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INSIGHT

Oil Markets and Prices in 2021: Demand, Supply, and Policy Uncertainties

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Oil markets began 2021 following one of the most disruptive years on record. In the first half of 2020, Coronavirus Disease 2019 (COVID-19) pandemic-related demand suppression for oil-derived products (e.g., gasoline, diesel fuel, and aviation fuel) created historically large market imbalances. Petroleum inventories held in commercial storage increased quickly as product prices declined, refining profitability decreased, and crude oil demand collapsed. Oil prices fell rapidly and West Texas Intermediate (WTI) futures settled negative for the first time. Federal policy makers evaluated options to provide financial relief for U.S. oil producers, including exercise of Strategic Petroleum Reserve (SPR) authorities and royalty relief. Nevertheless, companies filed for bankruptcy protection, decreased asset values, and some U.S. refineries announced plans to either close or convert operations to produce renewable fuels. Oil prices began to recover following implementation of a production restraint agreement among the Organization of the Petroleum Exporting Countries (OPEC) and certain non-OPEC countries (collectively OPEC+), combined with economically motivated production declines in the United States, Canada, and other nations.

Relative market stability generally describes the second half of 2020. Petroleum product consumption increased. OPEC+ group-level compliance was near 100%. Implied demand/supply balances indicated an undersupplied market. Commercial inventories declined. WTI oil prices were mostly at or near $40 per barrel, but closed out 2020 at $48.52. Indicators suggest a recovering oil market with potential for higher, yet moderate, prices in the short term. However, demand, supply, and uncertainties in U.S. policy toward Iran could change 2021 market and price conditions.

Demand and Supply Uncertainties

Multiple factors can affect oil demand and supply, and relatively small imbalances can translate into large price movements. Demand uncertainty in 2021 is at heightened levels as countries continue pandemic management efforts. Successful deployment and effectiveness of a COVID-19 vaccine could materially increase economic activity and petroleum product demand, especially for aviation fuel. Other demand uncertainties include (1) general economic conditions and growth, a primary oil demand factor, and (2) pandemic-related structural/societal mobility and work changes (e.g., lower public transportation usage

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and increased telework). Current projections indicate that petroleum consumption in 2021 may not return to pre-pandemic levels.

Supply uncertainty in 2021 is also elevated. Some notable uncertainties include:

- ***Libya:*** Oil production in Libya—volatile since 2011 due to internal conflict—increased by nearly one million barrels per day following a United Nations-mediated peace agreement. Libyan officials have indicated plans to further increase production in 2021. Whether stable Libyan production will be sustained is unclear.
- ***OPEC+ agreement compliance:*** Ongoing compliance with, and potential adjustments to, the OPEC+ agreement—effective through April 2022—could affect market balances and prices. The group's monitoring committee will convene monthly to assess market conditions.

Additionally, U.S. policy regarding economic sanctions imposed on Iran is a source of supply uncertainty in 2021 that could influence markets and prices.

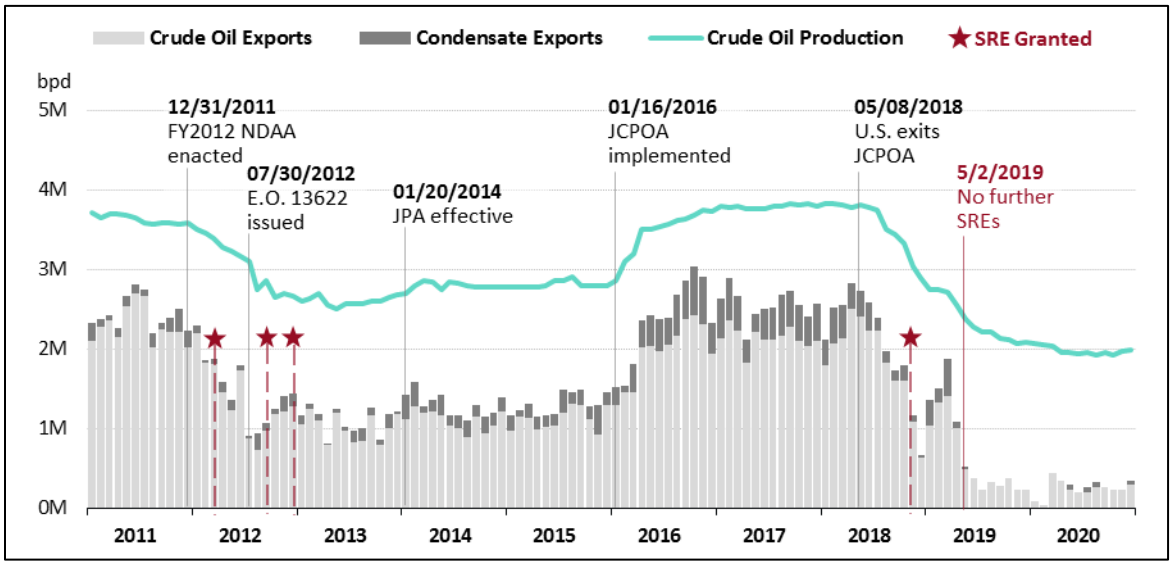
U.S. Economic Sanctions Policy: Iran Oil Exports

