

COUNCIL *on* FOREIGN RELATIONS

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A service truck drives past an oil well on the Fort Berthold Indian Reservation in North Dakota. (Reuters/Andrew Cullen)

INSIGHTS FROM A CFR WORKSHOP

Oil Price Volatility: Causes, Effects, and Policy Implications

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*In May 2016, the Council on Foreign Relations' Maurice R. Greenberg Center for Geoeconomic Studies held a workshop to explore what causes oil price volatility, how it affects the economy and international relations, and what policy options could minimize volatility and its consequences. The workshop, hosted by CFR Fellow Varun Sivaram and Senior Fellow Michael Levi, was made possible by the support of the Alfred P. Sloan Foundation. The views described here are those of workshop participants only and are not CFR or Sloan Foundation positions. **The Council on Foreign Relations takes no institutional positions on policy issues and has no affiliation with the U.S. government.***

INTRODUCTION

Sharp, rapid swings in the price of oil, both up and down, can have outsized effects on companies, economies, and global geopolitics. Oil price spikes can stunt economic growth, for example, and a sudden price plunge can wreak havoc on cash-strapped oil companies. For countries, an oil price roller coaster can blow a hole in government budgets, prompt wholesale economic reform, or alter geopolitical priorities seemingly overnight.

At a day-and-a-half-long workshop in New York, CFR gathered nearly forty current and former government officials, economists, oil-market analysts, political scientists, and investors to explore what drives oil price volatility, what effects it has on both the economy and geopolitics, and what policy options are available to reduce price volatility.

IT DON'T MEAN A THING IF IT AIN'T GOT THAT SWING

For decades, the global oil market has had a “swing supplier” that could balance crude supply and demand. Such a supplier could ramp up production when demand for oil is rising and curtail output when the market is glutted, thus moderating oil price volatility. The United States played that role in the mid-twentieth century. But after a period of market instability in the 1970s, instigated by the Organization of the Petroleum Exporting Countries (OPEC), Saudi Arabia, OPEC’s biggest producer, took over as global swing supplier. Saudi Arabia performed this role for about thirty years, but in late 2014, it opted not to curtail production despite plunging oil prices, seemingly abdicating its swing-supplier role. One question the workshop participants addressed was which country, if any, is currently a swing supplier.

The United States

Many people view the United States as a possible swing supplier. In the last eight years, it has added more oil to the global market than any other country. Hydraulic fracturing, or fracking, now drives U.S. oil production. Fracking requires constant drilling of new wells, potentially making U.S. shale oil a nimble, responsive source of oil.

However, many workshop participants argued that the United States cannot play the traditional role of a swing supplier because recent production has not followed oil prices. During the sharp downturn in oil prices after mid-2014, U.S. oil production did not drop as expected even though production growth plummeted. Only in early 2016 did U.S. oil production finally start falling off. Participants questioned whether the sector could quickly rebound if faced with a sudden price spike, given tightening credit, a spate of bankruptcies, and downsizing in the oil-services sector. Other participants pointed to uncompleted wells that could be quickly tapped if oil prices recover.

Saudi Arabia

Participants also considered the role of Saudi Arabia, discussing whether the *laissez-faire* policy adopted by the kingdom in 2014 genuinely represents a permanent abdication of its historical role

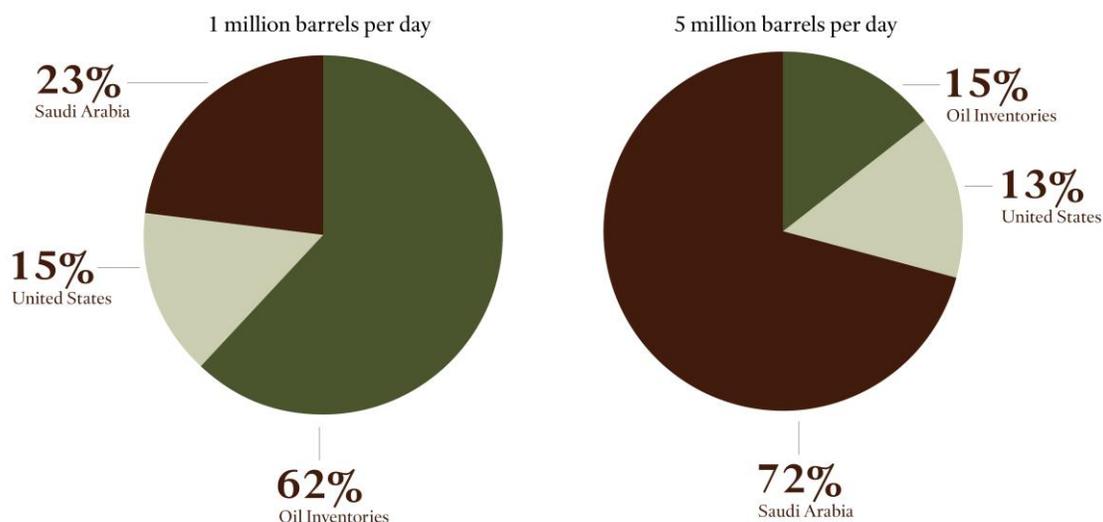
as a swing supplier. Participants noted that changes in political leadership in Saudi Arabia, including a restructuring of the oil industry, make it hard to know how Riyadh will respond in the future. During disruptions, such as a natural disaster that halts some global oil production, Saudi Arabia could still play a balancing role, some participants noted. But when the market is faced with structural imbalances—such as a big, long-term mismatch between global supply and demand—Saudi Arabia’s options are more limited, one participant said.

