

A Tempest in the Oil Vat: Shocks to the Global Vegetable Oil Markets

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A series of events have impacted the global supply of vegetable oils during 2021 and 2022, which have resulted in historically high prices for these oils. According to the Food and Agricultural Organization (FAO), this has been a major contributor to rising global food prices. Exports of major vegetable oils in several key exporting countries have been impacted by events (including drought in Canada, Argentina, Brazil, Russia's war on Ukraine, and Indonesian and Russian government policies that may restrict exports) that contributed to the increase in prices. It appears that, near term, vegetable oil markets will continue to be impacted by these events.

Vegetable oils

Vegetable oils, which are primarily used as cooking oils or ingredients in both food and non-food applications (e.g., cosmetics), can be derived from a range of plants. Among the most consumed of these are those extracted from oilseeds, such as soybeans, rapeseed, and sunflower, as well as oil palm and olive trees. Most oils go through an initial processing stage (for oilseeds this is commonly referred to as crushing) to extract the crude oil from the seed or fruit. Further processing produces refined oils and their fractions, which are sold for consumption. Oils have different characteristics (e.g., flavors and smoke points) that can impact their uses. However, the major vegetable oils (those with the highest production and trade)—palm oil, soybean oil, sunflower seed oil (sun oil) and rapeseed oil (i.e., canola oil)—are broadly substitutable in many applications (figure 1).

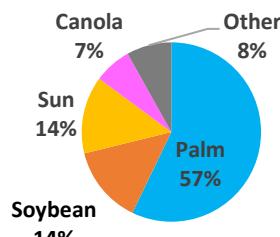
Major Global Suppliers

While all countries consume vegetable oils, exports—of both oils and the upstream oil stock—of the most consumed oils are heavily concentrated in a few countries. (In nearly all cases, exporters are also the largest producers of the oil.¹) The two largest exporters by oil type are, as follows: Indonesia and Malaysia account for 55% and 34% of global palm oil exports, respectively; Argentina and Brazil, 46% and 10% of soy oil; Ukraine and Russia, 50% and 27% of sun oil; and Canada and Russia, 57% and 11% of canola oil.²

Prices Soar in Response to Supply Shocks

Global vegetable oil prices have skyrocketed during 2021 and into 2022 (table 1). In March 2022, the FAO vegetable oil price index reached an all-time high. Mintec (a market research firm) estimated prices to be up 72% for canola oil, 61% for palm oil, 44% for sun oil, and 41% for soybean oil year-on-year (as of March 30). Prices have risen because of a number of events impacting tradable supply (some occurring after March), that have taken place in some of the largest exporting countries as laid out below:

Figure 1: Global Vegetable Oil Exports, by type



Source: USDA, PSD Online: Oils (all) MY 2018/19-2020/21, accessed April 25, 2022

Table 1: FAO Annual Vegetable Oil Price Index, 2014-16=100

Year	Oils Price Index
2020	99.4
2021	164.9
2022	212.1

Source: FAO, Price Indices for Oilseeds, accessed May 26, 2022

¹ China is the world's largest soybean oil producer (28%), but its exports are small (about 1%). China's soybean oil production is dependent on imports of soybeans, especially from Brazil and the United States.

² Unless otherwise noted data are based on an average of 2018/19–2020/22 from PSD Online. These data are not comprehensive, but include all major edible oils plus palm kernel, olive, cottonseed, peanut, and coconut oils.

Canola and Soybean Oils: Both soybeans and rapeseed have been impacted by drought during 2021–22. A 2021 drought in western Canada reduced the country's canola harvest from the previous year by almost 36% (soybean were also down about 1%). In November 2021, a severe drought began damaging crops in Argentina and southern Brazil, reducing the estimated soybean harvest in those locations.³ Argentina expects to see one of its smallest harvests in a decade, although the impact on Brazil is expected to be relatively minor as the drought was concentrated in the southern states. These actual and anticipated production shortfalls have contributed to increased oil (and oilseed) prices. While drought conditions appear to have eased somewhat by April 2022, conditions are still drier than average. Of note, climate change is increasing weather events such as droughts. While some in industry are taking steps to adjust production practices in response to changing conditions, these events could impact future production.

