OBSERVATION

TD Economics

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FALLING OIL & GAS INVESTMENT TO WEIGH SHARPLY ON NEAR-TERM U.S. GROWTH

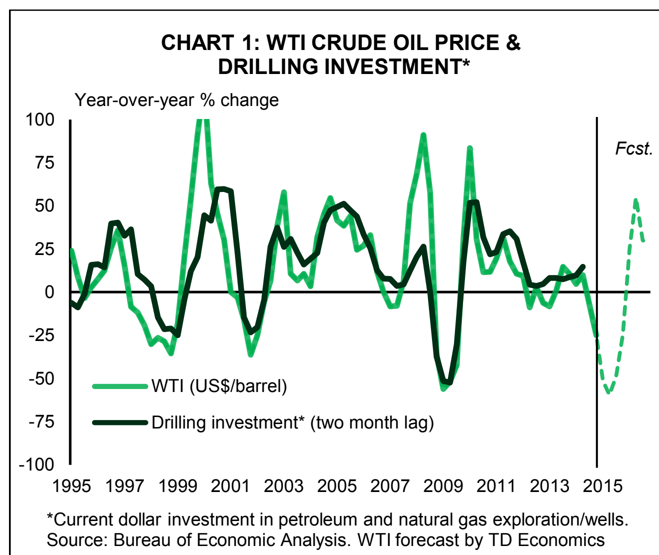
Highlights

- The fall in oil prices, while a net positive for the American economy, has a downside. Investment in oil and natural gas drilling, which has grown swiftly over the last several years, will pullback sharply in the first half of 2015, likely subtracting around a half percentage point from economic growth.
- Historically, drilling investment has lagged oil prices by about two quarters. As oil prices began declining in the third quarter of last year, this implies the fall in drilling investment will start in the first quarter of this year. This is corroborated by the 27% decline in rig count in the first quarter.
- The impact will dissipate as the year progresses. Over 2015 as a whole, the reduction in drilling is likely to subtract around 0.3 percentage points from real GDP growth. More broadly, amidst a generally good news story in which economic growth is expected to accelerate, it is also likely to show more volatility.

The rapid decline in oil prices over the past eight months represents a major development for the U.S. economic outlook. Falling oil prices are a positive for the economy, reflecting a transfer of income from producers to consumers. As America is a net importer of oil, it is also a net transfer from foreigners to Americans. We have written about the benefits of lower energy prices in several publications, most recently in our Quarterly Economic Forecast. The clearest expression of this is that the average household will save roughly $900 at the pumps over the next year, even assuming a gradual rebound in prices over the second half of 2015. In this note we focus on the other side of the equation – the impact to economic activity stemming from a reduction in oil and gas investment.

Over the last several years there has been a considerable expansion in drilling investment in America. This sector is directly impacted by the fall in prices. Based on the close historical relationship between energy prices and investment in oil and gas structures, we expect to see a 30% decline in real activity in this segment of the economy in 2015. While the sector represents less than 1.0% of overall economic activity, the magnitude of the decline means it will subtract close to 0.3 percentage points from real GDP growth over the year.

Just as important as the overall impact is the timing. While lower prices will support economic growth, the benefits accrue gradually over time. In contrast, the reduction in investment is likely to take place more abruptly



*Current dollar investment in petroleum and natural gas exploration/wells.
Source: Bureau of Economic Analysis. WTI forecast by TD Economics

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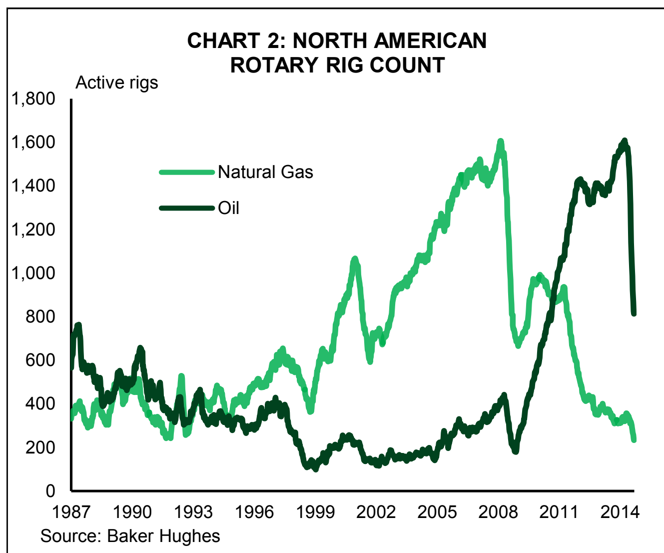
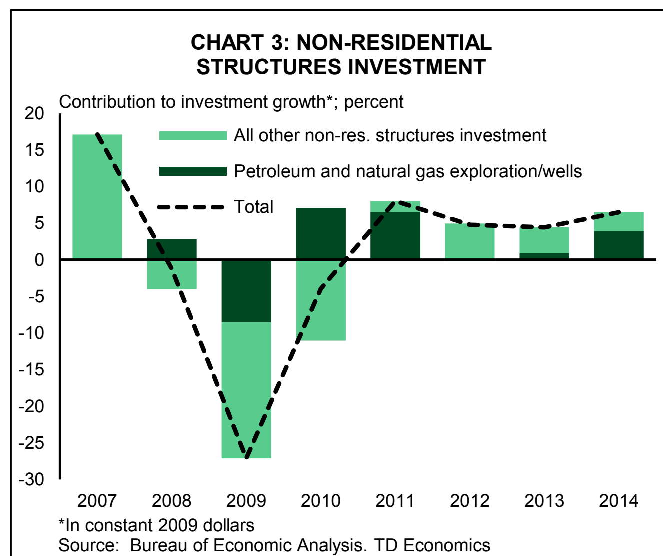
within two quarters of the decline in prices (Chart 1). Since oil prices started declining in the third quarter of last year, this impact started to take a bigger bite out of investment in the first quarter of this year. This explains some of the expected weakness in GDP growth for the quarter, which is now tracking around 1% (annualized). More broadly, amidst a generally good news story, economic growth is likely to show more volatility, with episodes of weakness when the reduction in investment is most acute.

