The Outlook for Oil Prices

There really isn’t much in the U.S. economy that isn’t affected by the cost of oil. The price at the pump is most often associated with swings in petroleum prices, but oil prices go much deeper. They impact businesses large and small that move any kind of goods from one place to another. You cannot construct an office or a home without oil, and many of the clothes we wear require petroleum as an input. Then we have plastics – which use petroleum to produce parts for everything from cell phones and computers to airplanes and water bottles.

The rising cost of petroleum – along with rising food prices – is starting to put inflationary pressure on the U.S. economy. In early March, the national average price for a gallon of regular gas was $3.52, a 28 percent increase in one year, with some regions seeing prices of more than $4 per gallon. Average diesel prices are more than 33 percent higher than they were a year ago, and the price for a barrel of crude recently hit $110, an increase of more than 42 percent in one year.

As the U.S. economy struggles to right itself after a debilitating recession, the rising cost of oil and energy threatens to further hamper the recovery. For insight into the oil market and its future, OUTLOOK turned to Jim Ritterbusch, president of Ritterbusch and Associates, an independent consulting firm that provides research to the oil and financial industries.

Mr. Ritterbusch is one of the nation’s leading experts on oil markets, and his opinion is often sought by the media, including The Wall Street Journal, Associated Press, CBS News, National Public Radio and more.

OUTLOOK: How much oil does the United States consume, and how does that usage break down?

Jim Ritterbusch: We use just under 20 million barrels a day of petroleum. If we break that down, roughly half of what we use is gasoline, maybe 20 to 25 percent is what we call distillates – diesel fuel, jet fuel, home heating oil – and the rest would be residual fuel and miscellaneous. Residual fuel is a heavier fuel that is used for electric power generation and industrial purposes. Propane and other ‘minor’ fuels would comprise the balance.
The bulk of the crude that we use is being produced domestically or it’s coming from nearby countries, such as Canada and Mexico. Concerns about getting all of our oil from scary and unfriendly places are a bit misguided.

OUTLOOK: Where does most of our oil come from? How much is imported and how much comes from domestic sources?

JR: We import about two-thirds of what we use and produce the other one-third domestically. One thing that is usually surprising to most people, if you look at the Persian Gulf countries that are in the headlines these days – countries like Saudi Arabia, United Arab Emirates, Bahrain, Iraq – we get about 17 percent of our total imports from these countries. The biggest single supplier to the U.S. would be Canada, which accounts for about 22 percent of our total imports. Saudi Arabia, as a stand-alone source, is about 12 percent. The rest of the slate of imports would be what we call short-haul crude – 13 percent from Mexico and another 10 percent from Venezuela.

The bulk of the crude that we use is being produced domestically or it’s coming from nearby countries, such as Canada and Mexico. Concerns about getting all of our oil from scary and unfriendly places are a bit misguided.

OUTLOOK: Why then is there so much focus on the oil coming from the Middle East and other countries that may not be friendly to the U.S.?

JR: At the margin we need that crude. A lot of these places produce high-quality crude; it is what we call light-sweet crude, which is conducive to the production of gasoline and distillates. Also, Middle East countries tend to have the lowest cost of production. Even though we’re getting more oil from nearby places, the cost can be higher and there are some ongoing questions regarding the availability of supply. For instance, continuing to source supply from Canada carries some negative environmental implications and may require further technological advances to maintain availability at a reasonable price. As far as Mexico is concerned, production appears to have peaked and is likely to be on the decline going forward.

The reason we see so much attention paid to Middle East and Person Gulf countries is because they have the bulk of the world’s reserves, meaning oil that’s still in the ground. In the U.S., we’ve all heard the adage, ‘Drill, baby, drill!’ and all that stuff, but we’re a country that’s only sitting on 2-3 percent of proven global reserves. That’s the larger item; it’s more important than what we actually import from them on an ongoing basis.
Domestically, however, we are seeing progress as far as drilling opportunities and a lift of production within the U.S. That’s good news. We’re beginning to acquire oil from unconventional sources, such as hydraulic fracturing technologies in North Dakota and other regions of the country. For example, we are at about 5.6 million barrels per day in domestic field production of crude these days, which is up 11 percent from where we were during the 2006-2008 time period.

**OUTLOOK:** What are the key factors that impact the price of oil?

**JR:** Obviously, it is supply and demand, but within those two broad categories you’ve got dynamics that are constantly changing. During the last few years, when we’ve seen all of this price volatility injected into the market, a primary factor has been this huge demand out of the emerging economies – China, India, Brazil, etc. That’s been a very important driver on the demand side, though it also comes with some challenges. For instance, a problem you have relates to growth within the Chinese economy, which is a large element within the oil pricing scheme. But we don’t have the transparency there that tells us exactly how much oil they are consuming and how much they’re storing. We’ve got a long way to go there before we really have a lot of confidence in the numbers that they provide.

