

Our Intermediate View of Crude Oil: Prices Should Fuel Oil Service Returns

April 2009

We believe that oil prices in the intermediate term will trade near \$65 per barrel, where the cost of supply meets intermediate demand. We arrive at this range by examining oil consumption relative to world GDP and the likely growth in demand due to rising automobile use in China and other Developing Countries. We also review how the decline curve of producing wells, reduced capital budgets, OPEC production and cost of marginal supply will affect crude oil production in the next several years.

Demand

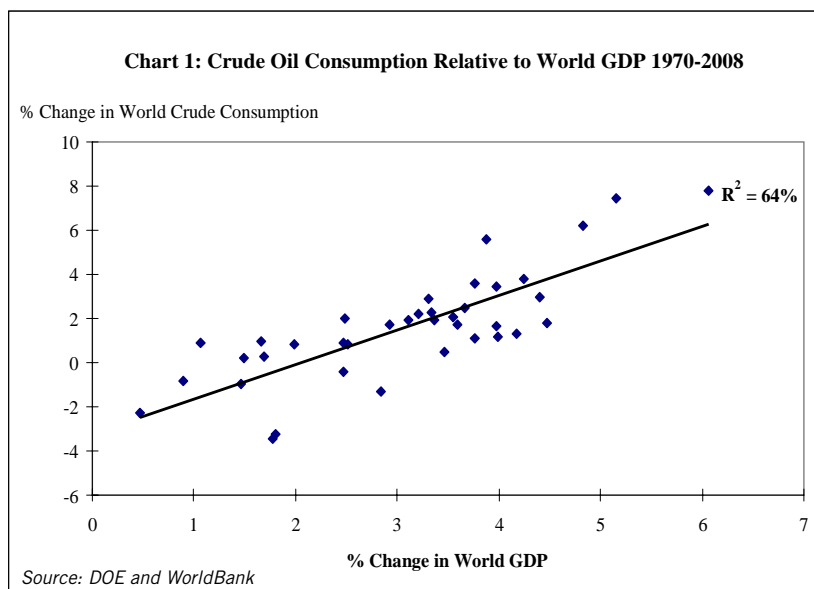
Our outlook for crude oil prices begins with a view of crude consumption, which is driven by worldwide economic growth. Obviously, accurately predicting the change in worldwide economic activity is challenging in this environment where the affects of reduced credit availability, decreased trade and high unemployment are expected to be partially offset by historically low interest rates and a plethora of fiscal stimulus packages. The International Monetary Fund (IMF) forecasts that the worldwide economy is likely to contract 1.3% in 2009 and then grow at a below average rate in 2010. We believe their view of international economic activity in the next 18 months is as qualified as any. In subsequent years, we are modeling average worldwide economic growth of 3.1%.¹

A simple linear regression analysis of data from 1970 through 2008 suggests 64% of the variability in crude oil consumption is explained by worldwide economic growth, as depicted in Chart 1.

Additionally, the data suggests that oil consumption increases when worldwide economic growth exceeds 2.04%. Given the expectation that in 2009 the amount of oil consumed will average 83.8 million barrels per day² and that we expect average worldwide economic growth of 3.1% following 2010, we anticipate the average amount of oil consumed in 2013 will be between 87.4 million

barrels per day and 88.3 million barrels per day. Notably, peak crude oil consumption of 88.0 million barrels per day occurred in February 2008 according to OPEC (87.2 million barrels per day according to the International Energy Agency).

We believe there are two critical factors, which could result in crude oil consumption exceeding our expectations by 2013. Most notable is the economic growth of the emerging markets. Relative to the Organization for Economic Cooperation and Development (OECD) economies, emerging markets economies have much higher energy intensity, which is the ratio of energy use to GDP. It indicates the total energy being used to support economic and social activity (processing commodities, heavy industry, manufacturing, etc).



Therefore, if the growth of emerging markets exceeds expectations, it is likely that worldwide crude consumption will eclipse the 88 million barrels per day peak (reached in February 2008) within the next five years.

The other factor which could result in crude oil

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consumption exceeding our expectation is a secular change with regard to vehicle ownership in China and other Developing Countries. Vehicle ownership in China increased to 24 per 1000 people, a 33% increase over the previous year. In other Developing Countries, the increase was 10% year over year.³ We believe this vehicle ownership trend in China will continue for many years as it slowly approaches the 648 cars per 1000 people of North America.

Supply

In arriving at a \$65 per barrel of crude oil forecast, we also analyzed the likely impact on crude oil supply of 1) the decline curve of producing wells, 2) reduced capital budgets, 3) OPEC compliance and future projects 4) the cost of marginal supply. We believe that in the near to intermediate term each of these factors will reduce supply, which currently is about 84.8 million barrels per day⁴ as shown in Chart 2.

