Beware the Oil Price Super Cycle

The evidence suggests the hydrocarbons market has entered the low-price phase of a commodity super cycle. If true, what does it mean for the Middle East oil industry? How should national oil companies in the region respond?
The Burning Question

How long will oil prices stay low? There is substantial evidence that, as happened after 1986, today’s reduced prices may signal the beginning of the low-price segment of a commodity super cycle. Indeed, years of high oil prices fostered massive upstream investments, which, in turn, led to oil reserves growing at a much faster rate than demand. Furthermore, hydrocarbons may represent the last major mining commodity group to start the downward price trend, in part due to the strength of OPEC. In short, a scenario where crude oil prices hover around $60 to $80 per barrel for a number of years appears likely. Beyond its obvious revenue impact, this scenario poses both challenges and opportunities for national oil companies (NOCs) in the Middle East.

Reading the Tea Leaves

In 1980 the price of oil and a long list of other mining commodities reached an all-time high, and numerous analysts (including Paul Ehrlich in his bestseller *The Population Bomb*) predicted that this upward trend would continue as rising global demand confronted rapidly depleting reserves of natural resources. Conversely, a group of economists argued that in the long run, technology would increase supply by exploiting previously unavailable sources of these resources, so eventually prices would fall. One of these contrarian economists, Julian Simon, made his point by challenging Paul Ehrlich to a wager: Ehrlich should pick a basket of any five commodities (he chose copper, chromium, nickel, tin, and tungsten) and Simon would bet that its value, adjusted for inflation, would be lower in 1990 than in 1980. Ehrlich accepted the bet, and the rest is history: By 1990, the portfolio he so carefully chose was worth less than half its 1980 value.

A scenario where crude oil prices hover around **$60 to $80 per barrel for a number of years appears likely**—posing challenges and opportunities for NOCs.

The view Julian Simon espoused in 1980 is known today as the commodity super cycle. Supply of commodities in general, but particularly mining ones such as oil, is characteristically rigid, as increasing production capacity usually involves significant investment that takes years to bear fruit. Therefore, when demand increases and starts to push against the limits of a globally constrained capacity, oil becomes a scarce resource that the market needs to ration, and the result is a price hike. At the same time, however, these high prices incite upstream investment to expand capacity. These investments usually take years to deliver results so a market bubble can develop. Eventually capacity expansion takes place and, as supply loosens, it takes only a small dip in demand to see prices fall dramatically.

The dynamics of different commodities may of course differ in the details. Agricultural commodities such as food crops may take relatively modest, short-term investments to expand capacity,

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1 Complex upstream oil and gas investments, for example, can easily take nine to 10 years from initial exploration to bringing oil onstream.
so their price bubbles tend to be comparatively minor, whereas mining products such as hydrocarbons and metals depend on massive, long-cycle investments and as a result their price bubbles can be nothing short of spectacular. In addition, commodities subject to a strong supplier cartel (such as OPEC for crude oil) are often able to keep their prices high for longer periods of time. Nevertheless, the story always ends the same way: When production capacity eventually catches up with demand, the bubble bursts, prices fall to a level low enough to justify only the most conservative investments, and stay low, potentially for a long while, until increased demand makes existing capacity insufficient again. The timing of every major swing cannot be predicted with certainty, of course; yet, due to the length of time these fluctuations have historically taken (World Bank studies talk about 30 years or more from one peak to the next), the “super cycle” becomes apparent.

The recent dramatic fall in oil prices, from a peak of $115 per barrel in July 2014 to $45 per barrel by January 2015, brings up several questions (see figure 1). Might this be a “blip” similar to that of 2008-2009, which by mid-2011 had all but reversed course? Or, conversely, could this signal the downward phase of a super cycle, similar to the oil price collapse that took place from 1981 to 1986?