Of course, demand also relates to GDP improvement across the developed world – the U.S., Europe, Asia, etc. You simply have a high correlation between oil demand and aggregate economic growth. They tend to move in tandem.

OPEC (the Organization of the Petroleum Exporting Countries) is a determinate of pricing, too, by regulating supply and attempting to balance the market, according to them at least. They feed additional supply into the market as it is required, and they cut production when they perceive there is too much on the market.

Finally, I would simply add that there are other variables you simply can’t predict. A few weeks ago, nobody saw the earthquake and tsunami coming in Japan, but that is a very important determinate of oil price for the short-term.

**OUTLOOK:** What role does speculation play in the price of oil?

**JR:** Speculation and changes in price often go hand in hand. Speculators need a forum; they need a rationale to get excited about buying a commodity.
But the only problem, as Fed Chairman Alan Greenspan used to say, there’s this ‘irrational exuberance’ that can take over and speculation can push prices higher than they would otherwise go. The flip side is that it can push a price lower than would be implied by the forces of supply and demand.

The classic example took place in 2008. The price of a barrel of oil was pushed to $147, and a large part of that was due to speculation. Then we slammed it down to $37 very quickly, which was speculators unwinding their position. Based on oil supply and demand, it should not have gone to $147, but it shouldn’t have gone to $37 either. The price to clear the market was probably somewhere between $60 and $80, but we had these huge swings in both directions.

**OUTLOOK: What were the global economic dynamics in 2008 that led to the volatility?**

**JR:** It was about the time that China was beginning to emerge on the scene as a big player on the consumption side. OPEC was scrambling like mad at the time to keep up with this surprising pace of demand. They didn’t have much excess capacity to feed in to the market at that time. On a global scale, we were looking at a very tight supply and demand situation. In conjunction with that, there was a lot of stockpiling going on. People were buying the incremental barrel in an attempt to get ahead of further price increases. That, in turn, added to the speculative element. As prices moved higher, more speculative buyers wanted in, and that type of process becomes self-perpetuating. It becomes a vicious circle as more buying begets more buying. From there a bubble develops, the bubble pops and then we take it all down again.

**OUTLOOK: We saw oil prices begin rising again in the later half of 2010, well before unrest in the Middle East was a factor. Why did they start rising at that point?**

**JR:** When the global recession eased, we simply saw the demand factor begin to raise its head again. We were looking at demand increases that began to surprise a lot of economists. Chinese demand indicators beginning late last summer were starting to come in stronger than had been anticipated. You can say the same thing for India. We started seeing some increase in distillate demand here in the U.S. and overseas. In the Euro zone and Japan we also saw demand improvements.

As demand globally began to improve at a stronger-than-anticipated pace, OPEC was not adjusting their production quotas higher to compensate. They
were actually reigning in production while demand was increasing. That facilitated a significant increase in oil prices between Labor Day 2010 and the end of January 2011.

**OUTLOOK: How has recent political unrest in the Middle East impacted oil prices?**

**JR:** When a country like Libya, which produces more than 1.5 million barrels a day, suddenly takes most of that offline, it has to be replaced fairly quickly. It took a while for Saudi Arabia, for instance, to step up to the plate and provide additional barrels to the market. Then there were logistical issues, too. European refineries that buy from Libya, a high quality crude, had to make production adjustments because they started accessing oil from other sources. So, even when you have a country that produces only about 2 percent of global production, if that is lost very quickly, it is a shock to the market and the market responds accordingly.

In conjunction with the loss of Libyan barrels, you have to look at how the dominos began to fall in the Middle East and North African region. Unrest started in Tunisia and Egypt, spread to Libya and then all of a sudden we were seeing indications of civil unrest in more important, oil-producing countries, such as Bahrain, which sits right next to Saudi Arabia. Given the scope of that unrest across all of these countries, we began to force this risk premium into the market, and that just kept pushing us up and up and up. A risk premium is basically what people pay at a given time based on the possibility that global supply could be disrupted. That beat continues to go on.

