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Economic Research:

The Sharp Drop In Crude-Oil Prices Is A Net Plus For The U.S. Economy

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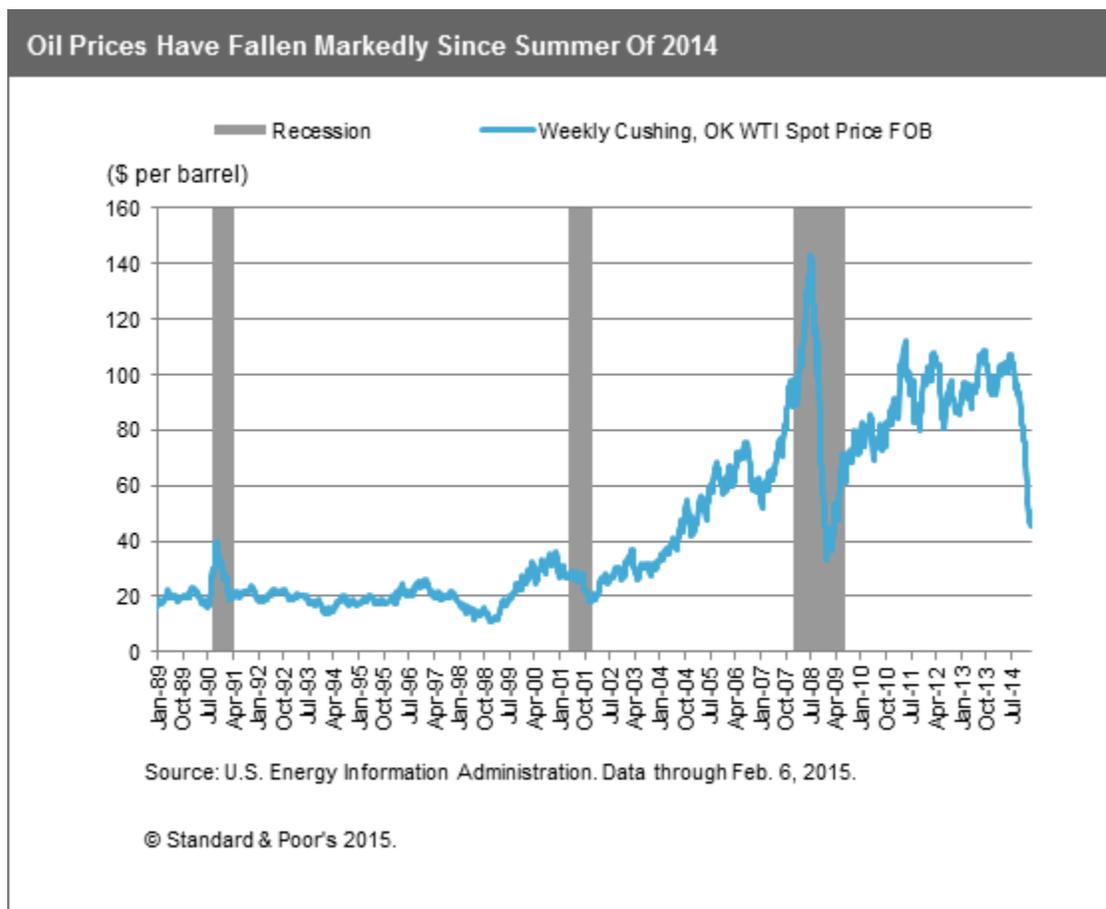
Economic Research:

The Sharp Drop In Crude-Oil Prices Is A Net Plus For The U.S. Economy

The recent steep drop in crude-oil prices, to levels last seen in the 2008-2009 recession, is a boon to the U.S. economy in general, even as it threatens to wipe out a number of smaller producers and adds to unemployment in the sector.

Since about the middle of last year, the prices of two major varieties of crude oil, West Texas Intermediate and Brent, have tumbled by almost half, to about \$50 a barrel (see chart 1). As a result, gasoline prices in the U.S. have dropped considerably, freeing up consumers' discretionary dollars. And while it would be difficult to show that Americans are immediately running out and buying new jeans with the hundred bucks they saved at the pump last month, Standard & Poor's Ratings Services does expect consumers to spend more on other items--assuming the price of oil remains low for a substantial period.

