The Oil Price Plunge: Is it Really Different this Time?

By Les Deman*

Oil price cycles are nothing new. Over the past 40+ years, since the Railroad Commission of Texas stopped setting oil prices via prorationing, we've witnessed 5 major cycles (including the current one).[1] As Figure 1 shows, cycle magnitude and duration (peak to peak) has varied. The typical driver behind most commodity price cycles is the market's perception of supply-demand tightness and for the most part, crude oil's price fluctuations seem to fit that rule (Figure 2). Today's market is trying to discern whether this is a short cycle or a long one because the impact on demand and supply growth would be markedly different.

Whichever way this cycle goes, there is precedent.The short cycles were typically precipitated by either a demand or supply shock and the effects have been mostly transitory. Moreover, both the demand and supply effects were generally as expected; that is, high oil prices depressed demand while drilling activity increased and low oil prices had the opposite effect. For example, looking at the 1990-96 cycle, there was a 37% price decline from the 1990 peak to the 1994 trough. As a result, world oil demand growth began to accelerate (Figure 3), increasing at an average rate of 2.3% from 1994 to 1997 after having been depressed from 1990-1993 (only 0.8% per annum). On the supply side the global rig count fell from over 2200 rigs in late 1990 to under 1500 in early 2003 (Figure 4). Similar effects were seen following the 44% price plunge from 1996 to 1998 and the 36% drop between 2008 and 2009.

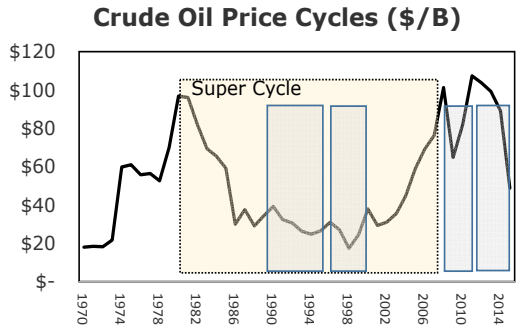

Figure 1. U.S. imported crude oil prices ($2015). Shaded areas indicate oil price cycles.
Source: U.S. Energy Information Administration April 2015.

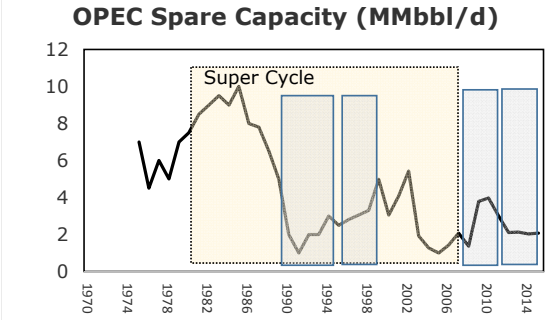

Figure 2. OPEC spare crude oil production capacity.
Source: 1974 - 1995 Energy Outlook 2035, British Petroleum, January 2015, p-32. 1996-2014 Short Term Energy Outlook, April 2015, U.S. Energy Information Administration.

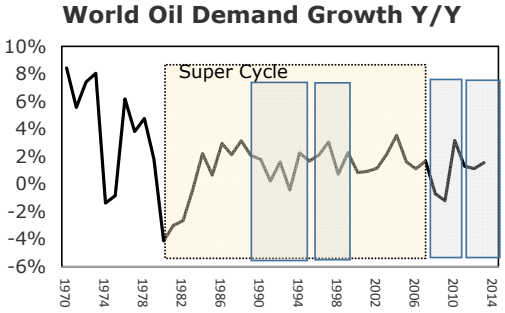

Figure 3. Dashed line is 3-year average.
Source: BP Statistical Review of World Energy, June 2014.

The Super Cycle (1980 – 2008). The mother of oil price cycles began in the early 1970s when OPEC production cuts (Arab Oil Embargo) sent the price of imported U.S. crude oil up from <$20/B in 1972 to over >$60/B in 1975 ($2015). Another supply tightening due to the Iranian Revolution and Iran/Iraq war sent the price up to nearly $100/B in 1980.The supply and demand effects were textbook. Oil demand growth disappeared and non-OPEC oil production accelerated.

By 1985 OPEC crude oil production had fallen below 16 MMbbl/d from 30 MMbbl/d in 1979. With the Saudi's bearing the brunt of the decline (output fell from over 10 MMbbl/d in 1980 to under 4 MMbbl/d in 1985), they slashed prices and raised production. Imported U.S. oil prices fell to roughly $30/B in 1986. OPEC oil production did not exceed 30 MMbbl/d until 1998, but the 1981 price peak was not breached again until 2008. In part, the delayed price effects appear to be the result of the growth of strategic storage buffers in many OECD nations and growing OPEC productive capacity as a result of investments in new fields and in existing reservoirs.