Both historical cases occurred within the context of a recession that weakened global oil demand (a recession in 1981 largely caused by high oil prices). Both took place after nearly a decade of high, fast-growing energy prices that led to aggressive investments in upstream

Figure 1
The recent oil price drop is not unprecedented in historical perspective

Crude oil price history
1970 to 2014 (annual averages, $/bbl)

Brent and WTI spot crude oil prices
10 May 2007 to 15 April 2015 ($/bbl)

Sources: U.S. Energy Information Administration (EIA); BP Statistical Review of World Energy; A.T. Kearney

See, for example, Otaviano Canuto (2014) “The Commodity Super Cycle: Is This Time Different?” The World Bank, June 2014
exploration and development. Yet there was a substantial difference. The oil price hike in the years leading up to 2007 was accompanied by rapid global economic growth. So the new oil reserves from the sizeable upstream investments in exploration simply managed to keep capacity growing more or less at the same pace as demand. Conversely, because price hikes prior to 1981 occurred within the context of a major global recession, additional capacity was added at a faster pace than demand (for example in the North Sea, Canada, and Alaska). With this in mind, two key observations should be considered regarding 2014 oil price reductions:

1. Since oil prices rose again in 2010, upstream oil investment has grown at a 13 percent year-on-year rate while the global economy has remained nearly stagnant. As a result, oil demand has increased by just 6 percent since the 2007 global economic downturn, while proven oil reserves have increased 26 percent during the same period (see figure 2).

2. As the 2007-2008 recession hit, most mining commodities (including metals and hydrocarbons) saw their prices fall and then bounce back in 2010. In the years thereafter, however, metals have experienced a sustained downward slide, while hydrocarbon fuel prices have essentially hovered around their 2011 high point (see figure 3 on page 4). To the extent this is a result of the oil cartel’s strength, it suggests that, as in the early 1980s, OPEC can keep oil prices high against market forces for a while longer than metals, but probably not forever. And, following this interpretation, the recent oil price collapse would simply reflect the market’s rush to respond to the supply glut once OPEC signaled it was no longer willing or able to contain it.
In short, the evidence suggests we are heading into the low-price phase of the commodity super cycle, with hydrocarbon prices remaining low for several (potentially many) years. This raises the obvious question: How can the oil industry adapt to this? An article in the Financial Times posed the answer: “What would happen if $50 per barrel became the new normal? The structure of the industry would have to change.”

What May Change, and How Middle East NOCs Can Respond

A transition from high to lower oil prices almost reverses everything we took for granted during the price hike years: what used to be profitable may no longer be, whereas what seemed a second priority may suddenly gain relevance. The impact will be different for each segment in the hydrocarbon value chain:

**Upstream**

A period of cheap oil will inevitably have a negative revenue impact on every upstream producer, be it IOC, NOC, or independent. But the impact will not be the same for all. The Middle East NOCs in particular—due to their low production costs—are in a position to benefit from other companies’ reaction to a period of low oil prices.

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**Figure 3**

Energy prices may be following those of other commodities into a cyclical downturn

**Commodity price indices** (January 1992 to March 2014)

![Commodity price indices chart](chart-image-url)

1 Non-weighted average of Brent, Dubai, and WTI Crude
2 Combined crude oil (petroleum), natural gas, and coal price index
3 Combined copper, aluminum, iron ore, tin, nickel, zinc, lead, and uranium price index
4 Combined cereal, vegetable oils, meat, seafood, sugar, bananas, oranges, coffee, tea, and cocoa price index
5 Combined timber, cotton, wool, rubber, and hides price index

Sources: International Monetary Fund (IMF) Primary Commodity Price Indices; A.T. Kearney
With crude oil prices hovering around $60 to $80 per barrel, many independents and even IOCs will be in financial trouble, largely due to several years of taking on large amounts of debt to finance their investments in high-cost hydrocarbon sources (see figure 4). These companies often have cutting-edge expertise that could become extremely useful if applied to lower-cost Middle East basins. Therefore, as IOCs and independents reallocate resources away from unprofitable reservoirs, NOCs could take advantage of the expertise they release. It may make sense for Middle East NOCs to consider M&A moves, entering joint ventures with IOCs or independents, or recruiting some of the expert teams that are laid off. These deals are likely to become feasible at much more favorable conditions for NOCs than in the past. So far the IOCs have been faster at capturing M&A opportunities (for example, Shell’s takeover of BG Group in April 2015 and the Repsol Talisman deal in December 2014) primarily because of their governance processes. But the appeal of such deals is ultimately just as high for the NOCs.