Chart 1



Theories abound about why oil prices have plunged so precipitously. But as with most commodities, oil prices are generally a function of supply and demand--and fluctuations in economic activity (or changes in the economic outlook)

tend to be the main influencer of energy demand and price movements in the near term. Supply-side considerations, such as the rate of depletion of existing sources, or the discovery and development of new supplies, usually play a prominent role. However, perceived threats to supply--such as political or social unrest in the Middle East and other oil-rich regions--can have a more immediate effect in pushing prices higher, or at least making them more volatile in the near term. This was certainly at play leading up to last summer's price peak.

Now, an unexpected mismatch between changes in consumption and production has contributed to prices plummeting. The receding threat of supply disruptions, along with surprising pace of the rise in "unconventional" production (the U.S. shale oil revolution has added nearly 4 million barrels per day to supply since 2008), weaker-than-expected global demand growth, OPEC's announcement in November that it wouldn't cut production (another surprise), and the appreciation of the U.S. dollar are all factors in the sharp drop in prices that began in the second half of 2014 (see "Standard & Poor's Publishes Revised Oil And Gas Price Assumptions," published Jan. 9, 2015, on RatingsDirect).

Recent estimates indicate that the market faces a supply glut of about 1 million barrels per day. Prices for crude oil in futures markets in February signaled an end to the decline in prices in early 2015, followed by a modest upward swing. Still, futures markets suggested that crude oil deliverables in 2017 would cost about \$20 per barrel less than those markets suggested last summer--and we expect prices to remain low through the year and rise only modestly thereafter.

The Effects Of Price Changes On The Economy

Historically, the effects of oil prices on economic activity and inflation have depended on the underlying sources and the direction of the changes. Price changes driven by oil supply shocks are often accompanied by significant changes in global output of oil and lead to income shifts between oil-exporters and importers. When it is a positive supply shock (like when prices decline), it leads to transfer of income from oil exporters to oil importers. Changes driven by demand shocks, on the other hand, tend to lead to weaker and, in some cases, insignificant effects (since oil demand shocks would themselves be the outcome of changing real activity).

The recent decline in prices is the result of a combination of supply and demand shocks, weighted more on the supply side. The key here is that the latter isn't a U.S.-led demand shock, but rather a foreign one. In fact, the outlook for domestic demand in the U.S. is relatively solid. We see the opposite for foreign demand, as economists lower their forecasts for global economic growth--particularly for China and the eurozone, which are two major oil importers.

It's also worth noting that the effects of changes in oil prices are asymmetrical (a thesis greatly discussed after the 1986 oil price collapse failed to produce an economic boom). This asymmetry is partly the result of monetary policy responses that tend to be more aggressive when prices are rising and more subdued when they're falling. The Federal Reserve, for example, has typically responded forcefully to a rise in inflation from higher oil prices but has been less vigorous on unexpected declines in inflation following a drop in oil price, according to L. Kilian and R. Vigfusson in their 2011 paper that surveyed the literature on the nonlinearities and asymmetries in the oil price-output relationship. Hence, while large oil price increases have been followed by significantly lower economic output in the U.S., price

declines have been associated with much smaller benefits to the economy.

