April 2016

Investment Publications Highlights

Forty Years of Oil Price Fluctuations: Why the Price of Oil May Still Surprise Us

Christiane Baumeister and Lutz Kilian, *Journal of Economic Perspectives*, vol. 30, no. 1 (Winter 2016): 139–160

Oil price changes have been linked to a number of developments, including political and economic crises. The authors review different approaches used to anticipate price changes, finding that each is subject to error. Even if analysts understand the drivers of oil price shocks, estimating the timing and price impact of the next shock has proved difficult.

Historical oil price fluctuations have been driven by a number of events, including (1) shocks to global oil production resulting from regional political unrest, the discovery of new fields, and technological advances; (2) shocks to the demand of crude oil due to unexpected slowdowns in global growth; and (3) shocks to the demand for oil inventories, reflecting changing expectations about future shortage levels.

The authors argue that economists, policymakers, financial markets participants, and consumers often develop oil price expectations differently. While economists tend to rely on regression analysis using inflation-adjusted prices, production levels, and economic activity to estimate oil price movements, policymakers often look to price movements in futures. Similar to policymakers, financial markets participants tend to rely on futures markets, but they often adjust futures prices to account for a risk premium. The authors suggest consumer expectations are largely based on gasoline consumption patterns and that it is thus reasonable to assume consumer expectations are built on a nominal price plus inflation.

Using these different approaches to develop estimates of oil prices, the authors find that regression analysis is the best predictor of historical oil price changes, based on data from five oil price shocks between 1988 and 2015. Despite this fact, no one approach has consistently been able to accurately predict the future price of oil. The authors attribute the difficulty in forecasting oil prices to the challenges in predicting global growth, political unrest, and oil shortages.

Oil Market Report

Neil Atkinson et al., International Energy Agency, March 11, 2016

Crude oil prices rallied at the end of the first quarter as the US dollar fell against a number of currencies, and several OPEC countries along with Russia discussed limiting oil production. In its monthly report, the International Energy Agency (IEA) argues that although downside risks to oil prices remain, the gap between oil supply and demand is narrowing, and there are signs that prices may have hit a bottom.

The IEA estimates oil demand in 2016 will grow by 1.2 million barrels per day (mb/d) to 95.8 mb/d, as large net oil-importing Asian countries, including India, Indonesia, and Korea, continue

to grow their economies. As these countries' demand for oil grows, oil demand from many developed countries will be essentially flat, and for some developing economies like Brazil, negative. Although the demand growth outlook is positive, the IEA believes risks are likely skewed to the downside, as the level of economic growth is less than clear—the International Monetary Fund recently downgraded global GDP growth, with many investment banks forecasting growth below 3%. To achieve demand growth of 1.2 mb/d, the global economy would need to avoid a recession.

On supply, a number of oil-producing countries have cut output, but production remains high at 96.5 mb/d, according to estimates of February 2016 levels. While markets were abuzz as Qatar, Russia, Saudi Arabia, and Venezuela discussed potentially freezing production at January output levels, production declines due to pipeline outages in northern Iraq and Nigeria and field maintenance in the United Arab Emirates helped offset growing production in Iran. The IEA also noted that the prolonged period of low prices has also noticeably hit non-OPEC supplies, which declined in January and February. Although US production contracted the most among non-OPEC oil producers in 2016, declines have also occurred in Azerbaijan, China, Colombia, Kazakhstan, Mexico, and Norway. As a result, the IEA lowered 2016 supply estimates, arguing the gap between supply and demand will narrow significantly to just 0.2 mb/d in third quarter 2016.

The New Oil Order: The Good, the Bad and the Ugly

Damien Courvalin et al., Goldman Sachs Commodities Research, March 11, 2016

The authors review oil dynamics by evaluating the "good," the "bad," and the "ugly" of this market's current state. They expect oil prices to be volatile in the next months, as supplies and storage constraints continue to weigh on prices. In the longer term, the authors expect the price of West Texas Intermediate to climb, averaging $55–$60 per barrel in 2017.

Among the good factors impacting oil markets, the authors highlight the fact that non-OPEC production guidance finally indicates declines. These declines, linked to producers in the United States and other non-OPEC countries like Brazil, Canada, China, and Colombia, have been aided by production disruptions in OPEC members including Iraq and Nigeria. In addition to reductions in production guidance, the authors expect demand growth to remain resilient in 2016. Supported by solid global growth, oil demand should increase by 1.15 mb/d in 2016.

Moving to the bad factors impacting oil markets, the authors emphasize that although their demand growth estimate is healthy, it is reliant on growth in developing economies, which exposes it to clear downside risks. The authors also argue that if oil prices rise prematurely, producers may be incented to return to drilling, an event that could prolong the down cycle. Of note, drilled but uncompleted wells in the United States, which represent an estimated 9.8 million barrels of crude stocks in key plays, could be quickly brought online if prices jumped.

Among the ugly factors, the authors point to the buildup in US inventories, which has set new record highs for storage utilization and risked challenging capacity. The authors suggest that until stock draws materialize, prices may be capped and volatile, as investors wait for signs indicating the oil market's inflection point has passed. ■

CAMBRIDGE C|A ASSOCIATES