

Impact of the War in Iran on the Agri-Food System

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Introduction

On February 28, 2026, U.S. and Israeli forces attacked Iran. This brief paper outlines the impact of the war on agricultural and input markets, particularly fertilizers, diesel, and interest rates. Commodity markets, especially corn and soybeans, and the price of food. General macroeconomic issues are also considered.

It is difficult to determine when the war will end. Prediction markets indicate that the greatest probability is that the war will end before June 30. The longer the war continues, the greater the impact on agricultural markets. A short war with a quick resumption of trade in the region will minimize the impacts of the war.

While the Strait of Hormuz is a major thoroughfare of agricultural products, petroleum, and fertilizers, Red Sea ports in Saudi Arabia have also been impacted by Iranian attacks (Werz). Also, oil producing and refining facilities are being attacked. This will make it more difficult for the global economy to recover from the war.

The war has increased the cost of farming. Fertilizer and diesel prices have increased due the region's importance as an oil and fertilizer producer. Crop prices have also increased somewhat, but in the long term, there is somewhat more uncertainty as to the long term impact on agricultural prices. The potential loss of export markets could reduce the price of U.S. agricultural commodities. Higher input costs improve the profitability of soybeans relative to corn.

Food prices will also increase. This will be primarily due to higher oil and diesel prices driving up transportation costs throughout the food supply chain. Higher oil prices will be felt throughout the economy and drive up inflation. This will further impact the farm sector by keeping interest rates elevated.

Impacts on Fertilizer and Diesel

Nitrogen fertilizer and phosphorus fertilizers are especially impacted by the war. Much of the world's fertilizer and natural gas flows through the Strait of Hormuz, a major shipping lane separating Iran from the Gulf States of the United Arab Emirates and Oman. Approximately 20 percent of global liquid natural gas exports, and 20 to 30 percent of global fertilizer exports go through the straits (Curtis, Virzi, and Welsh). Natural gas is a key input in the production of nitrogen fertilizer. Saudi Arabia and Israel account for about 17 percent of global phosphate fertilizer exports (Curtis, Virzi, and Welsh). From February 27 through March 13, the price of Diammonium Phosphate (DAP) rose from \$627.42 a ton to \$647.50, an increase of 3.2 percent. The March futures price of urea rose from \$465.64 a ton in February 27 to \$599.50 on March 13, an increase of 28.7 percent. April urea prices rose from \$444.47 on February 27, to \$635.00 on March 13, an increase of 42.9 percent. Fertilizer prices were already high due to the war in Ukraine and Chinese restrictions on exports (Werz), and the war in Iran has made the situation worse.

The war has disrupted the global oil market. Twenty seven percent of global oil exports go through the Strait of Hormuz (Curtis, Virzi, and Welsh). The International Energy Agency believes the war has caused the largest oil supply disruption in history (Youssef). Nations in the Gulf region have reduced output by 10 million barrels a day – roughly 10 percent of global demand (Youssef). Even if the war were to end quickly, it will take several months for output to return to prewar levels. At least three ships in the Straits of Hormuz are currently disabled which will further likely delay the return of oil shipments to prewar levels.

The potential deployment of sea mines will also delay the opening of shipping lanes once the war is over (Curtis, Virzi, and Welsh).

April West Intermediate Crude prices rose from \$65.15 on February 27 to \$94.15 on March 16, an increase of 44.5 percent. The price of diesel fuel has increased dramatically since the beginning of the war. According to the U.S. Energy Information Agency, the price of diesel in the Midwest rose from \$3.798 per gallon on February 23 to \$4.801 a gallon on March 9; an increase of \$1.003 a gallon. From March 2 to March 9, the price of diesel rose by 91.8 cents a gallon.

Impacts on Commodity Prices

The global uncertainty generated by the war has also impacted agricultural commodity prices. May corn prices rose from \$4.48 a bushel in February 27 to \$4.62 a bushel in March 13, an increase of 3.1 percent. December futures rose from \$4.61 in February 27 to \$4.88 in March 13, an increase of 5.9 percent increase. If the price of oil remains high, this might increase the likelihood of widespread acceptance of E15.

Soybean prices have also increased. May soybean prices have risen from \$11.62 in February 27 to \$11.92, an increase of 30 cents or 2.6 percent. November futures prices have increased from \$11.24 a bushel in February 27 to \$11.49 on March 13, an increase of 2.2 percent. Given the relative increase of fertilizer prices compared to crop prices, soybeans may be a more profitable crop to grow in 2026. As is the case with E15, higher diesel prices may increase the demand for biodiesel which will increase the demand for soybean oil.

Impact on Food Prices

Higher corn and soybean prices might increase food prices slightly. The long term impact of higher corn and soybean prices are likely to be relatively small. However, higher diesel prices will have an impact on food prices. Crops move from the farm to the elevator to the food manufacturing plant to a wholesaler to a supermarket or restaurant. Diesel fuel is used at every stage in the food supply chain, and large increases in the price of diesel will lead to higher food prices.

It is difficult to estimate what the impact on prices will be in the long run. Commodity prices generally rise in the short run as uncertainty drives demand for real assets. However, in the long run, prices in the U.S. may decline because of the loss of exports due to the shutdown of the Strait of Hormuz. This would put minor downward pressure on food prices. If the war ends in the early spring and the strait can be opened relatively quickly, the impacts on corn, wheat, and soybeans will be transitory and minor.

Macroeconomic Impacts

The long run impacts on the agri-food system are likely to be a result of macroeconomic factors. Rising oil prices have an adverse impact on both inflation and output. This is known as stagflation, rising inflation coupled with lower output and potentially higher rates of unemployment. It is estimated that a \$10 a barrel increase in price of oil will increase inflation by about 0.3 percent (Lachman) and gas prices will increase by about 30 cents a gallon. Since the start of the war gas prices have increased by 80 to 90 cents a gallon. This will adversely impact household spending on other items. Firms often address higher oil prices by cutting back on output and employment. The increase in the price of oil will be the primary driver of higher food prices.

The war has put upward pressure on interest rates. The 10 year T-bill rate has risen from 3.96 percent to 4.22 percent; the 5 year rate has risen from 3.51 percent to 3.80 percent and the 1 year rate has risen from 3.48 percent to 3.62 percent. At its most recent meeting the Board of Governors at the Federal Reserve Board decided to keep its interest rates unchanged. Borrowing costs for farmers are facing upward pressure.

Interest rates will likely remain higher in the long run. The war will increase the size of the federal deficit and keep upward pressure on interest rates. Some estimate that the cost of the war may be as high as \$1 billion per day (Werz). Higher deficits will also keep upward pressure on inflation. This is coupled with higher oil prices which place inflationary pressure on a wide range of products will limit the Federal Reserve's ability to lower interest rates.

In the short term, the value of the U.S. dollar is likely to increase as investors look for ways to reduce risk. This will adversely impact U.S. agricultural exports. However, in the long term, investors may look for alternatives to the U.S. dollar which might reduce the value of the dollar. If this occurs, U.S. agricultural exports will become more competitive, but a lower value of the dollar will also put upward pressure on inflation.

References

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