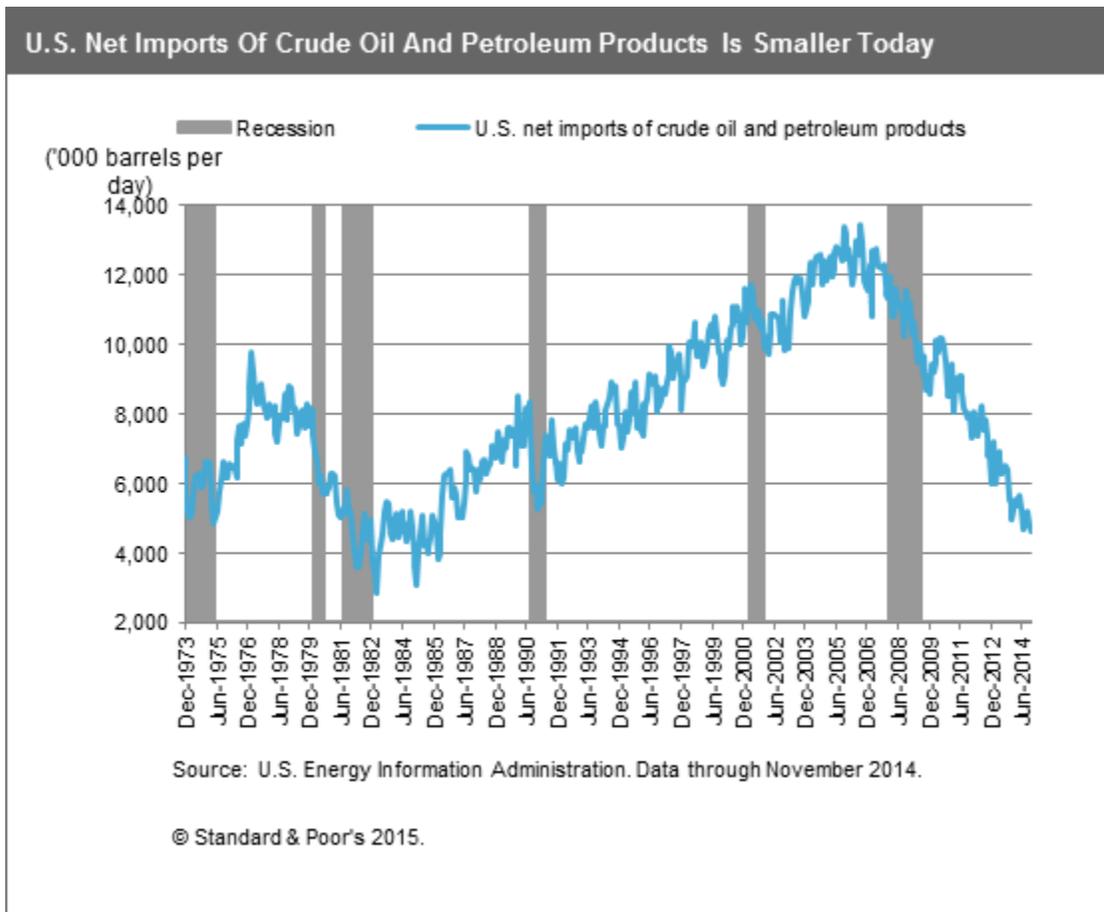
On top of that, studies have documented that the effects of oil prices on output have diminished given structural changes in the economy such as a falling degree of energy-intensity in economic activity and long-term demographic forces (such as an aging population driving less). And stronger monetary policy frameworks have reduced the effects of price shocks by better anchoring inflation expectations.

Benefits To The U.S. Economy

Nonetheless, because the U.S. is still a net importer of oil, part of each dollar spent on petroleum goes abroad and doesn't contribute to domestic production, employment, or GDP directly. The positive "terms of trade" shock of lower oil prices for the U.S. means less money is sent abroad, and it's available for domestic consumption and production, therefore supporting domestic jobs and GDP directly.

The magnitude of this is smaller today than it was five years ago because of the sharp reduction in net petroleum imports, which fell to just less than 5 million barrels per day during the second half of 2014, from a high of more than 12 million in 2006-2007 (see chart 2). The oil import share of GDP has declined to less than 1%, from more than double that in 2011--the first time since 2002 it has been so low. This falling GDP share of net oil imports reduces the benefits of an oil price reduction on the economy through the trade channel--but by the same token it reduces the vulnerability of the economy to spikes in international oil prices. It is worth noting that lower oil prices could drive up demand, which could threaten to halt the decline in net imports, or even turn it around, at least temporarily.

Chart 2



A back-of-the-envelope calculation suggests that a \$50 drop in the price of oil means U.S. spending on foreign oil would decline \$240 million per day, or \$87.6 billion per year--money that becomes available for domestic consumption and therefore supports U.S. production and GDP in the short run. In practice, consumers' financial vulnerability, still-elevated unemployment, and the potential for long-term growth to slow may encourage households and corporations to save this windfall, rather than to consume and invest. But what is spent would increase income of U.S. businesses and workers, who in turn would spend more themselves.

