Is Oil Over?

January 2015

Of course the title of this essay is meant to get your attention. So much has been written in the last few weeks about oil that it requires a bit of sensationalism to get anyone's attention. And for us folk buried in oil and gas country we may need a little tree shaking in order to better view the forest. This too will soon pass may be accurate, but it may be healthy to consider an alternative to the current conventional consensus of this being a short market correction. Anyone not interested in considering an extended bear market for oil should move on from here.

To begin with, let's not short change oil. Just look at what oil did to the wheel. From horse, cart and carriage, oil transformed transportation far beyond preindustrial society's imagination. Today oil powers over 1 billion cars around the world, millions of commercial trucks, and thousands of commercial airplanes and ships. Imagine trade without the cargo ship and the enormous trucking infrastructures the world over. Those ships and trucks are fueled by oil. A key ingredient of the asphalt those trucks drive on is oil.

There would be no iPhone, no desktop and no laptop without oil. There would be little to no feasting on New Zealand lamb chops, Italian prosciutto, Chilean grapes or French Champaign without oil. Without oil there would be little ability for the bright and ambitious from the world's areas of poverty to leave their plight behind for lands of better opportunity. Global prosperity has grown enormously because of oil.

The most common reason given for oil's recent price collapse suggests that we have a supply problem, that is, we are producing too much oil. And since the price of commodities are generally made at the margin, an over supply of maybe a million barrels a day, in a 92 million barrel a day market, has caused the price of oil to fall significantly. Fingers are being pointed at Saudi Arabia for not fixing this problem since they can easily cut back production. But then why should we believe it is Saudi's responsibility to do so? It isn't. Instead it is their problem, since the foundation to the Saudi economy is oil. That's not likely to change any time soon.

Theoretically, the Saudis have a plan. By keeping their and OPEC's production constant, and oil prices lower, they are going to crush the recent explosion of capital investment in US shale oil, which will then drive down marginal production, and thus up the price of oil. Doing so would ensure Saudi and OPEC's market share and their ability to achieve higher prices down the road. **How does a short-term correction in oil's price really provide Saudi with longer-term market share and price control?**

People who talk about our over supply problem seem to view it from one angle. The market is out of balance with too much supply. It can be fixed by cutting back marginal production, which will happen when low oil prices lead to less capital invested to find new production. But this simple problem of too much production, of too much supply, may be masking a bigger problem when it comes to the price of oil. **The supply problem may not be that we currently have too much of it, but that we can now very easily get at more and more supply.**

Just a decade or so ago oil companies ran the risk of drilling a dry hole. Hundreds if not thousands of dry holes have been drilled in the history of the oil industry, but now because of innovation there may be no more, or at least far fewer dry holes. This is an enormous step change in the ability to get at more

oil production. Today, because of ever growing innovation, we can now increase supply more and more easily, and more and more cheaply.

The American market consists of hundreds of producers all seeking any way to get at more and cheaper supply. Because of this natural competitive market, American oil companies lead the world in innovation. **With the price of oil lower, won't companies now increase their focus on innovation that reduces the cost of finding and extracting more oil?** Just as is happening in many industries, the growth of momentum in innovation should continue making it cheaper and easier to find more oil.

In addition, oil producers are now going to push cost reductions on their suppliers. What it cost to get oil out of the ground a year ago is soon to cost less as equipment, supply and service costs drop. **Lower costs make more oil available.** $90 a barrel economics may now look like $70 economics and $75 economics may now look like $60 economics. The implication is that new supply will now be cheaper.

The enormous amount of debt oil and gas producers have taken on will also influence supply to stay high. Companies don't just need to pay down their debt they also need to show reserve and production growth since they are in a liquidating commodity business. If they don't show reserve and production growth public companies will get hammered. This reduces their availability of capital, and maybe more important, the net worth of executives. **There is no win for public companies if they lose production and reserves. They have to feed the beast. They have to grow production and reserves.**

Add all of the supply dynamics together and the implication is that supply is not likely going to move down fast and that oil is only going to become easier and cheaper to get. Oil prices could be lower for longer if demand doesn't move measurably. In essence, since today we no longer have a problem getting to more oil supply, the more important price influence now is demand.

The more the world grows, the more cars and stuff people will purchase and use, the more demand for oil. This has been the case for the last couple of decades as China went from being a third world backwater economy to one of the largest economies in the world. As the China economy grew, so grew the world economy, and so grew the demand for oil. But now the rate of growth in China is falling.

