AOTW: "New Economics of Oil"

December 12, 2015

Good morning,

I don't remember too many times in mid-December when I had to decide whether or not I wanted to golf on the weekend… after last winter however, I am certainly not complaining.
This week we take a look at a topic which has been fairly popular over the past year: oil.

This fall, former Bank of England economist, turned British Petroleum chief economist Spencer Dale, released a very interesting paper titled "New Economics of Oil". The paper describes his beliefs about the oil industry after 25 years in central banking, which had been primarily developed through his theoretical education. Upon entering the oil industry, he realized that the economics of the oil industry no longer follow traditional theory, and he thus lays out the new economics of oil.

Below are our Coles Notes on his four core beliefs about the oil industry, and how they have changed.

1) **Oil is an exhaustible resource:** We will run out of oil, and as it becomes scarcer the price will increase.
2) **Oil demand and supply curves are steep:** The price of oil is very inelastic- since we depend so heavily on it, a change in price will not have a profound effect on how much we consume.
3) **Oil flows from east to west:** Oil is produced in the Middle East and flows to Europe and America. Money flows the other way leading to the issues of petro currencies.
4) **OPEC stabilizes the oil market:** The oil cartel controls the supply of oil on the market, which in turn controls the price.

However, the oil market has changed significantly over the past 10 to 15 years, and new theories must be used to understand the market. The two major changes that have led to this are the U.S. shale revolution (increasing supply), and the increasing concerns about carbon emissions and climate change (slowing the growth in demand).

Revisiting principle 1: Oil is an exhaustible resource
The total stock of recoverable oil is assumed to be known, but this estimated amount is increasing all the time as new oil reserves are discovered. Over the past 35 years, for every barrel of oil consumed, another two have been added to reserves. These reserves are almost 2.5 times greater today than in 1980. This, along with the growing concerns over the environment limiting demand means that it is unlikely we will consume all the world's oil.
How does this change our understanding of the oil markets?
It suggests there is no longer a strong reason to expect the price of oil to relatively increase over time. From the supply side it may be expected that the price of oil will increase as the remaining oil is the hardest to reach. However this should be offset by advances in technology (such as fracking in the U.S.). All in all, the price of oil should continue to be influenced by supply and demand just as

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other products would. We should not see steep increases in price due to scarcity, but temporary changes to supply and demand will influence price changes.

Revisiting principle 2: Oil demand and supply curves are steep

Due to new technologies such as fracking, the decision to drill, and oil being produced can occur in a matter of weeks, instead of years.

> " The US Shale revolution has, in effect, introduced a kink in the (short-run) oil supply curve, which should act to dampen price volatility. As prices fall, the supply of shale oil will decline, mitigating the fall in oil prices. Likewise, as prices recover, shale oil will increase, limiting any spike in oil prices. **Shale oil acts as a form of shock absorber for the global oil market"** (Dale, 2015)

A potential source of volatility tied to the shale producers is the rising number of smaller, independent produces. In contrast to the large oil companies with massive cash reserves, these smaller producers will be relying on the banks and creditors to continue to fund their business. This means that these producers will face greater exposure to the financial system, and their business could be negatively impacted by financial shocks.

Revisiting principle 3: Oil flows from east to west

Two developments here are important. The first is that the demand for oil in the west is falling- oil demand in the U.S. and Europe peaked about 10 years ago and has been on a downward trend since. The second is the huge growth in oil production in the west, particularly North America. Over the past five year, the U.S. alone has accounted for nearly 2/3 of the increase in global supply. Looking forward, the U.S. should become self-sufficient in oil by the early 2030s. In contrast, the growing powers in the east (namely China and India) are becoming more and more dependent on oil imports. These two countries alone are expected to account for 60% of the global increase in oil demand over the next 20 years. We should start to see more and more oil flowing west to east. This is sure to have far reaching implications for energy markets, financial markets, and geopolitics.

Revisiting principle 4: OPEC stabilizes the oil market

Since OPEC has given up market share to U.S. shale, many believe that the goal of OPEC has shifted from controlling the price of oil, to waging war on the U.S. and regaining market share. Dale however argues that the role of OPEC has not fundamentally changed over the past 20 to 30 years, but the belief that OPEC would always stabilize the market was never correct.

OPEC has been able to change their supply in order to respond to temporary shocks such as the 2008 financial crisis. They still account for roughly 40% of the world's oil supply and thus still have this ability. What they have never had the ability to do is respond to structural shocks in a sustainable way. For a persistent shock such as increased use of electric cars, reducing supply would only give up market share. Much like right now, their better option to deal with such a persistent shock is to increase production to drive higher cost producers out of the market. In essence, OPEC still has the ability to respond to change in prices, but the reason for the change in price will influence their ability to support prices.

Conclusion:

Many of our beliefs about the oil market are now outdated, and we need a new set of principles to analyze the market. According to Dale, any new framework used to analyze the oil market should include these four principles:

1) **Oil is not likely to be exhausted**
2) **The supply characteristics of shale oil are different to conventional oil**
3) **Oil is likely to flow increasingly from west to east**
4) **OPEC remains a central force in the oil market** but the nature of the shock must be analyzed before determining their ability to support prices.

You can find the full paper here: http://www.bp.com/content/dam/bp/pdf/speeches/2015/new-economics-of-oil-spencer-dale.pdf

Enjoy your weekend,

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