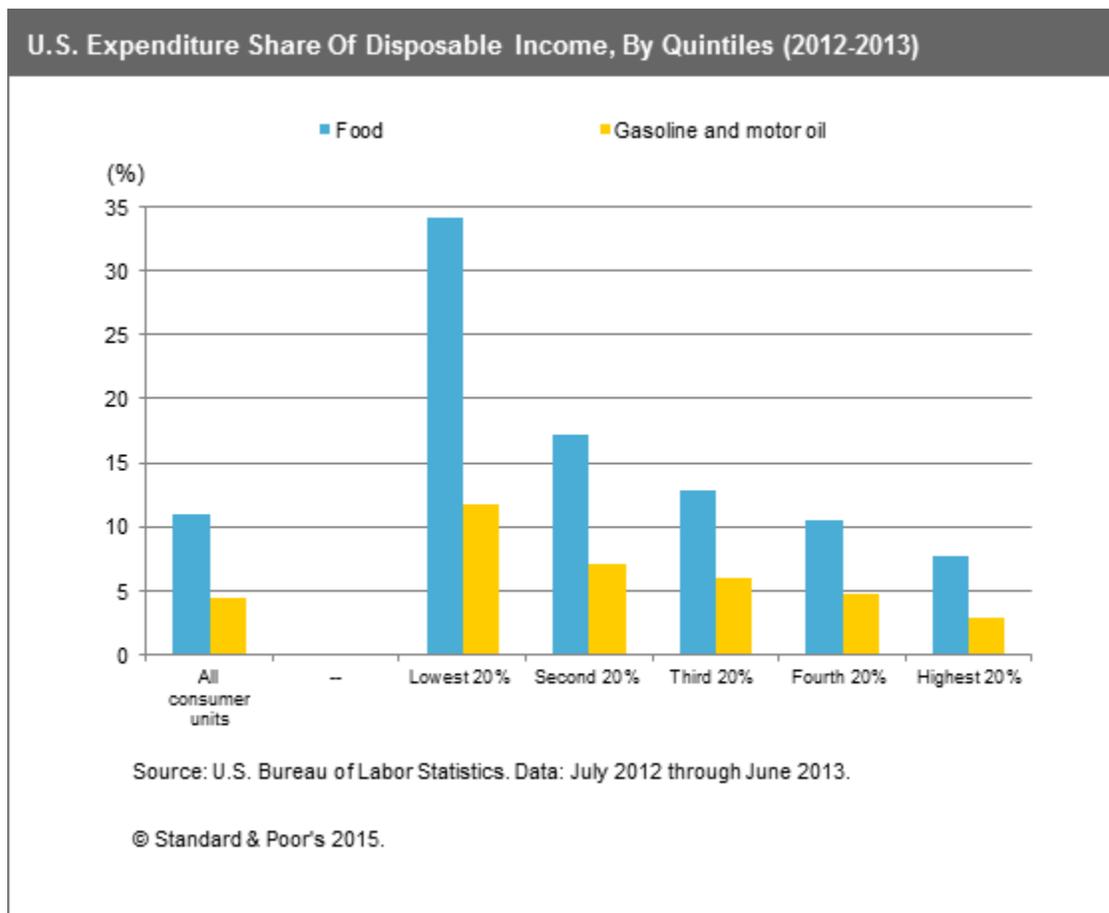
We estimate that if the recent decline in prices were to persist for the remainder of this year, the boost to nominal GDP growth through the "net imports" channel could reach half a percentage point, at the high end. At any rate, lower crude oil and fuel prices are a boon for consumers, for now. The national average price of gasoline has declined more than \$1 per gallon since last summer, and the U.S. Energy Information Agency (EIA) expects regular gasoline, which averaged \$3.36/gal in 2014, to average \$2.33/gal this year. With the typical American household buying more than 1,000 gallons of gas annually, this would be tantamount to a substantial tax cut for American households. In other words, the average household would have at least an extra \$1,000 to put toward other expenses or pay down existing debt this year. (Here we should note that gasoline demand tends to be price inelastic in the short term, meaning that changes in price have little effect on the number of gallons used.) If all of it were to be spent, the boost to nominal GDP growth

through a "gas dividend" would be up to two-thirds of a percentage point, all else being equal.

