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U.S. Winning Oil War Against Saudi Arabia

Last year the Organization of the Petroleum Exporting Countries (OPEC), led by Saudi Arabia, initiated an economic oil war against the United States when it refused to cut production in November of 2014 like it usually does when oil prices drop. This was an attempt to drive some U.S. shale oil producers bankrupt and stem the flow of North American shale oil onto the global market.

In fact, OPEC actually increased oil production in November, which drove oil prices down to nearly \$50/bbl, the price at which many shale producers can't even break-even. But it hasn't quite worked out the way they wanted.

In fact, I think they've lost this war by inadvertently making the U.S. shale oil industry leaner and meaner.

"The deliverability of Middle East oil is just not there in the long-term," says David Zusman, Managing Partner of [Talara Capital Management](#), with whom a long discussion generated a clearer picture of what is coming for the future of oil. "The EIA has global oil demand in 2020 and beyond being met with increased supplies from a region of the world stuck in a multi-decade crisis that is likely to get much worse before it ever gets better. Supply from the short-cycle U.S. oil market is required to balance the global crude market at a rate where U.S. shale should remain a growth industry."

Most likely, oil prices will remain reasonably low at somewhere around \$70/bbl, and natural gas prices quite low at about \$3.75 per mcf, for many years – which is good for the American consumer, even if it might be bad for the environment.

From a production standpoint, this oil war pits conventional oil against unconventional, sort of

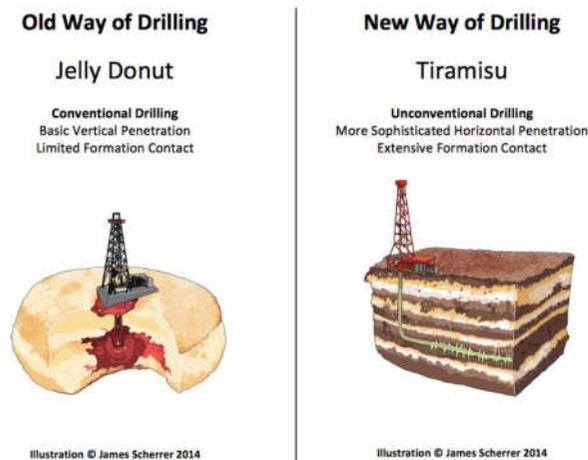
like [jelly donuts versus tiramisu](#) (see figure below).

While over half of the proven oil reserves are generally under the control of OPEC, there are many more [unconventional reserves](#), such as oil shale, heavy oils and tar sands, outside the Middle East (see 2nd figure below). And most of these are on the edge of affordability.

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Thus, OPEC would like to keep the price of oil low enough that these reserves never enter the world supply to jeopardize OPEC's influence.



Drilling into conventional sources is like sticking a straw in a jelly donut – the petroleum is trapped in a large single formation that just flows out under pressure. Drilling into unconventional sources like oil and gas shale is quite different, more like tiramisu – the petroleum is in many layers that have to be individually tapped using horizontal drilling and fracking methods to open up the rock. Saudi Arabia has a bunch of really big jelly donuts. The United States has lots of tiramisu, plus some pretty good jelly donuts as well. Source: Jim Scherrer

The Oil & Gas industry is a textbook case of supply and demand, evolving continuously, on scales from individual parts of a geologic formation, or plays, to the entire global supply. From month-over-month trends to decades-long changes. There have been several key developments that set the stage for the evolutionary phase that the world has now entered:

- 1) development of mature fracking technologies for oil and gas shale that have made previously uneconomic reserves economic, and development of other unconventional sources like tar sands and heavy oils

- 2) the global economic melt-down of 2008 that reduced the global growth rate and thus oil demand, instigated very low interest rates, and slowed-down Chinese economic growth
- 3) the rapid urbanization of developing countries that is increasing oil demand faster than the Middle East can supply oil
- 4) the Saudi war on United States shale oil producers
- 5) limited excess spare capacity for oil production

This last point is key. Today, spare capacity is less than 2 million barrels per day compared to the 1980's oil glut when spare capacity was over 15 million barrels per day. This means that small changes in supply or demand can cause large changes in the price of oil. This leads to significant price volatility, which should only increase in the coming years.

The world is producing about 93 million bbl/day, but it is the cost to supply the last barrel needed to meet demand that determines the [marginal cost of oil](#). So, the marginal cost of oil is above the average production cost of that first 92.9 million barrels. The marginal cost is used by oil companies to plan long-range capital budgets and field operations and bankers value assets during acquisitions or divestiture processes. It is also the best guide to what futures prices will be.

The cost of production of a barrel of oil is the most important component of determining the marginal cost. Individual geologic formations and well completion methods vary widely as to the ease of production, particularly for shale. Take, for example, the Bakken formation in North Dakota that has an overall break-even point of about \$40/bbl. However, in McKenzie County, the break-even point is only \$28/bbl, while Divide County had a break-even point of \$85/bbl ([OGJ](#)).

One reason Saudi Arabia has dominated the world oil market is that they have more oil that is easier to produce than anyone else. The Saudis have sweet crude that is unmatched for ease of access, recovery and refining. They can bear to sell at \$15/barrel without going bankrupt, something no one has done since the Los Angeles basin almost a hundred years ago. So they are well-positioned for this economic war with oil.

