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IN FOCUS

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Oil Price Volatility and the Department of Defense

Oil Price Volatility

The price of crude oil historically rises or falls with the world economy. However, supply generally does not smoothly follow demand and numerous factors can impact crude oil prices (e.g., supply, demand, available supply, value of the dollar, geopolitical risks). Thus, oil prices can be volatile. Volatility in crude oil prices can disrupt or enable oil industry investments and production—factors that can have a ripple effect on the global economy. The market also responds to geopolitical events. For example, sanctions on crude oil may constrain supply, which can affect prices and access.

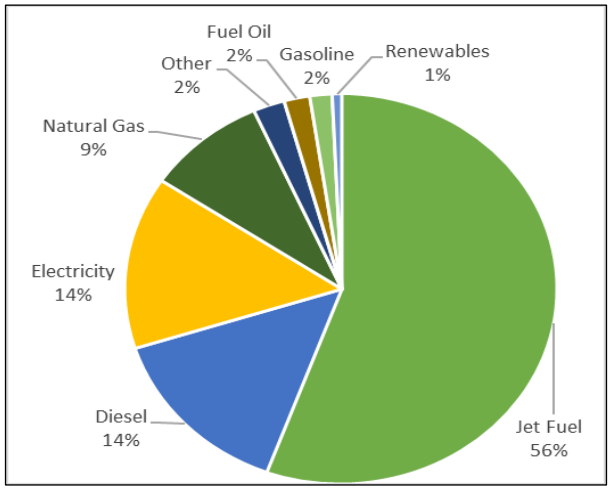
In general, the price of crude oil affects the price of petroleum products (e.g., gasoline, jet fuel) for U.S. consumers, including the Department of Defense (DOD). This In Focus discusses the impacts the price of crude oil has on fuel procurement for DOD. It also illustrates some recent geopolitical events that may have an impact on price and how DOD budgets to accommodate oil price volatility.

Oil Price Effects on Defense Spending

DOD uses more energy than any other federal agency. In FY2017, DOD spent about $11.9 billion on energy, roughly 76% of the entire federal government's energy expenditures. DOD depends heavily on petroleum products (e.g., jet fuel, diesel, fuel oil) to perform mission operations (see **Figure 1**). Historically, operational energy (energy required for training, moving, and sustaining military forces and weapons platforms for military operations and training) constitutes roughly 70% of DOD energy use.

Figure 1. DOD Energy Consumption by Fuel Type

Percent of Total, FY2017, Measured by British Thermal Units



Source: U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy.

Note: According to DOE, graphic excludes nuclear energy. For more information, see DOD's 2016 Operational Energy Strategy.

DOD needs to match its appropriations with real-world market oil prices. According to DOD's FY2019 Budget Certification Report, 2008, 2009, and 2012 were the most challenging years for the department's procurement of petroleum products, as the projected prices did not accurately anticipate the volatile market conditions in those years. Since FY2009, according to DOD, the standard price has been maintained throughout the year twice—FY2013 and FY2014.

In the fourth quarter of 2014, the price of crude oil decreased roughly 40% and has remained low compared to the FY2013 and FY2014 prices. Subsequently, petroleum product expenses declined for DOD in FY2015 and FY2016 resulting in a surplus in each of these fiscal years. DOD reprogrammed a portion of these funds, as authorized by 10 U.S.C. §2208, and Congress rescinded a portion. In FY2016, DOD reprogrammed approximately $2 billion to other accounts and Congress rescinded about $1 billion.

According to DOD's FY2017 Operational Energy Annual Report, from FY2013 to FY2017, total operational energy demand remained relatively stable, around 87 million barrels per year, while the price of crude oil fluctuated. The price of oil declined in 2014 resulting in fuel expenditures dropping from $14.8 billion in FY2013 to $8.2 billion in FY2017, a decrease of around 45%.

Recent Geopolitical Developments

Energy production decisions, political destabilization, and war are some of the world events that can affect the price of oil, and, as a result, the costs of operations for DOD. Some analysts have expressed concerns that the oil market could potentially enter a period of price volatility due to recent geopolitical developments. Such developments include sanctions on Iran and recent actions taken by the Organization of the Petroleum Exporting Countries (OPEC).

Iran

In mid-2012, the United States and the European Union enforced sanctions on Iran. These sanctions resulted in Iran cutting its crude production by around 1 million barrels per day (Mb/d) through 2015, according to the U.S. Energy Information Administration. In 2016, after sanctions were lifted as part of the Joint Comprehensive Plan of Action (JCPOA), Iran increased crude production to pre-sanctions levels of nearly 4 Mb/d.