**OUTLOOK: We’ve heard some pretty scary predictions in recent weeks, perhaps prices as high as $200 per barrel. What is the short-term outlook for oil prices?**

**JR:** That kind of a scenario, $200-a-barrel pricing, isn’t on my radar. I don’t know why people throw numbers like that out there other than to attract attention. You can’t toss a number out there that is double what it is now without attaching some type of scenario to it. If somebody told me all of Saudi Arabia’s production was going to be lost, and at the same time, China was going to continue absorbing huge amounts of oil, yeah, I could say, ‘OK, you might see a doubling in price.’ But based on the world as I know it, we are not going to see much more upside price pressures. In fact, the situation in Japan looks like a net bearish item, which could still put some down-side pressure on the market in the near-term.

Additionally, OPEC has released extra barrels into the market, which has compensated for the lost Libyan barrels. High prices in countries such as the

When a country like Libya, which produces more than 1.5 million barrels a day, suddenly takes most of that offline, that has to be replaced fairly quickly.
U.S. are beginning to force conservation, too. As a result of all that, the only thing that would force prices very far off this $100 area, in my opinion, would be if this Middle East and North African unrest continues to escalate to the point where we begin to see production in Saudi Arabia threatened.

OUTLOOK: As you noted, the price of crude is hovering around $100 a barrel and we’re seeing prices at the pump around $4 per gallon. What kind of pressure does that put on the U.S. economy as it continues to slowly recover from the recession?

JR: It is definitely going to have some impact on the U.S. economy. A key point, though, is whether the market goes up and spikes at $110 and then comes right back down or whether it goes to $100-a-barrel and stays there on a sustained basis. For every $10 rise in the cost of a barrel of oil, it negatively affects U.S. GDP growth by roughly a quarter of 1 percent if sustained over a period of one year or more. It’s definitely important. The way things are looking this year, partly due to high oil prices, we may struggle to get to 3.5 percent GDP growth in the U.S.

But it’s somewhat of a chicken and egg scenario; it’s often difficult to tell whether oil prices are influencing the economy or whether the economy impacts oil prices. Going forward, if we see sustained diesel prices up around $4.25 a gallon and gasoline above $4, then that’s going to begin to take a bite out of GDP.

As I look out at the months ahead, I think oil prices will plateau at around $100-105 a barrel in the near term. By summer we could be set up to see prices decline back down to around $85-90 a barrel. I don’t think we’ll see the kind of dramatic price drop we saw in 2008. If such a scenario unfolds again, it would almost assuredly happen as a result of another U.S. recession and a major global economic slowdown. It would be great to see $3-a-gallon gasoline, but if we see that it will likely be associated with a double-dip recession.

OUTLOOK: The U.S. has created the Strategic Petroleum Reserve, 700,000 million barrels managed by the Department of Energy. Under what circumstances can the reserve be tapped? If it were used now, what impact would it have?

JR: I don’t know if there would be much impact. Yes, prices are high, but we really don’t need the oil. We’re looking at a surplus of distillate fuel of 20-25 million barrels over and above our 5-year average. We’ve got a roughly 5- to 10-million barrel surplus of gasoline over
and above our 5-year average. If we don’t need the oil, the only other argument to be made to use the oil is to attempt to push prices lower, and that wasn’t the intent of the reserve. It was created to provide excess supply to the market in cases of emergency. For instance, a few years ago when we had hurricane Katrina, there were releases from the Strategic Petroleum Reserve.

**OUTLOOK:** There’s the old adage that best the cure for high prices is high prices. How is the market responding to the latest round of rising oil prices?

**JR:** The most significant way is that we are seeing more and more conservation; people and business are using less fuel. For instance, back in 2007, just a few years ago, we were consuming about 9.2 million barrels of gasoline every day. Today, we’re consuming about 9 million barrels a day. Along those lines, we are seeing forced consumption declines based on some of the economic factors within the U.S. economy. Whenever you have high unemployment, you see a decrease in the use of gasoline.

From here, demand will likely either level out or drift lower as far as U.S. consumption is concerned, because there are some technologies that are coming online which could influence demand in the U.S., though they are very slow movers. For instance, we’re slowly gravitating toward a more fuel-efficient car fleet.

**OUTLOOK:** There are many places within the U.S. that have reserves of crude oil – including the Western U.S. and the Gulf of Mexico. What are the impediments for producing more oil from domestic sources?

**JR:** The U.S., even with some of these new discoveries, possesses maybe 2-3 percent of the world’s reserves but we consume 25 percent of the world’s oil. We just don’t have the resources to drill our way to lower prices. The answer lies more on the demand side than the supply side – conservation, more efficient car fleets etc.

