What drives crude oil prices?

An analysis of 7 factors that influence oil markets, with chart data updated monthly and quarterly

September 7, 2016 | Washington, DC
Crude oil prices react to a variety of geopolitical and economic events

Sources: U.S. Energy Information Administration, Thomson Reuters
World oil prices move together due to arbitrage

$/bbl (real 2010 dollars, monthly average)

Sources: Bloomberg, Thomson Reuters

September 7, 2016
Crude oil prices are the primary driver of petroleum product prices

Sources: EIA Short Term Energy Outlook, Thomson Reuters
Economic growth has a strong impact on oil consumption

Sources: U.S. Energy Information Administration, IHS Global Insight
Changes in expectations of economic growth in can affect oil prices

(percent GDP growth in non-OECD countries (annual expectations))

Note: Starting in January of each year, each line shows the expected forecast of GDP growth for the specified calendar year, which tends to move toward the actual realized growth outcome as the year progresses. Expectations continue to evolve into the next calendar year as revised GDP data become available (e.g., 2008 GDP expectations are revised even during 2009).

Source: IHS Global Insight
In OECD countries, price increases have coincided with lower consumption.
Rising oil prices held down global oil consumption growth from 2005-2008, despite high economic growth.
Changes in non-OPEC production can affect oil prices

Sources: EIA Short Term Energy Outlook, Thomson Reuters
Non-OPEC supply expectations indicate changes in market sentiment concerning oil supply

million barrels per day (annual expectations)

Note: Starting in January of each year, each line shows the expected forecast of non-OPEC supply for the specified calendar year, which tends to move toward the actual realized supply outcome as the year progresses.

Sources: EIA Short Term Energy Outlook
Changes in Saudi Arabia crude oil production can affect oil prices.

Sources: U.S. Energy Information Administration, Thomson Reuters

September 7, 2016
Unplanned supply disruptions tighten world oil markets and push prices higher

Sources: U.S. Energy Information Administration
During 2003-2008, OPEC’s spare production levels were low, limiting its ability to respond to demand and price increases.

Sources: EIA Short Term Energy Outlook, Thomson Reuters

September 7, 2016
The years 2003-2008 experienced periods of very strong economic and oil demand growth, slow supply growth and tight spare capacity.

Sources: EIA Short Term Energy Outlook, Thomson Reuters
Inventory builds go hand-in-hand with increases in future oil prices *relative to* current prices (and vice versa)

\[ \text{million barrels change (year over year)} \]

\[ \$/\text{bbl change (year-on-year)} \]

Sources: EIA Short Term Energy Outlook, Thomson Reuters
Open interest in crude oil futures grew over the last decade as more participants entered the market.

Source: Bloomberg
Physical participants’ (producers, merchants, processors, and end users) U.S. futures market contract positions

Source: CFTC Commitment of Traders
Money managers tend to be net long in the U.S. oil futures market

Source: CFTC Commitment of Traders

September 7, 2016
Crude oil plays a major role in commodity investment

2015 Target Weights of the Bloomberg Commodity Index

Source: Bloomberg
Commodity index investment flows have tended to move together with commodity prices

*Note: CFTC discontinued the collection of index investment data in November 2015.*

*Bloomberg L.P. Commodity Index
assets under management (5 largest public U.S. commodity index funds)
commodity index assets under management reported to CFTC under "special call" *

*Source: Bloomberg, Commodity Futures Trading Commission (CFTC)*
Correlations (+ or -) between daily price changes of crude oil futures and other commodities generally rose in recent years.

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- **Negative correlation**
  - < -0.65
  - -0.65 to -0.4
  - -0.4 to -0.25
  - -0.25 to 0.25
  - 0.25 to 0.4
  - 0.4 to 0.65
  - > 0.65

- **Positive correlation**

*Note: Correlations computed quarterly*
Correlations (+ or -) between daily returns on crude oil futures and financial investments have also strengthened

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Note: Correlations computed quarterly
For more information


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Annual Energy Outlook | www.eia.gov/aeo

International Energy Outlook | www.eia.gov/ieo

Monthly Energy Review | www.eia.gov/mer

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