There is such economic malaise in Japan they have embarked on an enormous monetary stimulus program hoping to revitalize their economy. With similar if not even greater structural challenges, Europe is set to follow the same path. Japan and Europe share one significant economic anchor, their aging and declining populations. Fewer consumers means fewer stuff will be sold, meaning fewer stuff needs to be made. Japan and Europe, two of the four largest economies in the world, have become an economic drag for everyone. The less growth, the less need for oil.

Adding fuel to the demand challenge will be slower growth in the commodity producing countries of the Middle East, Russia, Venezuela, South Africa, Brazil, Chile, Norway, Australia, and maybe even Canada. Lower oil and natural resource commodity prices mean lower growth for these countries, further tempering the demand for oil.

Global growth will certainly continue but now at a lower pace, and since commodity prices are generally made at the margin, if marginal growth (demand) slows while it has become easier and cheaper to get at more supply, there is little reason for oil prices to rise.

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The consequence of economic weakness produces another challenge for oil. As global economies struggle, capital naturally flows to the safe harbor, the dollar. This is causing the dollar to rise in value relative to many sovereign currencies. And because oil is priced in dollars, as the dollar rises, the price of oil falls. **Oil prices fall because of less demand. And oil prices fall because the dollar rises**. If only this was all oil needed to worry about.

Companies and investors all over the world have been borrowing dollars because they were cheap, and because the cost of borrowing them was cheap. Sophisticated investors call this the "carry trade". Borrow in cheap dollars at cheap interest rates and invest them in fast growing economies. It was a huge win-win for emerging economy investors in particular, but also for all kinds of companies throughout the world. Now, as the dollar rises in value, it's no longer cheap. If the dollar rises by 10% against another currency, then dollar borrowers in that currency market must now add 10% to their rate of interest. If the dollar rises 20%, well, there you go!

How much carry trade debt is there in the world that borrowers are now going to find much more expensive than they thought? Estimates range anywhere from $5 to $10 TRILLION dollars. **As companies struggle to pay back carry trade debt they will contract, adding further challenge to the global economy and the demand for oil.** And if only that was all oil needed to worry about.

According to the Energy Information Agency the major uses of oil in the US are gasoline (46%), heating oil/diesel fuel (20%) and jet fuel (8%). The bottom line is that a significant amount of oil is used to fuel transportation.

No matter one's perspective on climate change it has become an enormous influence in both consumer sentiment and economic policy. **The effort to reduce coal use around the world is stepping up to do the same with oil.**

Tesla Motors is looking like the next Apple Computer, the next new technology brand that seems to be building a rabid following. **What happens to the demand for oil when everyone that owns an iDevice wants an electric car?** Sure, Tesla automobiles are not affordable to the masses today but iDevices have never been the cheapest electronics themselves either. And as Moore's Law should have already taught us, each year innovation reduces the cost of technology. Tesla's are only going to keep getting cheaper, and as we can visibly see, all the other auto manufacturers are building larger electronic car offerings.

Also consider that Japan is very actively moving their auto fleet to electric and hydrogen power. Because necessity is the mother of invention, because Japan possesses little to no oil, Toyota made the hybrid Prius a mainstream automobile. **Japan, one of the world's largest economies, is not done innovating ways to reduce their reliance on oil.**

None of the current efforts in electric, hybrid or hydrogen vehicles are going to significantly dent the near term demand for oil as a transportation fuel, but at the margin, where commodity prices are made, the move away from oil in transportation is not positive for demand.

The global economy has significant organic impediments to growth with China slowing, Japan and Europe struggling and commodity oriented countries set to follow. The dollar's rise doesn't just cause

the price of oil to fall but given global carry trade exposure there are greater risks to global economic activity. Then given the global concern over climate change, as well as the necessity of highly motivated economies like Japan to wean itself from commodities it doesn't possess, innovation is moving transportation away from oil. **And finally, if the Saudi's are truly interested in protecting their only livelihood how does a short-term price correction accomplish that?**

The supply side for oil has structural reasons for supply to stay high and for more supply to become easier and cheaper to get. Demand has both organic growth challenges as well as meaningful efforts to reduce oil's primary use in transportation.

Maybe the Saudi's are very aware of all the above. If so, and if they understand that only by ensuring oil survives in demand will their economy and social structure remain, they must be prepared for significantly lower oil prices for a good long time. **Only a long period of low oil prices can possibly support global growth, reduce the growing marginal supply in the US while maybe curtailing the world's trend towards replacing oil as a transportation fuel.**

Should we really think an oil price snap back is going to occur shortly after US upstream capex falls? Oil is not over, but its price may be a whole lot lower for longer.

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