Prices fall, investment follows

The component of GDP we are interested in is non-residential structures investment in petroleum and natural gas exploration and wells. This encompasses the drilling of oil and natural gas wells, including both those that bear fruit (or oil as it were) as well as those that come up empty.[1]

Relative to total economic activity, this is a small sector; however, it has also been one of the fastest growing areas of the economy over the last several years. Over the four quarters of 2014, it grew by an average of 15%[2]. While the national accounts data does not break down the data further between oil and natural gas, based on rig count data, the majority of the growth in the sector over the last five years has been in oil drilling (Chart 2). As a result, since the recession ended in 2009, its share in economic activity has doubled. And, due to its rapid growth, its contribution to economic growth is much bigger than its size suggests.



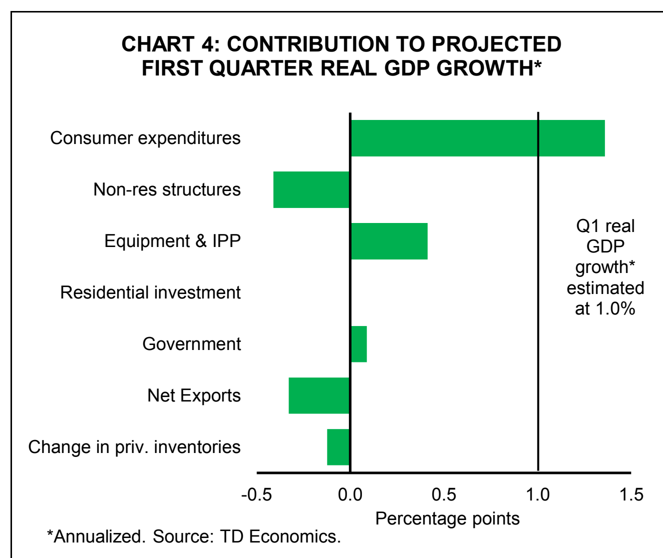


The increase in investment was a function of the rising price of oil. However, while prices can turn on a dime, investment decisions are made in advance and take time to adjust to the new pricing environment. As a result, there is a lag in the relationship. Based on historical data, changes in energy prices are followed by changes in drilling investment with a lag of roughly two quarters.

This is more important now that prices have turned south. Crude oil prices began plummeting in the third quarter of last year, which implies a decline in mining investment in the first quarter of this year. A simple regression equation that relates investment growth in the sector to lags of economic growth, oil price growth, and natural gas price growth suggests a decline in the range of 35%-55% (annualized) in the first two quarters of this year.

There is reason to believe that the impact will be front loaded in the first quarter of the year. The Bureau of Economic Analysis uses two sources to estimate activity in the drilling sector: American Petroleum Institute (API) data on footage drilled and data from Baker Hughes on rotary rig counts. While the API data is not yet available, the weekly Baker Hughes rig count data is available through the end of the quarter. Total North American rig count fell 27% (non-annualized) in the first quarter relative to its fourth quarter average, with oil rigs falling 30% and gas rigs down 14%.

We expect oil prices to decline on average in the second quarter of this year before beginning a modest rebound in the second half. This implies that investment could continue to fall through the end of this year before beginning to recover in 2016. Over the entire year, the reduction in drilling investment will likely subtract 0.3 percentage points from real GDP growth.



Bottom line

The benefit to consumers from lower oil prices will outweigh the damage to producers. However, the timing of the two will not necessarily align. Consumer spending activity looks to be fairly weak in the first quarter of this year, likely decelerating to around 2.0% from 4.4% in the fourth quarter of last year. With the drag that will stem from a reduction in drilling investment (alongside the impact of port disruptions and unseasonable cold weather), economic growth looks to be very weak indeed. Drilling investment will drag on economic growth through the remainder of this year, albeit at a diminishing rate. Over time this will be offset by greater household and business spending, but not without a few bumps in the road.

End Notes

1 See the National Income and Product Accounts Handbook, Chapter 6: Private Fixed Investment. http://bea.gov/national/pdf/NIPAchapters1-9.pdf

2 Fourth quarter to fourth quarter.

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