

CRUDE EFFECTS

BY RICK KUHN AND JOHN CROSS, P.E.

The price of oil has a much broader impact than simply on the price of gas.

WHAT A DIFFERENCE a few months can make—a pretty major one when it comes to oil, as a matter of fact.

The spot price for West Texas Intermediate (the benchmark crude for oil pricing) has dropped precipitously from a cyclical high of \$107.95 per barrel on June 20, 2014 to \$51.53 a barrel in early March as this article is being written.

The most visible impact of this drop of nearly 60% was a temporary drop in domestic gasoline prices below two dollars a gallon, which has now rebounded to near \$2.50 per gallon. But amid the cheers of consumers celebrating “cheap” gas, a sense of concern has begun to nag at construction industry analysts regarding the impact these lower oil and related energy prices will have on construction activity levels.

Cycling Along

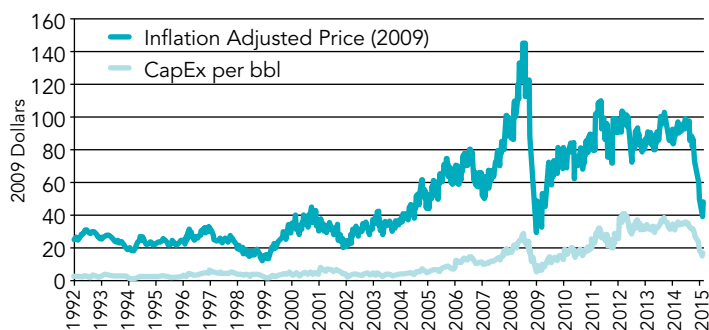
Oil and energy prices are cyclical. This is not the first sharp drop that has been experienced—not even the first one in a decade. In July 2008, oil prices peaked at \$145 per barrel only to fall to \$30 per barrel by Christmas of that year. But just as rapidly as the price fell, oil prices rebounded to \$80 per barrel in October, then exceeded \$100 per barrel in March 2011. The reasons for the current drop in prices is in many ways similar to the drop in 2008, including a slowdown in the global economy, supply increasing more rapidly than demand, a slight lessening of political tensions in oil-producing regions and a reticence of oil-producing nations to scale back production. In 2014 these factors were further magnified by the increasing level of U.S. shale oil production, the potential that the U.S. may become energy-independent in the short term and a rising U.S. dollar, which has a direct impact on the “value” of the oil transaction as the dollar is the primary currency for oil transactions.

For even the casual observer, several questions come immediately to mind: How low will the price of oil go? How long will it stay there? How high will it rebound? There are as many answers to each of these questions as there are energy industry experts. Predictions vary from a low of \$20 per barrel with a slow U-shaped recovery, to a rapid V-shaped recovery with prices back at the \$80-per-barrel level by the end of 2015. While it is impossible to say what the oil price recovery will look like and when it will take place, attention should be given to the 2008 low of \$30 per barrel. If prices fall below that level, the oil price downturn will probably be prolonged. If prices do not fall below that floor, the recovery may be similar to that of the 2008-2009 cycle.

Scaling Back

It is not surprising that energy companies are already reducing employment levels and scaling back capital expenditures. Typical capital expenditure (CapEx) levels on a per-barrel basis in the oil industry have averaged between 15% and 20%. The exception to those levels have been just before the 2008 drop in oil prices and again from 2010 to 2014, when the CapEx rate more than doubled to 40%. In each case, two conditions were present: 1) the price for oil in 2009 dollars exceeded \$80 per barrel and 2) 30-day price volatility settled to a level of less than 8%.

Why is this important? Construction expenditures in the oil and gas industry for both core energy infrastructure (upstream, midstream and downstream) and ancillary projects are driven by the CapEx level. Lower CapEx rates mean less oil and gas construction, and the construction that takes place will be core



▲ Global oil price per barrel between 1992 and 2015, in 2009 dollars.



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economics

expenditures tied to increases in short-term net revenue, not in ancillary projects.

