BOX 1 Oil market implications of the strike on Saudi Aramco facilities

On September 14, 2019, two of Saudi Arabia's oil facilities were attacked. Oil prices jumped on the first day of trading following the attack, but the response was more muted and shorter-lived than in previous episodes. Prices returned to their pre-attack levels by the end of September amid a rapid resumption of Saudi oil production, a coordinated policy response in other oil producers, more diversified global oil production and refining capacity, and weak global demand.

Introduction

On September 14, 2019, two of Saudi Arabia's oil facilities were attacked—Abqaiq, the largest crude oil processing plant in the world, and Khurais, Saudi Arabia's second largest oil field. The attacks led to the shutdown of 5.7 mb/d of output—around half of Saudi Arabia's production capacity and 6 percent of global oil production—and was the largest conflict-driven reduction in production (Figure B.1). Of the conflict-related reductions in output since the 1970s, only those during the Iranian revolution in 1978-79 and the Iraqi invasion of Kuwait in 1990 come close, with unanticipated, rapid and steep production disruptions. However, in contrast to these earlier disruptions, the recent one was rapidly reversed.

In response, the price of Brent crude oil jumped 15 percent, from $60 to $69/bbl. However, amid weak global oil demand and coordinated responses among oil producers, prices returned to their pre-attack levels by the end of September. This box discusses the policy response and market reaction to the attacks, and compares them to previous such episodes.

Policy response

Immediately after the attacks, Saudi Arabia drew on its oil reserves to help meet existing orders, although the exact quantities are unknown, and rapidly began restoring its facilities. By end-September, it had returned to its pre-attack level of production. As such, the total loss of production for September as a whole was 0.8mb/d—a sizeable reduction (8 percent of monthly average output in 2019), but much smaller than the initial disruption. Saudi officials expect spare capacity to be fully restored by end-November, but it could take longer given the complexity of the repairs according to the IEA's October 2019 report.

Spare capacity outside of Saudi Arabia is small, and a delayed return to full capacity could leave the global oil market vulnerable to another supply disruption. That said, other oil producers promptly signaled their readiness to stabilize prices if needed. The United States announced that, if necessary, it would release stocks from its Strategic Petroleum Reserve (0.65 billion barrels). The International Energy Agency noted that it would coordinate efforts to use the strategic reserves of its members, if needed. OECD inventories are estimated at 4.5 billion barrels according to the IEA, or about 45 days of global demand. Of these, one-third is controlled by governments and two-thirds is held by industry. Global inventories, which include less-reliable estimates from non-OECD countries, are approximately 6 billion barrels, equivalent to 60 days of global demand.

Market response

Following the attack, Brent prices rose by 15 percent—the largest daily price spike since 1988 (when Brent oil prices began trading on futures exchanges). Within two weeks, however, prices had returned below pre-attack levels. The oil futures curve also suggests that the longer-term price impact of the attacks has been negligible. For example, the December 2024 futures contract was essentially unchanged at end-September relative to the contract prior to the attack.

Despite the record disruption to production, the initial market response was more muted than during most previous conflict-driven production disruptions and prices returned faster to pre-attack levels. For example, within two months, spot oil prices tripled in response to the Arab oil embargo of 1973 and doubled in response to Iranian revolution of 1978 and the Iraqi invasion of Kuwait in 1990. The price increases in 1973 and 1979 were particularly long-lasting, while those in 1990 were reversed as the conflict subsided after several months. Indeed, the Kuwait attack is the most similar to the recent attack, as they were both of similar magnitude, and were resolved by globally coordinated action. In contrast, other production disruptions did not cause price spikes, most likely because events unfolded gradually.

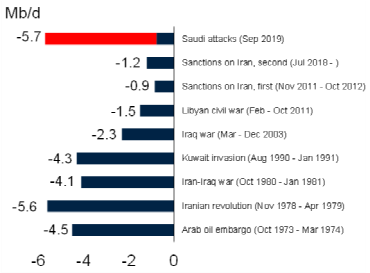
In addition to the quick resumption of Saudi production and the coordinated policy response of

BOX 1 Oil market implications of the strike on Saudi Aramco facilities *(continued)*

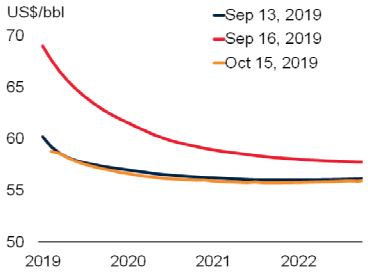
FIGURE BOX 1.1 Conflict-driven oil supply disruptions and oil prices

The September 14 attack on Saudi Arabia's oil infrastructure was the largest conflict-driven disruption in history, although the outage was short-lived. As such, the spike in prices following the attack also unwound by the end of September, and the futures curve is the same as its level prior to the attack. The attack was most similar to Iraq's invasion of Kuwait in 1990. Once policy measures were announced, the price declined in a similar fashion, although the recent fall in prices was smaller.

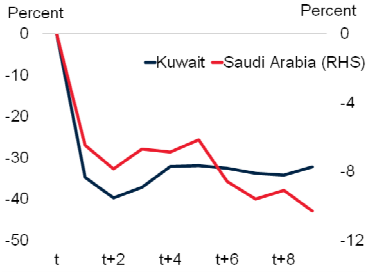
A. Conflict-driven oil supply disruptions



B. Evolution of Brent futures prices



C. Change in daily oil prices



Source: Bloomberg, EIA, IEA, OPEC, World Bank.
A. Initial impact of Saudi attack shown in red, impact for the month of September shown in blue.
C. Figure shows the percent change in Brent crude oil prices in the aftermath of a geopolitical event. The blue line shows the change from January 16, 1991, the date of the U.S.-led response to Iraq's invasion of Kuwait, while the red line shows the change from September 16, 2019, following the attack on Saudi Arabia's infrastructure.
Download data and charts.

other oil producers, several factors have contributed to the muted market response to the attacks both for short- and long-term price expectations.

Short-term factors

- The attacks occurred against a backdrop of slowing global growth and repeated downward revisions to oil demand growth forecasts. Oil consumption is expected to grow by around 1 mb/d in 2019 and 1.2mb/d in 2020, levels usually seen during a global downturn.
- In 2020, oil production is expected to outpace consumption, with large production increases expected in Brazil (+0.3 mb/d), Norway (+0.4 mb/d), and the United States (+1.3 mb/d).

Long-term factors

- From a longer-term perspective, the geopolitical risk premium may have been suppressed by growing diversification of the oil industry. First, global oil production has become less concentrated, especially as a result of the rapid growth of shale oil production.
- On the demand side, growing diversification of refining capacity has reduced dependence on a single type of oil. A growing number of new, "complex" refineries, particularly in East Asia, are more flexible than traditional refineries and, in the event of shortages of particular types of oil, can more easily accommodate different grades of oil (e.g., light or heavy oil) from different sources.

Conclusion

The market response to the attack on Saudi oil facilities in September 2019 was short-lived by historical comparison. In part, this reflected a quick rebound of production in Saudi Arabia, a coordinated response by other oil producers and inventory-holders, increasing diversification of production and refining, and weak demand. However, the attacks were a reminder that the global oil market is still dependent on several critical infrastructure and transport bottlenecks.