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Global macro matters

Is the barrel half empty or half full? Oil-price drops and global impacts

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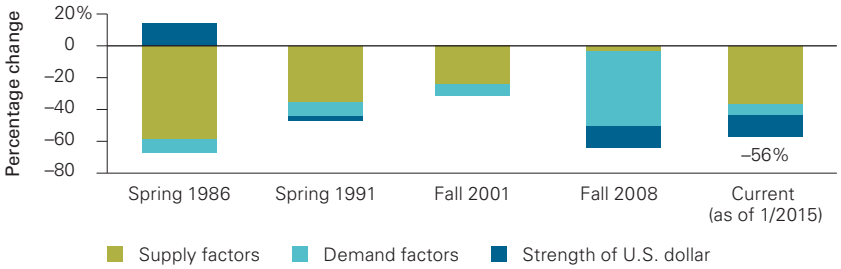
Not all oil-price movements are created equal

The price of crude oil is driven by three key factors: oil supply (both current inventories and future supply expectations); demand (expected global economic growth); and strength of the U.S. dollar (affecting USD pricing benchmarks). The degree to which these factors drive price fluctuations is unique in each instance.

In the current oil-price decline, the key drivers are the strengthening U.S. dollar (a 14% cumulative appreciation from June 2014 to January 2015) and supply. Slowing global growth is also present; however, we believe it is comparatively less significant, given that other commodity prices have not been dropping to a similar degree.

Decomposition of the largest oil-price drops varies:
Five largest declines, 1983–present



Notes: Components of oil-price drop—Supply = 7-month cumulative price change (CPC) in WTI spot oil prices minus 7-month CPC in spot copper prices; Demand = 7-month CPC in spot copper prices minus 7-month CPC in USD; Strength of U.S. dollar = 7-month CPC in USD major currencies index.

Sources: Vanguard calculations, based on data from Thomson Reuters Datastream, U.S. Energy Information Administration, Standard & Poors, Federal Reserve, and Federal Reserve Bank of St. Louis. Monthly WTI spot values were used from Federal Reserve Bank of St. Louis, 1983–1985, and month-end WTI spot values from U.S. Energy Information Administration, January 1986–January 2015.

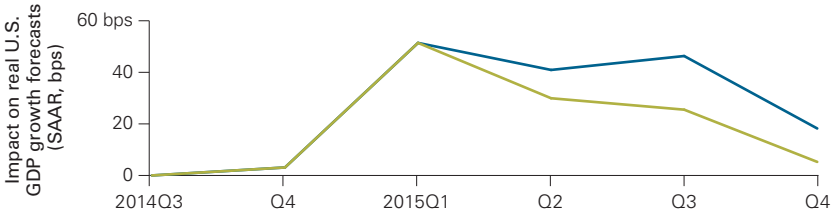
Price drops act like a 'tax cut'

Large supply-driven changes in oil prices can meaningfully affect U.S. economic growth via increased consumer spending, but with a low pass-through to core inflation measures.[1]

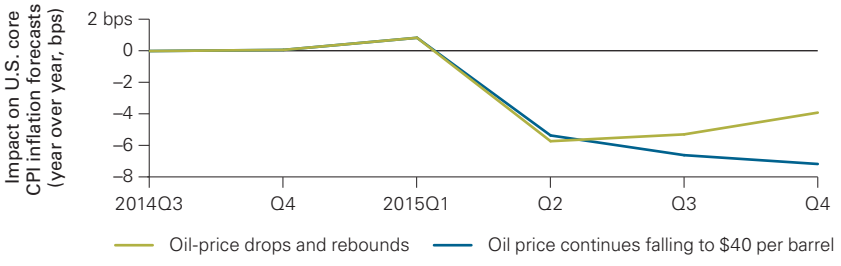
Because consumer gasoline purchases don't adjust much in the short term, the current price drop is acting like a tax cut, freeing up about $200 billion for U.S. consumers. Even accounting for the negative effect on energy-sector capital investment and additional savings by consumers, the overall U.S. economic effect is still positive.

However, the drop in oil prices may not pass through to core consumer prices. Despite lower production costs in some sectors, businesses may be reluctant to pass on the cost savings, and higher consumer spending may in the end push prices up. The impact of each of these factors on inflation depends upon whether the oil-price change is believed to be temporary.