Sun Oil: On February 25, 2022, Russia attacked Ukraine and as of May its war was ongoing. As a result, sun oil exports have been greatly disrupted. Ukraine has suspended crushing operations as well as operations at ports. USDA estimates that Ukraine's exports of sun oil will be 18% lower in 2021/22 compared to average exports of the previous three years. It estimates Russia's exports would only decline about 1%. There is a great deal of uncertainty surrounding the supply of sun oil in the near term. On May 4th, Russia announced it was increasing its sun oil export duty to 41% as of June 1st to try to control domestic prices. This is likely to tighten global vegetable oils supplies. Also, the FAO estimates in 2022 that area planted in Ukraine with sunflower seeds will be 35% lower than in 2021. The inability of Ukrainian farmers to plant may have an impact on world vegetable oil trade and prices in 2022 and into 2023.

Palm Oil: Since the start of 2022, Indonesia has started enacting policies that reduce its exportable supply of palm oil, the world's most consumed edible oil. In January 2022, the government began requiring palm oil exporters to obtain export approval and it established the Domestic Market Obligation (DMO). The DMO initially required exporters to sell 20% of their exportable supply domestically, but this was raised to 30% in March. On April 28th Indonesia enacted a ban on palm oil exports that lasted until May 23rd. This ban, which did not include crude palm oil, was aimed at reducing domestic palm oil prices. It was lifted as domestic prices fell although exporters are still subject to the DMO. (Per GTA data, crude palm oil accounted for roughly one-third of palm oil exports during 2016–20, but only 11% during 2021.) The Indonesian government's policies seek to ensure a reasonably priced domestic supply of palm oil. However, palm oil trade is economically important in Indonesia. It is one of the country's top two exports, and according to the United Nations contributed to 4.5% of GDP in 2019. Overall, it is unclear how much palm oil Indonesia will export going forward. Press reports make it clear that such changes in government policies are expected to influence global oil markets because of Indonesia's importance as the largest producer and exporter of palm oil.

Conclusion

Vegetable oil prices seem likely to remain relatively high (near term), although markets have reportedly started to respond to the current conditions (e.g., producers increasing production of oilseed crops and drawing down oilseed stocks and importers diversifying types of oils and suppliers).

Sources: Penn State Extension, "[Oils: What's Cooking](#)," 11/4/19; USPTO, [CPC Definition](#), 1/22; Wilson, "[Oil Prices Surge](#)," 2/17/22; Statistics Canada, "[Production of Principal Field Crops](#)" 12/3/21; Colussi et al. "[Soybean Prices Rise](#)," 2/25/22; Baranick, "[South America Calling](#)" 3/3/22; Gov. of Canada, [Canadian Drought Monitor](#), accessed 4/26/22; Franz-Warkentin, "[Drought Conditions Ease](#)," 2/8/22; Agricensus, [Indonesia to Ban Exports](#), April 22, 2022; Farm Policy News, [Indonesia Bans Palm Oil Export](#), 4/23/22; Reuters, [Indonesia's Palm Oil Export Ban](#), 4/25/22; Reuters, [Crude Palm Oil Excluded](#), 4/25/22; UNDP, [Indonesia](#), 5/8/19; S&P, GTA database, accessed 4/26/22; USDA: [PSD Online: Oil \(all\)](#), accessed 4/25/22; [Oilseeds: World Markets](#), Mar. & Apr. 2022; [Oilseeds Update \(Argentina\)](#), 2/28/22; [Oilseeds Annual \(Indonesia\)](#), 3/23/22; USDA, FAS, [Oilseeds Update \(Indonesia\)](#), 1/31/22; [Action Plan for Climate Adaption](#), 8/21; FAO: [Price Indices for Oilseeds](#), accessed 4/26/22; [Global Food Prices Rise](#), 3/2/22; [Food Price Index](#), accessed 4/26/22; [Ukraine](#), 3/25/22; AgriCensus, "[Russian June Duty on Sunoil Jumps](#)," 5/4/22; Christina and Nangoy, "[Indonesia Policy Uncertainty](#)," 5/23/22.