That said, on the drilling side, it is always a balancing act between the desire to drill more and the cost of such drilling alongside environmental risks. The environmental factor was brought to bear very clearly in the Gulf of Mexico last year with the BP oil spill. That put a dent in our efforts to drill offshore. Slowly, they are allowing more drilling to take place offshore. It’s not happening fast enough for some groups, but it is moving and will continue to move.

One of the biggest issues with the reserves that we do have in the U.S. is the costs to drill here relative to places like Saudi Arabia. It is the old
economic theory of comparative advantage: you buy your oil from places with the lowest cost. The Middle East has oil that is easy to extract and can be accessed at the lowest cost. Due to a number of factors – including geology and infrastructure – it just costs more to get oil out of the ground here in the United States. We’d need $6-per-gallon gasoline to make it economically feasible in some regions.

OUTLOOK: How does the fact that a refinery has not been built in the U.S. for 30 years impact the energy pricing landscape?

JR: That’s not a big item. The refineries we have today are much larger and more efficient. In addition, there’s an excess amount of refining capacity in the U.S. and abroad. In the U.S., where we are seeing some increased demand, we are only operating at 83 percent of refinery capacity right now. Even at 80-85 percent of capacity, we’re meeting all the demand requirements in the U.S.

OUTLOOK: What is the outlook for alternative forms of energy – including natural gas and electric vehicles? Are these truly viable options to replace petroleum?

JR: Americans are a very fickle crowd. When we see low prices like we had a few years ago – under $3 a gallon for gasoline, everyone forgot about hybrids, electric cars and things like that. Now we’re back to $4-a-gallon gas and it has become interesting again. These new technologies are just going to take time to have a real impact on the market, but we have U.S. car companies catching on now. They are in the game – flex-fuel cars, hybrids, fuel-cells, highly efficient diesel engines are slowly developing as options to the traditional gasoline fueled vehicle.

As far as the nation’s trucking fleet is concerned, we see them starting to use natural gas, which has become much more plentiful in recent years due to new horizontal drilling techniques. The problem with these various things is infrastructure. Yes, we can design hybrids and electric cars, but they need a place to fill up. That infrastructure just isn’t there yet, and it takes a long, long time for that to be built.

OUTLOOK: What should American businesses and consumers be prepared for long-term when it comes to the cost of petroleum and energy, and what should the U.S. be doing differently in the area of energy policy?

JR: Looking at the future, I’d break it into three segments. In the next seven years, I expect to see significant upside price risk. I don’t think $200 oil is
I really believe we’ll have a much more stable supply of oil when you look some 14-15 years down the road.

in the cards, but if you look five to seven years down the road, we could be looking at $150 crude, at least temporarily due to the strong demand growth from emerging economies. It also relates to the fact that the Middle Eastern, oil-producing countries are starting to see a large shift in their population, with young people craving a freer and more democratic way of life. That might be good news, because we want the rest of the world to enjoy the same freedoms and democracy we have in the U.S., but the downside is that the process of getting there could create instability in some of these oil-producing countries for a prolonged period of time.

But looking beyond that – out past 2018 or so – that’s when some of these alternative vehicles and alternative fuels begin to click in. That’s when we will see a much more meaningful demand response that could make a real dent in consumption while our reliance on crude from the Middle East or unfriendly countries, like Venezuela, diminishes. The picture gets fuzzier when we look out to 2025 and beyond. It is very difficult to speculate what will happen, but I am a huge believer in the creativity and ingenuity of the human mind. We are going to find oil where we never could imagine it would exist. For instance, maybe we’ll be able to drill for it in deeper places offshore. But ultimately, I really believe we’ll have a much more stable supply of oil when you look some 14-15 years down the road.

As we look at the nation’s energy policy going forward, it is a situation where, as in life and economics, the best answer often lies somewhere in the middle. A combination of both increased, responsible drilling and measures to force a downshift in demand appears to be the best approach, rather than emphasis on just one or the other. As we recognize that the U.S. represents only about 5 percent of the world’s population but uses about 25 percent of its oil, we need cars with better fuel economy, but any methods available to get people out of their automobiles and onto buses and trains would be desirable, too. In short, a viable energy policy should be rigid enough to affect change but flexible enough to adapt to change. Meanwhile, attempting all of the above must be driven by a stewardship that attaches as much importance to a clean environment as it does to a reduction in the U.S. deficit as far as our grandchildren are concerned.
Interest Rates and Economic Indicators

The interest rate and economic data on this page were updated as of 2/28/11. They are intended to provide rate or cost indications only and are for notional amounts in excess of $5 million except for forward fixed rates.

