an apparent contradiction in Brazil's fuel market: The country is an oil exporter, yet it needs to import diesel and gasoline in order to fully satisfy domestic demand. The explanation for this is that Brazil's current refining capacity cannot process enough domestic oil in order to meet the country's fuel needs. There are both quality and volume elements to this capacity shortfall.

Much of Brazil's refining capacity was constructed to process light crude at a time when Brazil imported large volumes of such oil from Saudi Arabia. Although Brazil's newest 'pre-salt' oilfields produce light oil, a significant share of the rest of its oil is heavy grade, which local refineries are not set up to process.

Maximum refinery capacity utilization in recent years has been around 80%. Petrobras (which owns the majority of the country's refining capacity) announced in early April that in the last week of March 2022 its refineries ran at a rate of 91% capacity utilization. The message is that the scope for boosting refinery throughput to ultimately eliminate the need to import gasoline – or diesel, or both – is limited.

As a result of these structural features, Brazil's total gasoline demand is met from three sources: supply from Petrobras's refineries; supply from the country's one independent refinery (owned by Acelen, a subsidiary of Abu Dhabi's sovereign wealth fund, and acquired from Petrobras in 2021); and supply via gasoline imports from the US, made by independent players and by Petrobras.

What does gasoline pricing mean for ethanol? The majority of fuel ethanol sales are of hydrous ethanol, a direct substitute for gasoline in flex-fuel cars, which dominate the local fleet. Anhydrous ethanol, which is added to gasoline at a mandatory rate of 25%, is priced off hydrous ethanol.

Motorists compare the cost of hydrous ethanol versus gasoline per kilometer driven. As a liter of ethanol contains only around 70% of the energy of a liter of gasoline, ethanol tends to lose its appeal once its price is over 70% of the gasoline price (common during the off-crop period) and gain appeal as it moves further below the 70% mark (common at the peak of the harvest).

But even as ethanol's seasonal supply/demand balance impacts its pricing and discount to gasoline, it's clear that higher gasoline prices help to support millers' margins. Ethanol priced at 60% of gasoline if gasoline is BRL 7.50 a liter at the pump would be more remunerative to millers than ethanol at 70% of gasoline if gasoline is BRL 6.00 a liter at the pump.

Recent Developments

On March 10 this year, Petrobras announced increases of 19% and 25% to its ex-refinery prices of gasoline and diesel, respectively. Before that, the price had remained unchanged since mid-January 2022. Since then, however, USD-denominated oil prices (Brent) rose by 29%. The increase in BRL was lower, at 17%, owing to an appreciation of the currency, but still significant.

These price hikes come as an election looms on the horizon and at a time when inflation is already painfully high for consumers. As in many other countries around the world right now, fuel prices have become a political as well as an economic issue.

Petrobras has a complicated ownership structure. It has shares listed on both the São Paulo and New York stock exchanges, but it has a dual-class share structure, with the Brazilian government owning a majority of the voting shares. This gives the government significant influence over some aspects of the company – as was clearly illustrated at the end of March 2022 when, in the wake of the price hikes, the (then) CEO was dismissed. Does this suggest that the pricing policy could be changed? Because, if so, it could have implications for ethanol prices.

Given that the country needs to import gasoline and diesel, any radical departure from import parity pricing has significant consequences for Petrobras and other fuel sector players and for the wider fuel market:

- If local pricing were to be structurally below import parity, imports would either not take place, leading to supply shortages, or imports would be made at a loss.
- If imports were made at a loss, who would bear this loss? In the case of Petrobras, this could put management in a very difficult situation, as its by-laws state that members of the board of directors and executive board can be liable for actions that negatively impact the company.
- Petrobras and the Administrative Council for Economic Defense (CADE), Brazil's competition authority, agreed in 2019 that Petrobras would sell off a number of refineries in order to boost investment and competition in the sector. How likely is it that more private sector players would be interested in entering the Brazilian refining sector if the import parity price model were to be abandoned?

For these reasons, independent fuel sector specialists and current and previous Petrobras CEOs have regularly emphasized the logic and necessity of the current pricing model.

Where to From Here?