In May 2018, the Trump Administration announced its intention to withdraw from the JCPOA. In August 2018, the

Administration announced it would reimpose sanctions on Iran. In September 2018, Iran's crude oil exports fell to 1.72 Mb/d, their lowest level in almost three years.

On November 5, 2018, eight countries received waivers to the Iranian oil sanctions through May 2, 2019. On April 23, 2019, the Trump Administration announced it would no longer issue or extend waivers beyond May 2. In April 2019, Iran's exports further decreased to approximately 1 Mb/d.

Organization of the Petroleum Exporting Countries

The 14 member countries of OPEC account for approximately 40% of global crude oil production, which totals nearly 100 Mb/d. OPEC countries, particularly Saudi Arabia, often maintain varying levels of spare oil capacity. The International Energy Agency estimated OPEC's spare capacity at 3.3 Mb/d as of March 2019, most of which was located in Saudi Arabia. Those countries with the greatest spare capacity are sometimes referred to as "swing producers." This spare capacity may enable these countries to more easily influence the oil market.

Swing producers may use their spare capacity to bring balance to an often unstable market. They may also have the ability to directly affect the price of oil by increasing supply immediately by exporting their spare capacity, causing downward pressure on price. Due to the relatively inflexible nature of crude oil demand, a small change in supply can result in a large change in price. With Iran's oil waivers ending, the White House has stated it was working with Saudi Arabia and the United Arab Emirates to guarantee an "adequately supplied" market.

Congress in recent years has introduced several bills to address OPEC price manipulation concerns. For example, the No Oil Producing and Exporting Cartels (NOPEC) Act of 2019 (H.R. 948 and S. 370) would modify the Sherman Antitrust Act (15 U.S.C. 1 et seq.), criminalizing actions by cartels that affect markets and prices for certain commodities, including crude oil. It would make production and price manipulation illegal.

DOD Volatility Management

Managing an organization as large and complex as DOD presents certain challenges, especially when procuring petroleum products in an often difficult to predict global market. DOD manages procurement through the Defense Logistics Agency (DLA) and attempts to balance volatility through the use of working capital funds (WCFs).

Defense Logistics Agency

Fuel for DOD is procured exclusively through DLA. The price of refined petroleum product constitutes nearly 80% of what DLA charges to its DOD customers (the remaining 20% consists of transportation, maintenance, and other costs). DLA purchases fuel for the DOD on the open market and is therefore subject to market price volatility.

Around 18 months in advance, DOD sets a standard fuel *price* for a particular budget year, including the *cost* of the product and related expenses (e.g., transportation, maintenance) for their customers. The price is based on the Administration's projected price of refined petroleum products and DLA's projected operating costs. According to a 2014 GAO report, the standard price is intended to remain unchanged throughout the year. Projecting accurate prices for crude oil however can be challenging in extreme market volatility.

Working Capital Funds

WCFs are revolving funds that do not expire and are used throughout DOD in an effort to efficiently provide services or industrial capabilities. Defense WCFs are primarily designed to help protect against price volatility. WCFs may realize gains or losses within each fiscal year. To correct for these difference the DOD may adjust the standard price for the next year. Gains may be retained in WCFs and in effect returned to customers by offsetting a portion of costs in future fiscal years, as well as used to offset losses in other fiscal years.

10 U.S.C. §2208 authorizes the Secretary of Defense to establish a variety of WCFs to support DOD operations. DOD has established five WCF accounts. The Defense-Wide WCF includes activities managed by DLA. The Defense-Wide WCF is used to stabilize the impact of market changes. If prices are higher than projected the Defense-Wide WCF account may be able absorb the difference.

However, if market prices exceed what is available in the Defense-Wide WCF account, DOD has two options. First, it can reprogram funds from other accounts, though this may have adverse effects on other DOD activities. Second, DOD can change the set standard price during the current year. According to a 2014 GAO report, DOD adjusted the standard price 13 times between FY2009 and FY2013.

Alternatively, if the market is well below the set price, DOD can adjust the price downward. When excess cash accumulates in a WCF, DOD officials or some in Congress may see that money as a funding source for other requirements. Setting prices in advance and using WCFs is intended to help DOD maintain a stable price for customers, despite volatile market conditions.

Considerations for Congress

Although DOD uses WCFs to accommodate volatility, when reprogramming is required it can have unintended consequences. For instance, it can move funding from accounts that support current operations or other potentially unrelated priorities. Congress may consider how certain policy approaches may affect the price of oil.

CRS Products

CRS Report R45493, *The World Oil Market and U.S. Policy: Background and Select Issues for Congress*, by Heather L. Greenley

CRS Report RS20871, *Iran Sanctions*, by Kenneth Katzman

CRS In Focus IF11186, *No Oil Producing and Exporting Cartels (NOPEC) Act of 2019*, by Phillip Brown

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