Since gasoline expenditures represent a higher proportion of disposable income for lower-income households (roughly 12% for the bottom quintile versus 3% for the top, according to an estimate from the Bureau of Labor Statistics), falling energy prices disproportionately raise their real incomes. Combined with the fact that the propensity to spend any additional real income generally increases as we go down income ladder, this means that much of the boost to real household income would be spent, not saved (see chart 3). Even if some of the extra cash were saved, this is a nice boost to consumer confidence, consumer spending, and real disposable income.

A caveat in this distributional effect is that it is also true that food expenditures as a proportion to disposable income are much higher across the income spectrum (rising as we go down the ladder, with 34.2% for bottom quintile versus 7.7% for the top), and so the gas dividend would only mean so much as long as food prices and other basic nondiscretionary items, such as shelter and health care, remain stable.

Chart 3



Additionally, there may be some hesitation to use this extra cash right away due to the precautionary-savings behavior that arises when consumers don't think lower prices are here to stay. The same goes for businesses, which must believe prices will stay low before they decide to hire more workers or otherwise invest. As it stands, Standard &

Poor's assumes the price of WTI to be \$50 and \$60 per barrel this year and next, respectively.

At the same time, it's not just lower prices at the pump that will help consumers. The decline in crude oil puts downward pressure on other energy sources (such as natural gas) that are viewed as substitutes.

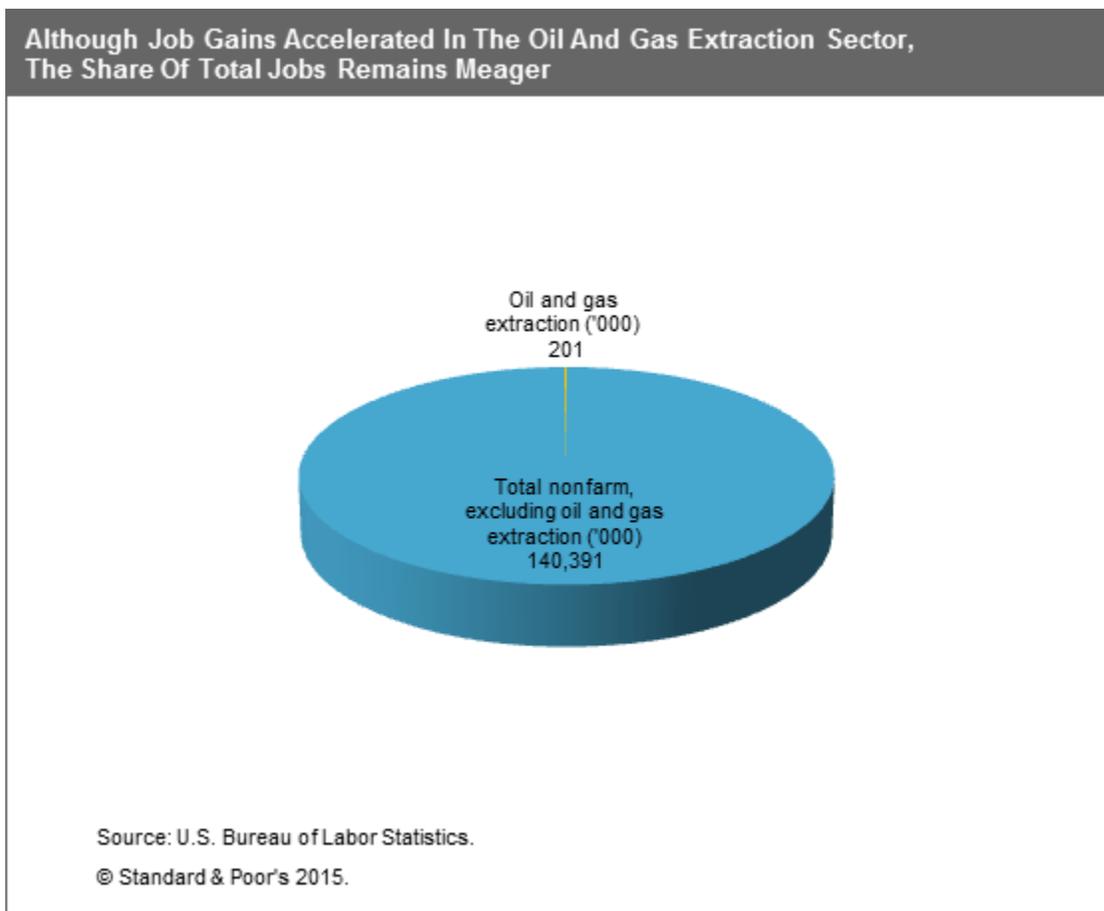
Furthermore, the large decline in gasoline prices appears to have raised consumer confidence, and the University of Michigan Consumer Sentiment and Conference Board Consumer Confidence indices have risen sharply in the past few months. This will likely boost household spending. To be sure, some of the additional consumer spending will result in higher imports, boosting output in other countries rather than in the U.S. (which acts as a drag on overall GDP growth). But most of the additional spending, we think, will be on domestic goods and services, which will boost U.S. GDP, as will greater domestic investment by firms responding to the increase in demand for goods and services.