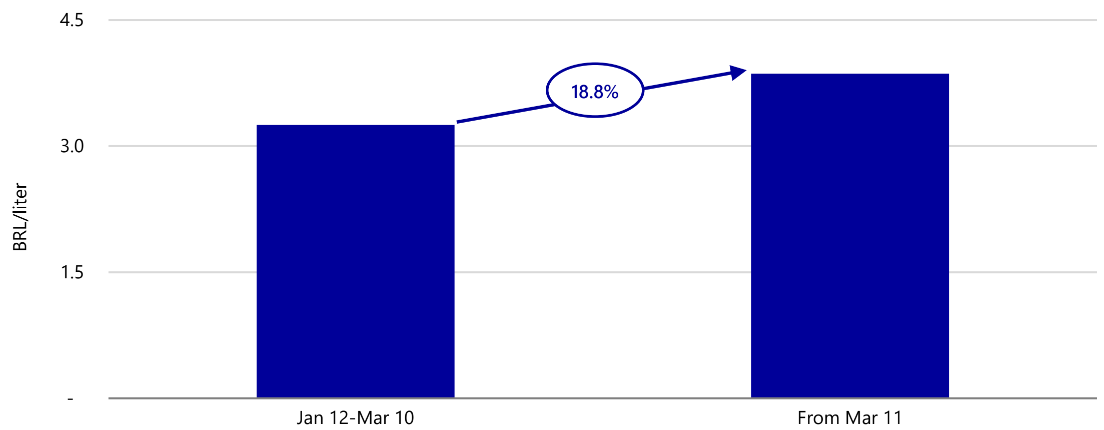
We do not know with any certainty what the future will bring for oil prices and for the BRL/USD exchange rate in the coming months and beyond. However, we can identify the combinations of future oil prices and exchange rates that would generate pressure for a further increase in ex-refinery gasoline prices.

Figure 1 displays the average ex-refinery gasoline price (excluding taxes) before and after the March 2022 price increase implemented by Petrobras. As of March 11, the new price has been BRL 3.86 per liter.

The line displayed in Figure 2 illustrates our simulation of all the combinations of Brent oil price and BRL/USD exchange rates that would result in an ex-refinery price of BRL 3.86 per liter. This model-based simulation is nothing more than a rough guide, a simplification of reality. For example, imports of gasoline are actually priced off Gulf gasoline quotations (which may not strictly follow oil prices) and incorporate a variable adjustment for the quality of gasoline purchased. However, we believe the benefits of using indicators that are easy to access and monitor make up for any loss in accuracy.

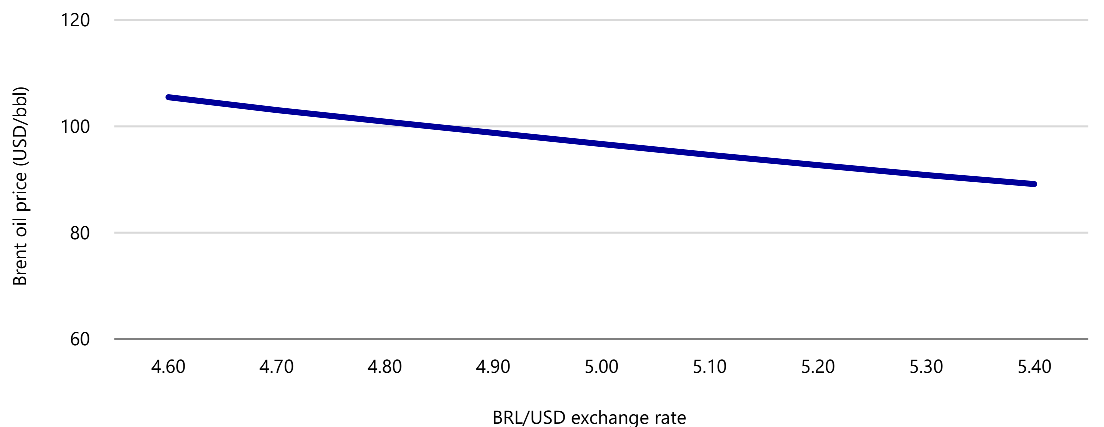
Sustained combinations of oil prices and exchange rates that are significantly above the line in Figure 2 are likely to generate pressure for another price increase. Combinations below the line would permit ex-refinery prices to be maintained or even lowered.

Figure 1: Petrobras average ex-refinery gasoline prices (excluding tax), 2022



Source: Petrobras 2022

Figure 2: Combinations of Brent oil price and BRL/USD exchange rate leading to an import parity price of BRL 3.86 per liter