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The global market today may be cushioned by shock absorbers other than the kingdom, such as oil storage and U.S. production. However, given Saudi Arabia’s large spare production capacity—still the world’s biggest—most workshop participants still see the kingdom playing some role as the producer of last resort.

Figure 1. Experts’ Assessments of Saudi Arabia’s Role as Swing Producer

Which source would provide the biggest response if the world faced an oil supply disruption, lasting one year, of:



Source: Survey of workshop participants.

THE WOLVES OF WALL STREET

At times of wide oil price movements, such the 2007–2008 price spike, the role of financial speculation in oil markets gets more attention than fundamentals such as supply and demand.

Speculation in oil markets encompasses several different activities, participants noted. Oil producers and traders take positions in the derivatives market to protect themselves from falling prices. Major energy consumers, such as airlines, seek to shed risk by buying long positions, or hedging, in the futures market. Some investors buy long positions to hedge against future price

spikes, but, participants noted, hedge funds and other big investors tend to chase risk in hopes of securing big returns by betting on prices either rising or falling.

That means that some investors are speculative by choice, but others are forced to buy and sell positions as part of their businesses. Participants noted that policymakers seeking to regulate speculation should keep in mind the different incentives for participating in financial commodity markets that make it hard to pin down a single definition for speculators.

Several participants said that because of the financial crisis of 2008–2009 and the ensuing regulations, big banks are no longer as active in trading commodities. That, said one participant, means there are fewer investors who can bet against the market, and thus there are “fewer natural shock absorbers” in commodity markets, which causes greater volatility.

However, another participant argued that the departure of banks from commodity speculation from 2011 to 2014 coincided with historically low volatility. Moreover, that person said, new investors are entering the market, partially replacing the trading volume that big banks no longer provide.

IT'S THE ECONOMY, STUPID

Oil price volatility can affect global economic growth. A sharp rise in oil prices, as happened in 2007–2008, can push economies into recession, but historically a sharp fall in oil prices has acted as a stimulus, freeing up income to spend on things other than oil and gasoline. Volatility can be particularly hard for low-income households to manage, because they do not have access to financial hedging instruments that could smooth the shocks from ups and downs in prices.

However, participants noted, the recent sharp drop in oil prices has hurt important segments of the U.S. economy that rely on oil production, with ripple effects on some state budgets and local housing markets. Moreover, even low prices, if paired with volatility, do not necessarily lead to an economic boost, some participants suggested. Fluctuating prices can make consumers wary of spending, thus dampening any stimulus effect of lower oil prices.

For major oil producing and exporting countries, price volatility can wreak havoc on fiscal planning, some participants noted. Especially in countries that subsidize the cost of fuel, sharp price swings can end up distorting national budgets, fueling deficits, and reducing imports. However, many participants noted that flexible exchange rates today offer a measure of protection to some countries. Russia, for example, has mitigated some of the impact of sustained low prices because the ruble has also fallen: in dollar terms, lower oil revenues are offset by cheaper domestic expenditures.

Across nearly all sessions, participants underscored a particular problem: it is difficult to distinguish the effects of oil price levels from those of volatility. Most academic research focuses on the effects of price levels, whether high or low, rather than volatility.

ALL GEOPOLITICS ARE LOCAL

Workshop participants sought to identify how oil price volatility affects geopolitics, particularly for China and countries in the Middle East. Chinese overseas oil investment policy in recent years has partially been driven by concerns about price volatility, participants noted. Purchasing shares in oil fields allows Beijing to mitigate price risk, offering a financial hedge against higher prices in the future. For oil-exporting countries, some participants noted that price volatility, more than the price level, is particularly problematic. That is because, as one participant put it, it is easier to build a budget that works with oil at \$50 per barrel than one that works when oil zooms between \$20 and \$80 a barrel.