Meanwhile, many sectors and industries (aside from the energy sector) look set to thrive, as consumer-driven domestic demand increases and falling energy prices lower the cost of doing business, all else being equal. In particular, the transportation, petrochemicals, and agricultural sectors, as well as some manufacturing industries, would be major beneficiaries from lower prices. In this light, most leading investment indicators--including both manufacturing and nonmanufacturing surveys of managers--support this view and anticipate a pickup in business investment.

A Double-Edged Sword

While lower oil prices may encourage consumers and businesses to spend more, there are some potential drawbacks. Most directly, lower prices will likely reduce the growth of domestic investment in oil production, which would weigh on GDP growth. Despite all the hype about unconventional oil and gas, oil and natural gas production added just 0.22 percentage point annually to GDP in 2012 and 2013, according to the Council of Economic Advisers. And while we would expect employment and capital spending in the sector to suffer somewhat, they remain relatively small in the context of the overall economy. Of the 140 million jobs in the U.S. economy, about 759,000 are in the energy industry, and energy capital expenditures (at about \$183 billion) equal roughly just 1% of the U.S.'s \$17.6 trillion GDP. More importantly, investment in oil extraction (structures and machinery) totaled about \$80 billion in 2013, representing only about 4% of total nonresidential fixed investment in the U.S. and less than 0.5% of GDP. The oil and gas extraction industry was responsible for about 200,000 jobs--a mere 0.14% of all jobs in the U.S. (see chart 4). At the same time, when thinking about the employment effects of the recent oil price plunge, it is not only the direct jobs lost that matter, but also the larger number of induced jobs gained from lower oil prices. That said, the regional impacts in oil-intensive areas of the country will be more significant than nationally.