Increases in 'disposable income' should benefit growth



Pass-through of oil prices to core inflation likely to be small



Notes: Figure shows impact of two oil-price scenarios on our forecasts compared to hypothetical baseline in which oil prices remain at June 2014 levels. Scenario simulation is based on VAR model of U.S. economy including core CPI inflation, real GDP growth, real effective federal funds rate, and large oil-price changes. VAR = vector autoregression; SAAR = seasonally adjusted annual rate; bps = basis points.

Sources: Vanguard calculations, based on data from Thomson Reuters Datastream, U.S. Energy Information Administration, Standard & Poor's, Federal Reserve Bank, and Federal Reserve Bank of St. Louis. Monthly WTI spot values from Federal Reserve Bank of St. Louis, 1983–1985, and month-end WTI spot values from U.S. Energy Information Administration, January 1986–December 31, 2014.

1 See Joseph Davis, 2014, *Global Macro Matters: Higher Inflation? Follow the Money* (Valley Forge, Pa.: The Vanguard Group).

Overall, the global economy should benefit

Most developed countries are net importers of oil and they benefit from lower prices, as do some of the less-commodity-focused Asian economies, such as India, China, and Indonesia, which are highly dependent on oil imports.

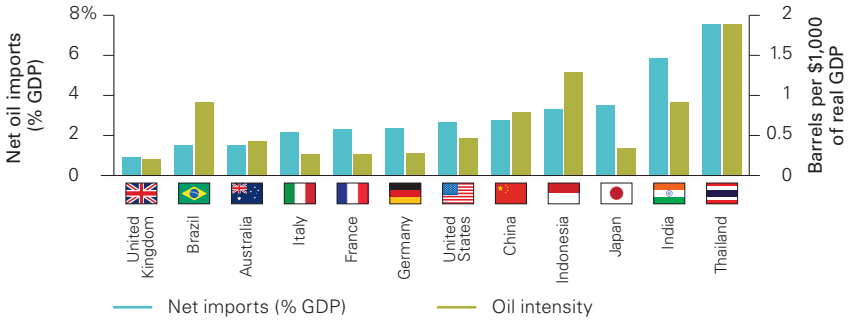
The few oil-exporting developed nations, such as Canada, Norway, and Denmark, are diversified and may not be affected much by the price drop (which is smaller in local currency terms).

Emerging markets that depend heavily on oil exports are more exposed to the negative growth and budgetary implications of a price drop, particularly those already in precarious macroeconomic situations such as Venezuela, Russia, and Iran.

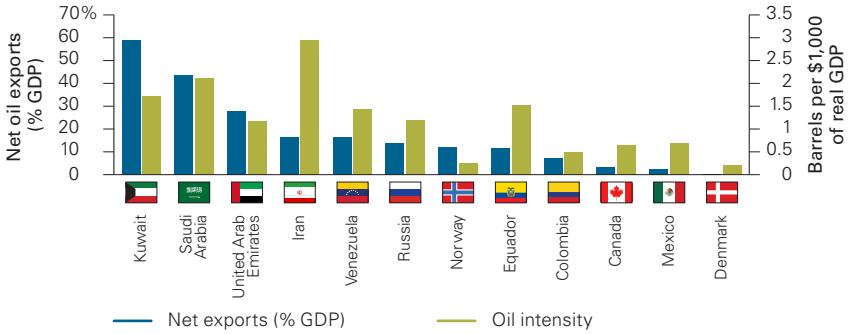
Depending upon the cause and perceived persistence of the fall in oil prices, the International Monetary Fund has estimated a positive impact of 0.3% to 0.7% on global growth in 2015.[2]

2 iMFdirect, 2014, Seven Questions About the Recent Oil-Price Slump (December 22); blog-imfdirect.imf.org/2014/12/22.

Diversified economies should benefit from current oil-price decline



Negative implications concentrated among oil-export-dependent nations



Notes: "Net imports" and "Net exports" are calculated by subtracting average daily production from average daily consumption, multiplying the result by 360 (assuming 30-day months), then dividing the result by each nation's 2013 nominal GDP. "Oil intensity" is defined as barrels per $1,000 of real GDP and is calculated by multiplying average daily consumption by 360, dividing the product by 2013 real GDP, then multiplying the end result by 1,000, for scale.

Sources: Vanguard calculations, based on data from Thomson Reuters Datastream, Moody's Analytics Data Buffet, BP Statistical Review of World Energy 2014, U.S. Energy Information Administration, World Bank World Development Indicators database, and World Bank.

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