The nominal cost of oil production for various

countries is:

Saudi Arabia – \$21/bbl

Middle East – \$24/bbl

Russia – \$26/bbl

Mexico – \$42/bbl

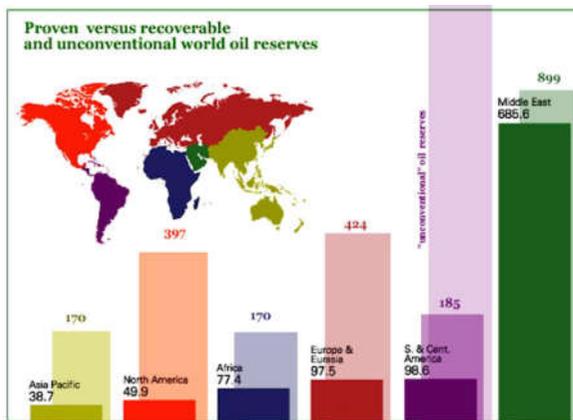
S.America/Europe/Eurasia/Africa – \$56/bbl

North America – \$60/bbl

Gulf Deep Water – \$70/bbl

Canada tar sands – \$82/bbl

other unconvensionals – \$100/bbl



There is far more oil in the rest of the world than there is in Middle East, most of it being of the unconventional kind, more expensive to produce but not enough to prevent it from entering the market. In fact, we have so much oil in the world, that we will not run out anytime in the next few hundred years. Proven (solid) and recoverable (transparent) values shown for each region, and a single light lavender bar for unconvensionals in billions of barrels. Source: Dr. Bill Kovarik, Radford University

However, while Saudi Arabia produces 10 million barrels of oil per day, more than any other country, it has little-to-no extra capacity to adjust to sudden increase in demand. Similarly for the other OPEC nations. So OPEC can no longer control the price and supply as well as they used to, because there is too much outside supply and too much growing volatility in demand.

The above costs are only to sell from existing fields. But the Saudis need over \$100 per barrel to significantly grow their capacity to produce, a critical distinction that is usually overlooked.

“Prior to the present Saudi-U.S. oil war, OPEC was flush with cash from its currency reserves,” points out Zusman. “Oil had remained above \$100 per barrel for the longest time in history, which allowed OPEC governments to

dramatically increase their spending on social programs. At some point, OPEC countries will begin to bleed too much, and you will see it show up in social disruptions, but they are content to fight the oil share war for now.”

So the Saudis pressed the OPEC nations to drop prices by increasing production in the hope of driving U.S. oil companies out of business.

The big global oil companies could weather this war, but the small ones, some of which led the fracking revolution, may not. What this war has engendered, instead of halting U.S. shale oil production, is a rapid consolidation and merging of companies that has increased efficiencies and lowered production costs so that the marginal cost of shale oil can go lower and lower and still allow shale oil to compete on the global market.

The U.S. shale oil industry has rapidly gone through these evolutionary stages:

- 1) Land-grab stage – buying up potential land area without a detailed understanding of the underlying geology and possible productivity, but with the knowledge that a new market is emerging.
- 2) Delineation stage – drilling to determine the broad outlines and characteristics of whole formations but still with wide variations in properties and productivity. Shale is absolutely not homogeneous at all, and the local geologic properties determine productivity and longevity of the play. This stage determines which plays will be profitable and which should be abandoned or put in stasis.
- 3) Development stage – batch drilling and fracking. Better technology (better fracking, secondary recovery using CO₂, replacing trucking with pipelines), more efficient operations, centralizing infrastructure, less gouging by service companies, a deep understanding of the local geology, and consolidation of geographic areas under one operational umbrella ([WSJ](#)). Field development costs can be 30% less than the same field in the delineation stage.

This last stage is when the play becomes competitive in the global market, and represents where U.S. shale oil is headed now.

Zusman put it this way, “This behavior is typical for a new market that is highly fragmented and inefficient, and that is undergoing a significant

evolutionary change. It is all about localizing, not generalizing, everything from oil recovery, cost of full field development, and expected returns. There is going to be a ton of performance dispersion as the industry moves into a more manufacturing-like state. The race for land has now become a race for efficiencies.”

On the other hand, “In response to lower oil and natural gas prices, exploration and production companies have slashed capital budgets by over 40% on a year-over-year basis, and the oil rig count fell by 58% from its 2014 peak.”

Over 1,000 drill rigs in America, a third of all rigs that were active, have been disassembled in the first half of this year ([Oil&Gas 360](#)). The rig count fell at a pace of 57 rigs per week in the first quarter, faster than the 49 rigs per week decline in 2009 when the financial world was collapsing.

This is just what OPEC was hoping for in their oil war with the United States, but it does not seem to be accomplishing what they expected. The low prices led to a global glut that led to the falling rig count, but without so many rigs, the supply cannot rebound quickly and prices increased again, bringing more rigs back. And the cycle repeats itself. With each iteration, the U.S. oil industry gets more efficient and smarter.

As an indication of this evolution, \$11 billion of new equity was issued from the major oil companies in just the half of 2015. This was more equity issued than in all of 2014, and means the capital markets are available and ready and see a strong shale oil future.

As all this has been occurring within the United States, the rest of the world has been changing, too. Dropping oil prices from \$100/bbl to below \$70/bbl has imperiled the finances of many OPEC nations and authoritarian governments overly-dependent on oil revenue. This, in turn, has produced social unrest, since many of these governments are already at risk of violence from their populations.

Even worse for OPEC, the rate of change in oil production has recently begun to slow, and the oil price has recovered from the low \$40's per barrel to the mid \$50's. Five-year deferred oil futures contracts have increased to \$66 per barrel. This level can easily sustain the newly-consolidated U.S. shale oil industry, effectively ending this oil war.

Is it time for the Saudis to surrender?

[Where the World's Oil Will Come From](#)

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