Chart 4



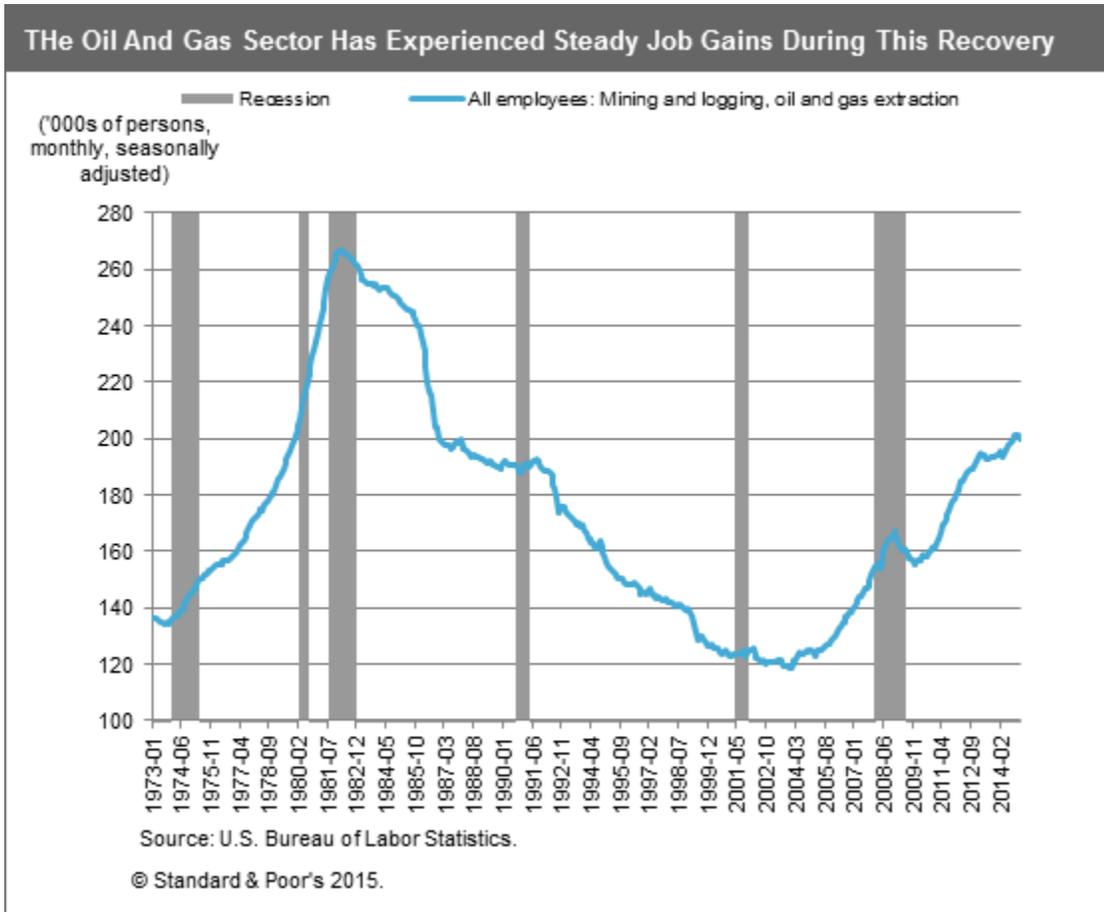
The oil and gas sector has been aggressively adding jobs during the recovery (job growth of 39% in the past five years compared with 8% for the U.S. overall), so a slowdown or reversal in job creation in this sector will hurt certain regions (such as North Dakota) that have benefitted from its strong growth. Although the sector employs only about 200,000 people, the positions they hold generally pay above-average wages (in November, workers in this sector earned \$40.59 per hour compared with the national average of less than \$25), and the spill-over effects into other sectors such as construction have been noteworthy in these regions.

Oil prices as low as what we have seen lately (\$45-\$55) are generally viewed as a drag to expansion in the sector as energy companies seek to maintain their profit margins. At current prices, some of the higher-cost producers will be forced out or bought out due to liquidity constraints. Also, the magnitude of the reduction in investments in the oil-production sector would depend on the pace of productivity in the sector, and the negative effects are more or less limited to regions that have benefitted from the sector's strong growth in the past few years.

Already we have seen a notable decline in the number of oil rigs, though production has continued to increase. Also, as a sign that it may be the beginning of job losses, the oil and gas extraction sector lost 2,000 jobs in January, the highest monthly loss in this recovery period (see chart 5). To be sure, last month's Challenger report showed a spike in layoff announcements in January, primarily from the energy sector, which accounted for 38% of all cuts, and they were

geographically concentrated in Texas. According to employers, 40.2% of January's job cuts were attributed to changes in oil prices. That said, the oil and gas sector by itself only represents 200,000 jobs--merely a drop in the ocean.