Figure 4
If prices settle around $50 per barrel, investment in more expensive oil sources will slow and efficiency will be the focus

Long-term oil supply cost curve


At the same time, a sustained low price tends to change the dominant focus of upstream business investments. At high prices the emphasis is on exploration—on finding new sources of oil—even if the processes and techniques used to exploit it are not as efficient as they could be. Conversely, at low prices every penny of cost savings has, proportionally, a much larger impact on the bottom line as costs are a larger share of the value added. The focus therefore changes from securing additional sources of output to improving efficiency of production in mature fields and maximizing the return on capital expenditures.
**Downstream**

When crude oil costs fall, but GDP (and thereby also demand for oil products) continues to rise, the result is typically high refinery utilization and, as a result, wider margins. Of course, the global economy is still growing at a relatively slow pace (3 percent since 2010 in PPP terms, down from more than 5 percent in the years before 2008), so demand may still take time to pick up. But if today is anything like the 1980s scenario, we can expect global GDP to resume growth (particularly in growth markets such as East Asia) faster than oil prices, which, per our forecast, may still hover around $60-$80 per barrel. Furthermore, there is a strong and fairly well understood negative correlation between oil prices and global GDP growth, in which the global economy has a faster recovery precisely because oil prices are low. Under these conditions, it becomes an attractive proposition to once again invest in refining, with a particular focus on growth markets, as margins are likely to go up when global GDP takes off.

Of course, refining capacity expansion projects are well underway in the Middle East and in its target markets in East Asia. So capacity is already expected to grow substantially. In fact, if all current refinery projects deliver on time, global refining capacity will almost double between 2015 and 2020. Yet while the potential for improved refining margins may already be factored in, there are still attractive M&A opportunities for Middle East NOCs in this space, particularly as cash-poor IOCs and independents decide to raise cash by offloading their downstream assets.

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**Lower oil prices will change things we took for granted:** what used to be profitable may no longer be, what seemed a second priority may suddenly gain relevance.

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**Petrochemicals**

The landscape is similar in petrochemicals where demand is heavily dependent on GDP. As the global economy takes off, a low hydrocarbon cost scenario logically leads to higher margins in petrochemicals. Yet, unlike refining, petrochemicals poses additional questions related to the different types of crackers (gas-based or naphtha-based). Gas feedstock contracts tend to be local (as they are for many of the producers in the Middle East), whereas naphtha is comparatively easier to transport and can be sourced from a wider area. Therefore, an oil price hike such as the one experienced in the past 10 years often does more damage to the economics of naphtha-based crackers than to gas-based ones, whereas when oil prices fall naphtha-based crackers tend to regain competitiveness faster. As a result, in the area of petrochemicals, one should not only consider investing in additional capacity but also revisit preconceived ideas about the comparative economics of gas vs. naphtha crackers, and invest where they may be more favorable in a cheap-oil scenario.

Indeed, while naphtha crackers are typically more expensive than gas ones for the same output capacity, their output slate is usually higher priced (for example, containing higher volumes of aromatics over basic olefins as a share of total output). If naphtha costs fall faster than gas feedstock costs, then naphtha crackers become more profitable overall. This is
particularly important in the Middle East where ambitious refinery construction projects are planned over the next few years—no doubt increasing local supplies and putting additional downward pressure on naphtha prices across the GCC.

Challenges and Opportunities

The specific challenges and opportunities facing every Middle East NOC will vary from company to company. Yet all NOCs should consider initiatives along the lines that we have described here as a way to take advantage of the new hydrocarbon pricing scenario. After all, Middle East NOCs control the most cost-competitive oil reserves on the planet, which affords a significant competitive advantage over companies operating in more expensive reservoirs. While other companies worry about going out of business, a Middle East NOC’s biggest worry is how to leverage its privileged position and take advantage of the business opportunities that cheap oil poses.
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The signature of our namesake and founder, Andrew Thomas Kearney, on the cover of this document represents our pledge to live the values he instilled in our firm and uphold his commitment to ensuring “essential rightness” in all that we do.

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