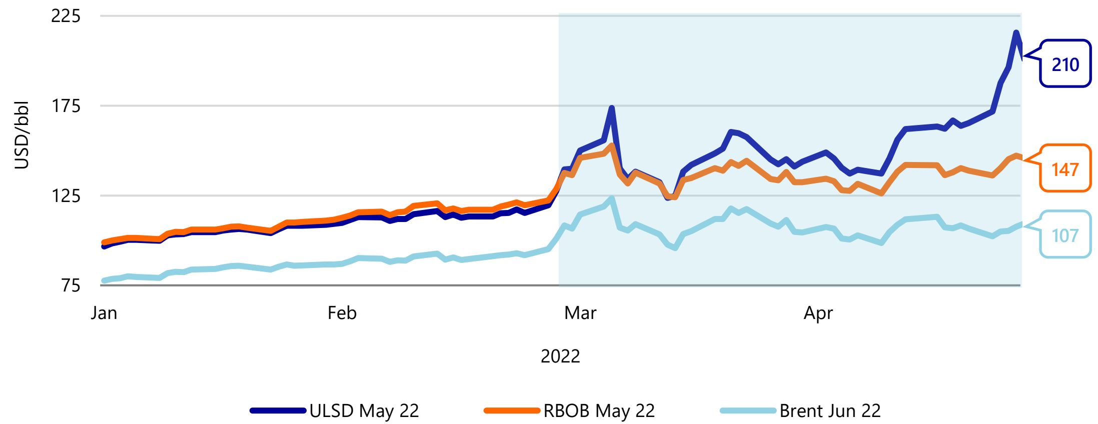
Source: Rabobank 2022

For sugar players around the world, Figure 2 should provide some sort of guidance as to whether the indirect support world sugar prices receive from Brazilian fuel prices could be pushed in one direction or the other in 2022 and beyond, assuming that international market prices remain the key determinant of local fuel prices.

However, due to special circumstances in 2022, the oil price may not necessarily be the best guide to the gasoline import parity price in the coming months. As mentioned at the beginning of this report, it is possible that there could soon be a gasoline price spike in the US that would have a knock-on impact on Brazil's import parity price. This is because US and world diesel prices have spiked since the beginning of the Russia-Ukraine war, detaching themselves from their normal relationship to oil prices (*see Figure 3*).

US gasoline prices may have to similarly detach themselves from oil prices and follow diesel upward in order to persuade US refiners to dedicate sufficient refining capacity to gasoline production to meet the seasonal peak in demand during the US summer 'driving season,' as discussed in the aforementioned oil market outlook report. If this were to happen, FOB US gasoline prices and international prices in general would likely rise in parallel.

Figure 3: Diesel (ULSD) prices have detached themselves from Brent oil prices, and gasoline (RBOB) may need to follow



Source: Bloomberg, Rabobank 2022

Final Thoughts

If Brazilian ex-refinery gasoline prices were to rise further, it is still possible that there could be some intervention in the market in the form of a temporary tax suspension. Federal tax on diesel was suspended in the wake of the March 10 price hikes, in order to partially compensate for the increased ex-refinery price. But the impact on pump prices of a suspension of federal taxes would be modest (Rabobank estimates a 10% decline), while at the same time generating a negative impact on the public finances, which already look fragile.

Much of the hedging of sugar for export this season has already been done by Brazilian millers, but they have backed off recently so as to retain some flexibility given the uncertainty around the sugar/ethanol arbitrage over the season. In the face of any pronounced increase in the relative profitability of ethanol, mills can opt to wash out previous established sugar hedges and contracts if the benefits outweigh the costs of a washout. But for now, Brazil's millers are keeping their options open and watching the oil, gasoline, and FX markets more than ever.

Imprint

RaboResearch
Food & Agribusiness
far.rabobank.com

Andy Duff	Global Strategist – Sugar	andy.duff@rabobank.com +55 11 5503 7235

© 2022 – All rights reserved

This document is meant exclusively for you and does not carry any right of publication or disclosure other than to Coöperatieve Rabobank U.A. ("Rabobank"), registered in Amsterdam. Neither this document nor any of its contents may be distributed, reproduced, or used for any other purpose without the prior written consent of Rabobank. The information in this document reflects prevailing market conditions and our judgement as of this date, all of which may be subject to change. This document is based on public information. The information and opinions contained in this document have been compiled or derived from sources believed to be reliable; however, Rabobank does not guarantee the correctness or completeness of this document, and does not accept any liability in this respect. The information and opinions contained in this document are indicative and for discussion purposes only. No rights may be derived from any potential offers, transactions, commercial ideas, et cetera contained in this document. This document does not constitute an offer, invitation, or recommendation. This document shall not form the basis of, or cannot be relied upon in connection with, any contract or commitment whatsoever. The information in this document is not intended, and may not be understood, as an advice (including, without limitation, an advice within the meaning of article 1:1 and article 4:23 of the Dutch Financial Supervision Act). This document is governed by Dutch law. The competent court in Amsterdam, the Netherlands has exclusive jurisdiction to settle any dispute which may arise out of, or in connection with, this document and/or any discussions or negotiations based on it. This report has been published in line with Rabobank's long-term commitment to international food and agribusiness. It is one of a series of publications undertaken by the global department of RaboResearch Food & Agribusiness.