The United States has active sanctions regimes affecting three major oil-producing countries: Iran, Russia, and Venezuela. Iran sanctions affect Iran's entire oil sector, including finance and investment, shipping, trade, and insurance. Oil export sanctions imposed on Iran generally aim to discourage buyers from purchasing Iranian oil, thereby reducing export revenues, by sanctioning financial institutions that transact with Iranian banks and entities that purchase Iran's petroleum or petrochemical products. The oil export sanctions framework includes wind-down periods for market adjustments and requires oil market assessments and outreach to producing countries when applied.

Sanctions have materially affected Iran's oil production and exports (see **Figure 1**). Production volumes declined by approximately 50% following the Trump Administration's exit of the Joint Comprehensive Plan of Action (JCPOA). President-elect Biden has indicated intent to pursue diplomacy with Iran and rejoin the JCPOA, if Iran returns to full compliance with the agreement. Iranian President Rouhani has instructed Iran's Oil Ministry to prepare for crude oil production and exports at full capacity by March 2021. The framework does not include adjustment periods, market assessments, and producing country outreach, should sanctions affecting the energy sector be either eased or removed.

Figure 1. Iran Oil Production, Observable Exports, and Selected Sanction Events

January 2011-December 2020



Source: Crude oil production data from Bloomberg L.P. Export data from January 2011 through June 2015 from the International Energy Agency. Export data from July 2015 through December 2020 from Bloomberg L.P.

Notes: For additional background of sanction events, oil production, and exports referenced, see CRS Report R46213, *Oil Market Effects from U.S. Economic Sanctions: Iran, Russia, Venezuela*, by Phillip Brown.

Condensate is a light liquid hydrocarbon co-produced with oil and natural gas.

Export data from Bloomberg reflect "observable" volumes obtained from a vessel's automatic identification system (AIS) transponder. Following the U.S. JCPOA exit, Iranian oil tankers often disable AIS transponders. Actual Iranian export volumes could be higher.

FY2012 NDAA = National Defense Authorization Act for Fiscal Year 2012 (P.L. 112-81); E.O. = executive order; JPA = Joint Plan of Action (interim agreement); bpd = barrels per day; JCPOA = Joint Comprehensive Plan of Action; SRE = Significant Reduction Exception.

Iran's potential return to pre-sanctions output could increase supply by as much as two million barrels per day (approximately 2% of global petroleum supply), volumes that could noticeably affect markets. Iran, an OPEC member, is exempt from the OPEC+ production agreement. Should the Biden Administration move to ease sanctions, timing and volumes of additional Iranian supply could depend on the administrative mechanism employed (i.e., enforcement relaxation, significant reduction exceptions, or compliance verification and administrative waivers). Additional Iranian barrels would put downward pressure on oil prices, although actual price effects would depend on other market variables as well.

Numerous uncertainties affect oil and petroleum price forecasts for 2021. Current forecasts indicate moderate and stable oil prices with commercial inventories, additional supply, and high OPEC spare production capacity expected to limit price increases. However, unforeseen geopolitical, market disruption, and policy events could quickly change the 2021 outlook. Longer term, federal-level environment, carbon, trade, efficiency, and climate policies—should they be enacted—could also affect oil markets and prices.

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