However, a sharp drop in oil prices can help oil-dependent economies, some participants said, by creating the opportunity and momentum for much-needed economic reforms, from repealing subsidies (as in India) to more sweeping efforts at economic diversification (as in Saudi Arabia). Still, a sharp rise in prices could make recent fuel-subsidy reform politically unsustainable.

When it comes to U.S. geopolitical concerns, participants noted that securing the supply of oil and preventing sharp changes in its price have helped drive U.S. involvement in the Middle East. Since 1980, U.S. military activity has aimed above all to forestall a threat—from the Soviet Union, and later Iraq—to regional oil production and transport. “Most of what the U.S. worries about is not peacetime, random changes in price, but, actually, disruptions” that lead to a price spike, one participant said.

YOU GOTTA BE ELASTIC

Policymakers have plenty of reasons to care about oil price volatility, yet the policy options to reduce volatility are each limited in some way, participants said.

One approach to lowering volatility is to increase consumer flexibility, or demand elasticity, so that people and businesses can better respond to sudden shifts in prices. Yet efficiency standards that make the automobile fleet cleaner can actually end up

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decreasing elasticity and increasing oil price volatility, one participant noted. If cars get better mileage, gasoline prices will matter less to drivers, and consumers will not cut down consumption. Transport alternatives, such as flex-fuel vehicles (able to use gasoline or ethanol) or natural-gas-fueled vehicles, offer limited protection against volatility: each offers only a single alternative fuel, and the prices for those fuels are often similar to the price of gasoline and fluctuate along with it. However, participants noted that plug-in hybrids and pure electric vehicles could be an exception. Consumers can shield themselves from some price volatility because the price of electricity is quite stable and unrelated to the price of oil.

Tackling the supply side of the equation, especially in the United States, is equally fraught, some participants noted. The fracking boom should increase the elasticity of the oil supply by making oil production more responsive to price changes. But fracking owes little to policy, some participants

argued, and others contended that the paramount policy priority should be to mitigate any environmental effects of fracking. Moreover, any policy approach to improving the elasticity of U.S. shale oil production would matter much less, participants noted, than changes in all the other variables that determine output, including the weather, availability of labor and capital, and the broader economic cycle.

Several participants suggested confronting volatility not by increasing elasticity, but rather by reducing the economy's overall demand for oil, and thus the broader effects of price movements. One said that policy focused on increasing elasticity might be misplaced "if it comes at the expense of policies to reduce our dependence on petroleum products."

AS CHURCHILL MIGHT ASK, WHERE IS YOUR STRATEGIC RESERVE?

The U.S. Strategic Petroleum Reserve (SPR), over seven hundred million barrels of oil salted away in caverns, was created as a cushion after the 1973 OPEC oil embargo, as were private stocks in other OECD countries. Though it has only been used a few times in forty years, about three-quarters of participants would recommend creating an SPR at least that large if none existed today. However, most participants thought the SPR and other international reserves would not be a useful tool for actively managing ongoing oil price volatility in addition to mitigating sudden supply disruptions.

Limited volumes in the U.S. SPR and elsewhere, relative to global oil supply, constrain the reserves' ability to manage price volatility in the global market. Some participants also noted that it can take months to coordinate and organize releases from the SPR and international reserves, limiting their usefulness in responding to sudden price movements. Further, releasing oil from storage to deal with volatile prices could end up muting the very market signals that oil producers rely on to boost production. The SPR, in other words, could undermine the very supply elasticity that is supposed to turn U.S. shale into potential swing supply.

However, using the SPR more aggressively could have some benefits, other participants suggested, provided the reserve is expanded and physically improved to release more oil more quickly. Government management of volatility, however imperfect, could avoid some of the economy-wide ills discussed above. And at a time of strained relations with Saudi Arabia, due in part to greater U.S. oil production, one suggested, a more activist management of oil inventories could help mend relations with Riyadh by providing "a new line of engagement."

The SPR was designed to mitigate the effect of embargoes, outages, and price spikes. But participants were divided on whether it could also be used to insulate the economy from *falling* prices. Some argued that filling the SPR when oil is cheap as part of a deliberate policy to prop up prices could function as a "firebreak" for important sectors of the economy, like energy and the financial sector, which could suffer from a prolonged downturn. Others cautioned against using the SPR that way, because it would provide an imperfect fiscal stimulus for the economy and because of the dangers of expensive oil to most sectors of the economy. As one participant wondered, "Why harm 95 percent of the economy to help 5 percent?"