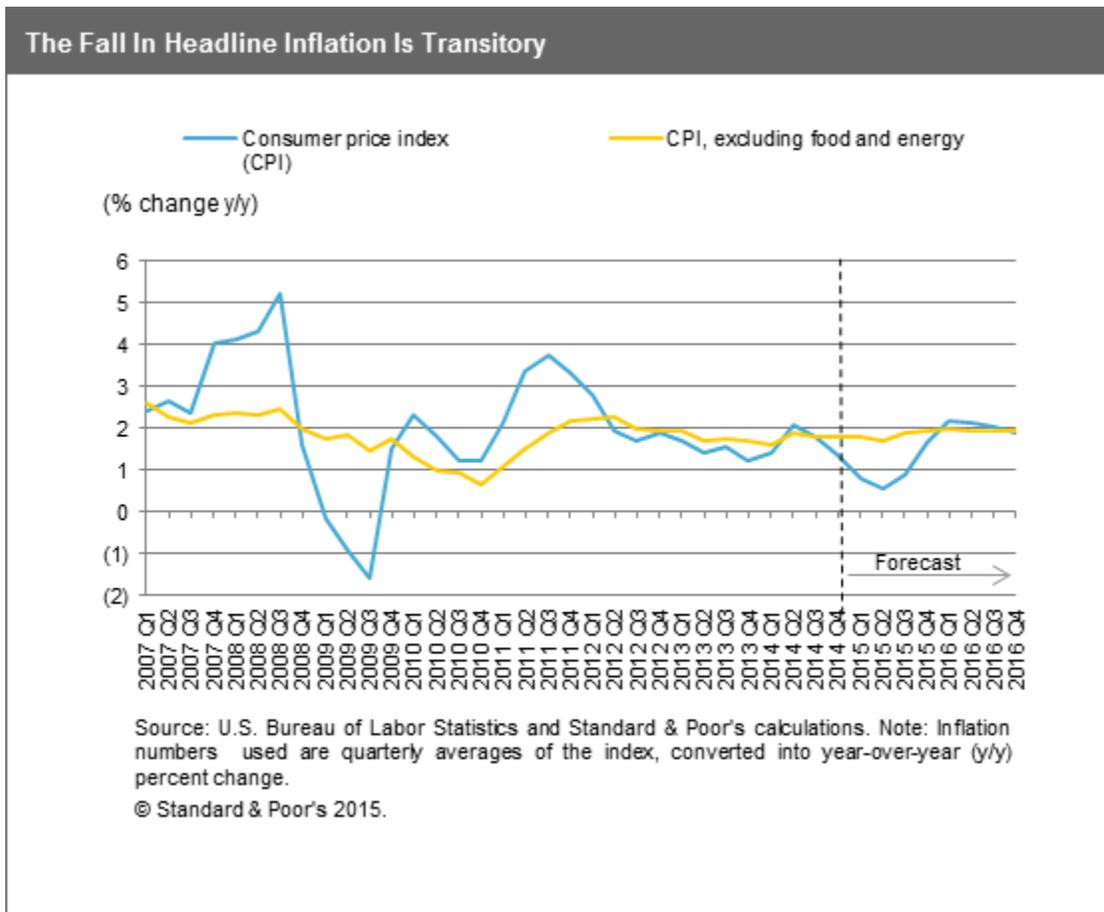
Chart 5



Inflation And Monetary Policy

The lower cost of production for a range of energy-intensive goods may help keep inflation in check--though this effect may dissipate by the end of 2016, given current forecasts for oil prices. In most cases, central banks wouldn't need to respond to this temporary condition, and we don't believe the disinflationary effects of lower oil prices will slow the Federal Reserve on its path of monetary-policy normalization. Just as former Fed Chairman Ben Bernanke viewed in April 2011 the then-accelerating oil price-led inflation (running above 3%) as "transitory," we think the Fed views the recent decline as exerting only short-term pressure on inflation.

Chart 6



When inflation was running above 3% in 2011, wages were growing at just 2% on average. Because of falling real wages, demand was weak and the feared acceleration of inflation never materialized, which economists expected (who generally view inflation in a framework of price-wage spiral, not just a price spiral). All told, we think the members of the Federal Open Market Committee aren't concerned that subdued headline inflation will delay their plans to begin raising benchmark interest rates this year, as long as the solid momentum of economic expansion of late holds.

A solid jobs market and improving economic activity, with both businesses and consumers more willing and able to spend, suggest that the U.S. economy now requires less monetary stimulus to continue its long recovery from the Great Recession. In our forecast, we assume firmer U.S. domestic demand will offset the headwinds on exports from a subdued global economy and a strengthening dollar. Barring unexpected price disinflation on core goods and services, the accelerating economy, together with the long lags of monetary policy (as Fed Chairwoman Janet Yellen pointed out in her press conference in December), strengthens our view that the first hike in the federal funds rate is likely to come in June. Our current projection is that the fed funds rate will reach 1.25% by the end of the year.

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