KEY ECONOMIC INDICATORS

Gross Domestic Product (GDP) measures the change in total output of the U.S. economy. The Consumer Price Index (CPI) is a measure of consumer inflation. The federal funds rate is the rate charged by banks to one another on overnight funds. The target federal funds rate is set by the Federal Reserve as one of the tools of monetary policy. The interest rate on the 10-year U.S. Treasury Note is considered a reflection of the market’s view of longer-term macroeconomic performance; the 2-year projection provides a view of more near-term economic performance.

ECONOMIC AND INTEREST RATE PROJECTIONS

Source: Insight Economics, LLC & Blue Chip Economic Indicators

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<th>US Treasury Securities</th>
<th>2010</th>
<th>GDP</th>
<th>CPI</th>
<th>Fed Funds</th>
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<th>10-year</th>
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<tr>
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<tr>
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<td>CPI</td>
<td>Fed Funds</td>
<td>2-year</td>
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Costs are stated in basis points per year.

HEDGING THE COST OF FUTURE LOANS

A forward fixed rate is a fixed loan rate on a specified balance that can be drawn on or before a predetermined future date. The table below lists the additional cost incurred today to fix a loan at a future date.

FORWARD FIXED RATES

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<th>Forward Period (Days)</th>
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SHORT-TERM INTEREST RATES

This graph depicts the recent history of the cost to fund floating rate loans. Three-month LIBOR is the most commonly used index for short-term financing.

THREE-MONTH LIBOR

YIELD

RELATION OF INTEREST RATE TO MATURITY

The yield curve is the relation between the cost of borrowing and the time to maturity of debt for a given borrower in a given currency. Typically, interest rates on long-term securities are higher than rates on short-term securities. Long-term securities generally require a risk premium for inflation uncertainty, for liquidity, and for potential default risk.

TREASURY YIELD CURVE

February 2011, 3 Months Ago, 6 Months Ago
CoBank Announces Executive Appointment in Regional Agribusiness Lending Unit

Mike Hechtner Named Central Region President

CoBank recently announced that Mike Hechtner has been named central region president for the bank’s Regional Agribusiness Banking Group. In this new role, Hechtner will oversee relationship management, marketing and credit administration for cooperative customers in the Dakotas, Iowa, Michigan, Minnesota, Nebraska, Wisconsin and Wyoming.

“I’m extremely pleased to announce Mike’s promotion,” Chief Banking Officer Mary McBride said. “Given the central region’s heavy concentration of grain and farm supply customers and Mike’s extensive background financing those industries, Mike will provide significant benefit to CoBank and our customers in this new role.”

Hechtner joined CoBank in 2005 as the regional vice president for agribusiness banking in its Omaha banking center. Hechtner has nearly three decades of experience in agribusiness lending. Before joining CoBank, he was senior vice president for Farm Credit Services of America and manager of that organization’s agribusiness portfolio. Hechtner has also held leadership positions with Farm Credit Services of Central Arkansas, AgriBank and Farm Credit Bank of St. Louis.

“The grain handling and merchandising industry is extremely dynamic and volatile today, and it’s vital that our customers have a lender that understands their financial needs and is committed to standing by them in all types of market conditions,” said Amy Gales, executive vice president of CoBank’s Regional Agribusiness Banking Group. “Mike’s extensive knowledge and experience with agriculture in the upper Midwest and commitment to the CoBank mission are tremendous assets for us and the customers we serve throughout the central region of the country.”

Hechtner begins his new role effective March 1, 2011 and will continue to be based in Omaha. A search for candidates will commence to succeed him as regional vice president. “I’m excited to take on this new role with CoBank and to continue working with our customers to ensure they have the access to high-quality financial services they need to succeed and grow in increasingly complex and volatile market conditions,” Hechtner said.

Hechtner has a bachelor’s degree in agricultural economics from the University of Idaho and a MBA from St. Louis University. He is also a board member of the Iowa Institute for Cooperatives and the Nebraska Cooperative Council.

About CoBank

CoBank is a $66 billion cooperative bank serving vital industries across rural America. The bank provides loans, leases, export financing and other financial services to agribusinesses and rural power, water and communications providers in all 50 states.

CoBank is a member of the Farm Credit System, a nationwide network of banks and retail lending associations chartered to support the borrowing needs of U.S. agriculture and the nation’s rural economy. In addition to serving its direct borrowers, the bank also provides wholesale loans and other financial services to affiliated Farm Credit associations and other partners across the country.

Headquartered outside Denver, Colorado, CoBank serves customers from regional banking centers across the U.S. and also maintains an international representative office in Singapore. For more information about CoBank, visit the bank’s web site at www.cobank.com.