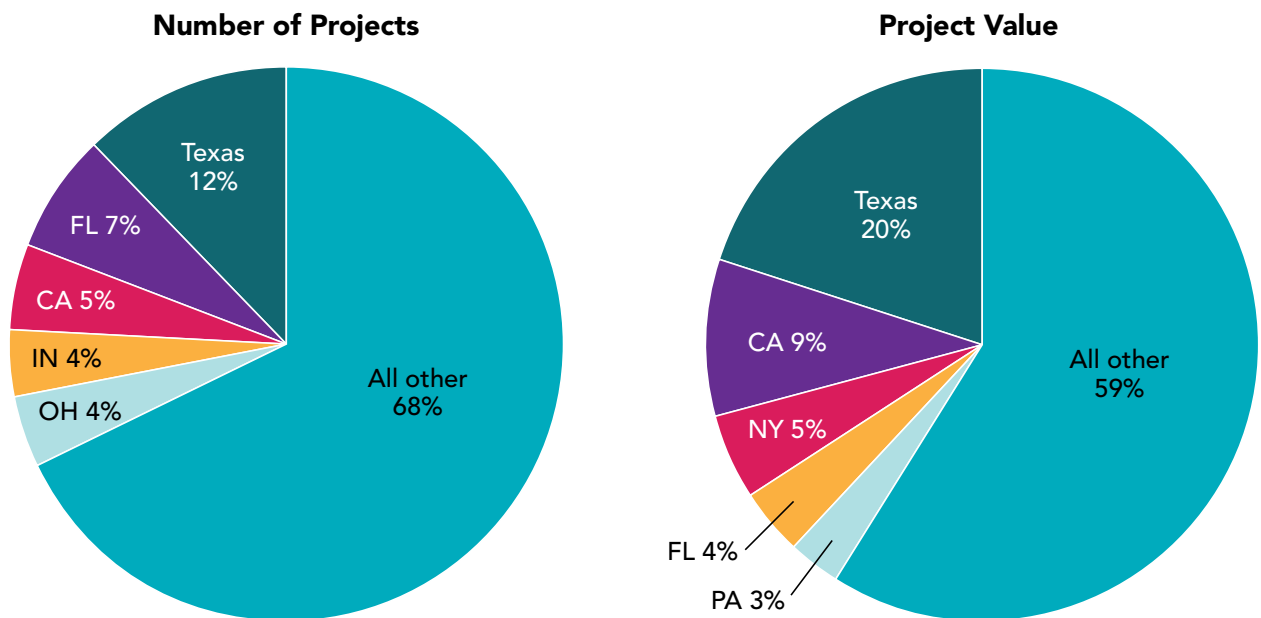
But just as there were certain bellwether conditions that were relied upon to signal a coming recovery in nonresidential construction—employment levels and rate of GDP growth—there are also indicators that can signal a recovery in energy-related construction. As noted above, energy-related construction is tied to the CapEx rate, which is tied to energy prices. If a robust energy construction recovery is going to occur, oil prices need to exceed \$80 per barrel in 2009 dollars (equivalent to \$87 per barrel in 2015 dollars) and must achieve a reasonable level of stability. In addition, global supply and demand need to remain in some semblance of balance. Global oil consumption increases at a rate approximately 1.8% less than the rate of growth in global GDP. At the same time, the growth in global oil production has increased at an annual rate of 0.6% over the past 20 years. This means for supply and demand to stay in balance, global economic growth needs to be at least 2.4%—and to handle any additional increase in production it must average above 3%. Projections of global GDP growth in 2015 are only 2.2%, signaling a continuing supply surplus and lower prices. This trend is compounded by the potential of the U.S. becoming self-dependent in oil production, which disrupts the existing export-import and geopolitical relationships between producing countries and consuming countries.

Downs and Ups

All of this is another way to say that construction activity will decline in the oil and gas sector. The magnitude of that reduction is unclear at the moment, but a reduction in CapEx spending in the range of 30% to 50% is not unlikely. But does that mean that other segments of the building industry will experience a downturn as well? No.

Even though the energy sector has been the driver to an overall anemic economy in recent years, the downturn in energy prices will actually provide a stimulus to the general economy. Every dollar that oil prices decrease provides \$3 to \$5 billion annually in spending power for the American consumer, which means the current decrease in oil pricing is generating just under \$1 billion per day in additional spending power. If the energy downturn is short-term, the impact on the general economy will be modest, generating a roughly 0.3% increase in GDP growth. This increase will be generated by higher consumer spending and will provide additional stimulus to the retail construction market.

If the energy downturn is longer-term, the stimulus will be greater and impact a broader range of construction markets. Based on the assumption that consumer spending habits take longer to develop, a lengthier downturn will result in increased construction momentum in not only the retail marketplace, but also in the hotels, parking, auto service, office and non-energy industrial markets. In addition, the decrease in gasoline prices



Percentage (by state) of U.S. construction starts by number of projects (left) and construction dollars (right) for 2014.

will serve to moderate any inflationary pressures, resulting in less pressure on the Federal Reserve to increase interest rates. Lower interest rates coupled with an increase in consumer confidence will result in an increase in the construction level of single-family homes.

Overall, the level of residential and nonresidential building construction activity should benefit from reduced oil prices. However, all areas of the country will not benefit equally. The Northeast and Midwest will see the greatest benefit, as their level of oil consumption for travel and heating is the greatest. Oil-producing states with little economic diversification—such as Alaska (where one out of every three workers is employed directly or indirectly in the energy industry), North Dakota, Oklahoma, New Mexico and Wyoming—will experience a negative impact on the overall level of construction activity. Employment levels in these states will decrease due to layoffs in the oil and oil supplier industries, which will reduce the level of consumer spending and offset any gains generated by lower fuel costs.

Wildcard

The wildcard will be Texas. Texas' economy is much more diversified than it was during the energy downturn of the 1980s. Even though the state accounts for nearly 60% of U.S. oil and gas production, it is much better prepared to weather this downturn than other oil-producing states. The fact that the Dallas-Fort Worth metroplex seems to be insulated from the direct impact

of an energy industry downturn was reinforced by Southern Methodist University economist Bud Weinstein in a recent article in the *Dallas Business Journal*, noting that the “oil and gas industry won't pull Texas into a recession and the Dallas-Fort Worth economy is still robust in comparison to the rest of the nation.” The greatest direct impact will probably be felt in west Texas and substantially south of a line from Houston to San Antonio. Even in Houston, which is more closely tied to the oil and gas industry, the *Houston Business Journal* reported that even though developers are “casting a wary eye toward falling oil prices...the diverse economy and latent housing demand will carry housing through the next couple of years.” In addition “while commercial projects in west Houston may take a hit amid falling oil prices... more commercial, industrial and petrochemical projects may be built on the east side of Houston.”

The impact on the Texas construction economy is important to more than just Texas. During 2014, one in eight U.S. construction starts were in Texas—and one in five construction dollars spent in 2014 was spent in Texas.

The Texas construction economy is such a significant percentage of the U.S. construction economy that if it falls into a recessionary period, it could pull the remainder of the U.S. construction economy down with it. While that seems unlikely at the moment, it is a situation that must be carefully monitored.

So when you pull into your local gas station to fill your tank with “cheap” gas, cross your fingers that the net impact of lower prices will be a positive for construction activity. ■