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Economics Group

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Brent Futures Prices and Potential Macroeconomic Effects

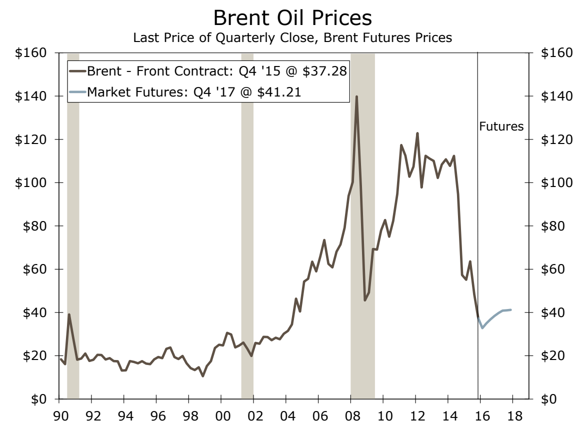
Using Brent futures as a baseline, we estimate the effect this outcome would have on a series of economic variables. We find an uptick for growth in real GDP and consumption, but slower growth in other areas.

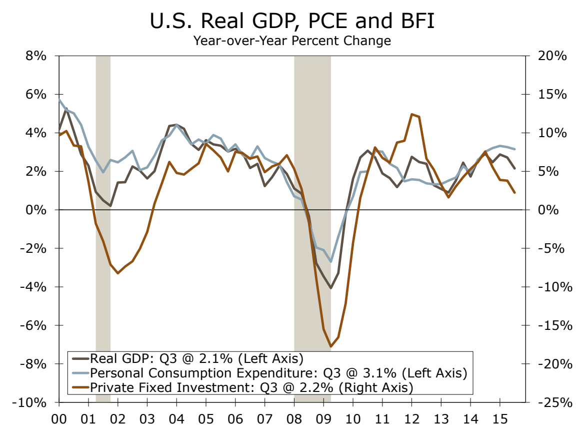
Estimating the Effects of Oil Futures Prices on the Economy

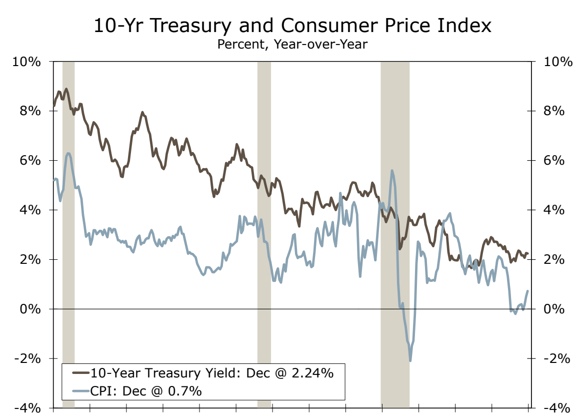
In this short piece, we are neither going to forecast oil prices nor evaluate the accuracy of the futures market for oil prices. Instead, we estimate the potential effect of current futures market oil prices on macroeconomic variables. That is, if we assume the futures market for oil prices (Brent) for 2016-2017 occur (actual prices turn out to be identical to today's market expectations), then what impact would we expect this to have on variables such as real GDP growth or inflation rates? In technical terms, this process is known as conditional forecasting. It is important to note that we are not suggesting/forecasting higher (or lower) Brent prices than those of the futures market.

In step one, using our macro-econometric models, we generate forecasts for real GDP, personal consumption, business fixed investment (BFI), CPI and 10-year Treasury yields conditioned on the Brent futures market prices for the 2016-2017 period. In the second step, we rerun our model and generate forecasts for the above variables without setting Brent values, essentially unconditional forecasting. In the third and final step, we compare both conditional and unconditional forecasts to estimate the potential oil prices impact. We utilize ICE (Intercontinental Exchange) Brent futures as futures market prices (top graph). The largest effect (in absolute terms) is estimated for BFI, a decline of around 0.5 percentage points for 2017 and an average decline of 0.38 percentage points for 2016-2017. Personal consumption and GDP growth rates show upticks, where consumption growth (an average increase of 0.14 percentage points) benefits more than total GDP growth (just an average increase of 0.02 percentage points). The estimated average decline in the CPI year-over-year percent change is 0.23 percentage points. The average 10-year Treasury yield is lower by 10 basis points.

For decision makers, there are several key takeaways from our econometric analysis. First, if futures market oil prices turn out to be correct, then it may take inflation even longer to get to the FOMC's target of 2 percent. Below-target inflation for a longer period would likely influence FOMC rate hike decisions. Second, a lower growth rate for BFI may suggest that the energy-related sectors may bring down overall BFI growth. Third, in the unconditional forecasting step, our model estimated higher Brent prices than those of the ICE future Brent prices by an average of $11.71. The spread, or difference between estimated and future Brent prices, is wider for 2017, which on average was estimated to be higher by $15.98. This may indicate that the macroeconomic fundamentals, on average, are suggesting higher Brent prices for the 2016-2017 period compared to those of the futures market.







Source: Bloomberg LP, IHS Global Insight, U.S. Dept. of Commerce, U.S. Dept. of Labor and Wells Fargo Securities, LLC

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