The massive oil price decline between 1982 and 1986 show the expected reactions by both consumers and producers. World oil demand growth began trending higher in 1985, but there are clearly growth cycles that correlate with the smaller price swings (1993, 2002 and 2009). A more permanent legacy can be seen in OECD demand, where policies to reduce oil use took hold (higher taxes, mandatory efficiency standards, etc.). Since 1981 oil demand growth in the OECD averaged only 0.5% and both North America and Europe appear to have passed their demand peak.

On the supply side global drilling activity fell from a peak of over 6000 rigs in 1981 to 1800 rigs in 1986. (The U.S. plunged from a peak of 4500 rigs to 700.) Beginning in 1990 we see several mini drilling cycles that correspond to the smaller price swings. Oil production growth (ex OPEC & FSU) also saw a

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See footnotes at end of text.

flattening after 1984. Although the rig count continues to be driven largely by oil prices, there appears to be little correlation between production growth and rig count after 1990.

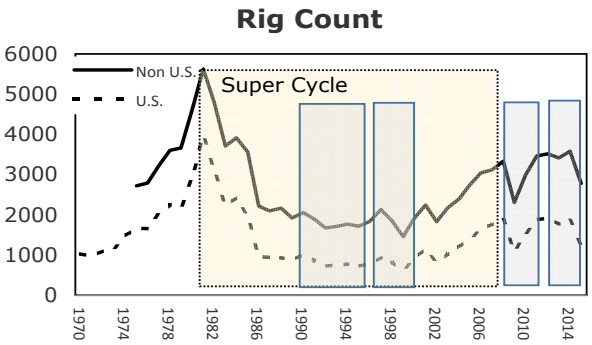

Figure 3. Dashed line is 3-year average.
Source: BP Statistical Review of World Energy, June 2014.

2015 and Beyond. There are few of the historical catalysts behind the current oil price plunge. Surplus OPEC capacity in 2014 is estimated at 2.1 MMbbl/d by the EIA, having fallen from a recent peak of 3.6 MMbbl/d in 2011.This is the smallest surplus since 2008. One can only speculate on the Saudi strategy that precipitated the recent price plunge.Possibly the Saudis are short-run focused, hoping that lower prices provide a quick fillip to Asian economic growth, stymie unconventional oil investment in North America and encourage more production discipline among OPEC members and the "free riders" such as Russia, Mexico, etc.

This short-run strategy could play out similar to previous mini cycles.With oil futures for WTI and Brent rising about $2/B per year[2] the market expects a 2020 price close to $70/B ($2015).While $70/B is about 35% below the post-recession peak in 2011, it is roughly equal to the post 2000 average real oil price. With the exception of the 2008 economic crash, OPEC did not do badly over this period. OPEC crude oil production rose from about 28 to 30 MMBBL/d, with the Saudis contributing 65% of the gain. While low oil prices might raise oil demand, recent forecasts[3] have world oil demand growth continuing, even with prices that ramp up to $100/B by 2025. Oil producers could fare worse than a 10-25 year period with a slowly rising real oil price.

The larger threat to OPEC and other oil producers is a world where there are minimal price effects on both oil demand and supply. If so, will the Saudis replay their 1985 strategy--attempting to negate recent energy efficiency trends, pulling capital from unconventional oil developments and hoping to assure a market for their oil for at least another generation? Over the first four months of 2015 real U.S. imported oil prices are averaging only 55% of the last peak (2011). This downward price trajectory has exceeded the 1990-94 decline (36%) but is shy of the 1980-86 plunge (69%).

Playing out the 1980-86 scenario would result in an additional 50% decline in the global rig count by 2017 and non OPEC production would be flat over the next 5 years. Whether improvements in horizontal drilling, fracking and other unconventional production technologies can offset the effects of lower prices is open to debate. At least one forecast (AEO-2015) shows production growth until 2020 in the U.S. and Canada with prices <$50/B.

Oil demand accelerated in the 2nd half of the 1980s from the positive price and income effects of lower oil prices, but there are analysts who question whether we would see a similar boost in today's environment. Many nations are instituting policies to reduce carbon emissions via mandatory efficiency targets and carbon taxes.[4] These policies, including LNG substitution for oil and the adoption of new technologies, could well result in non OECD oil demand peaking within a decade or so.[5] Under this brave new world oil prices could be in a flat to declining pattern.

"The best cure for low oil prices is low oil prices" is an old saying in the oil patch. However, savvy oil producing nations and petroleum companies would be wise to heed the other adage that says "hope for the best, but plan for the worst."

Footnotes

[1] I've adapted the NBER definition of business cycles: "…a significant decline in economic activity spread across the economy, lasting more than a few months…." My arbitrary measure of a significant decline is a price drop >25%.

[2] NYMEX and CME early May 2015.

[3] EIA, Annual Energy Outlook 2015 (April 2015).

[4] The Wall Street Journal reported: "Almost 1400 climate policies had been enacted globally by 2013 according to the IEA from less than 200 in 2006." May 7, 2015.

[5] A good discussion of peak oil demand can be found in: Amy Myers Jaffe. "Never Mind Peak Oil – Here Comes Peak Demand." The Wall Street Journal, May 6, 2015.