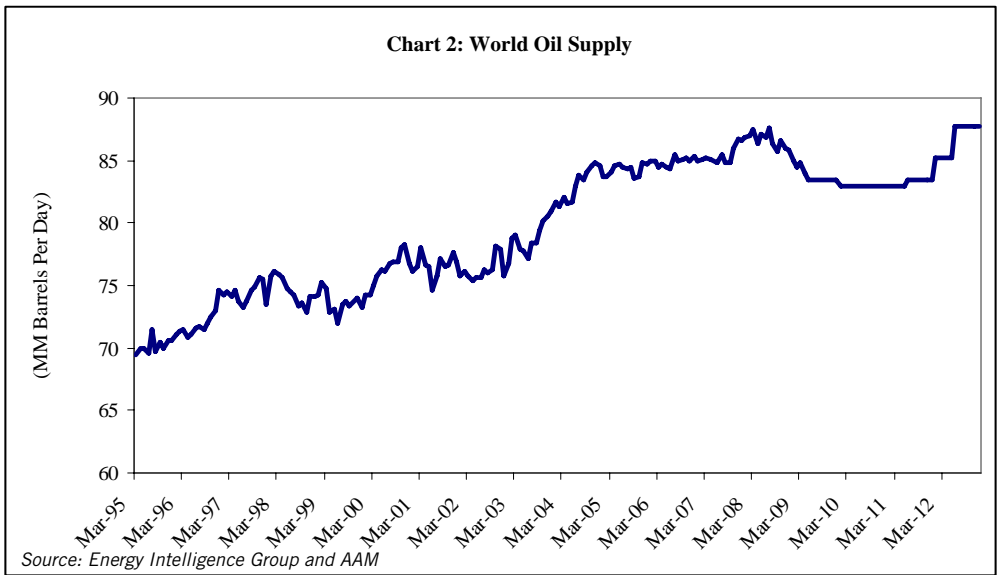
The first item that has to be considered in a supply analysis is existing production and the decline rate of those wells. It is estimated that at least 3 million barrels per day of new production is needed each year just to mitigate the natural depletion of existing wells. For context, Conoco Phillips produces about 900,000 barrels per day. So, the industry basically has to replace the equivalent of three Conoco Phillips each year just to maintain flat production.

We are skeptical that the industry will be able to replace that amount of production in 2009 and 2010 due to the meaningful reduction in capital spending. Two factors have contributed to an expected 10% reduction in capital expenditures in 2009.⁵

First, many high quality exploration and production companies in the past two quarters have had difficulty getting access to external capital. Secondly, extremely volatile oil prices have made forecasting project economics very difficult. As a result, many projects have been postponed. This could very well lead to a decline in supply as it did in 1998 the last time capital budgets declined this much.

The third supply item we analyzed in this outlook is OPEC. OPEC's compliance with existing production targets has supported crude prices since the beginning of the year. The cartel has so far agreed to cut production by 4.2 million barrels per day and compliance is around 80%, which is reasonably strong given that many of the oil-producing states had 2009 budgets based on not only much higher prices but much higher production. In the intermediate term, we believe incremental supply from OPEC will be tempered. Evidence of this is: Saudi Aramco's decision to delay the 900,000 barrels per day; Manifa mega-project by at least 6 months with production not expected now until 2012; the 250,000 barrels per day expansion of the Shaybah field; and the 100,000 barrels per day expansion of the Dammam field. In addition to these three project delays, OPEC announced in February 2009 that 32 other projects in various stages of development were being postponed.

We also considered the cost of marginal supply to arrive at our price forecast. To reach the 87.4 million barrels per day demand target by 2013, we believe that the marginal supply will come from places such as Venezuela, Libya,



and Alaska. Assuming 20% deflation in the oil patch in the next 18 months and a return to modest price growth in 2011 and 2012, lifting and finding costs in those areas should approach \$60 per barrel. Assuming these producers require at least a 10%-15% return on their invested capital, crude oil would need to be in the range of \$65-\$70 per barrel.

The Affect of \$65 Oil on Energy-Related Credits

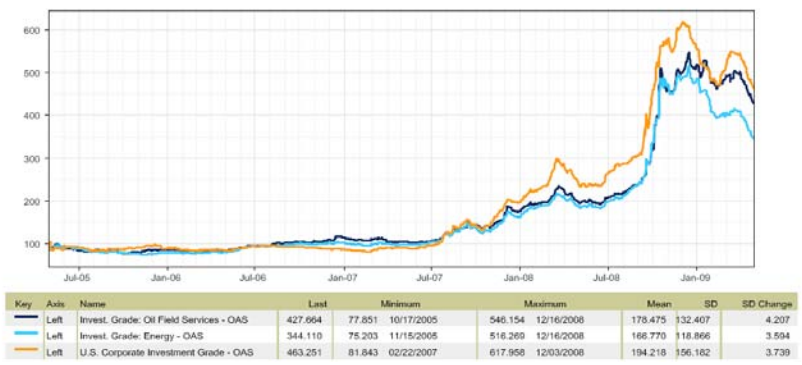
We believe that energy companies' margins during 2006 can provide a decent guide as to how those companies would perform in a \$65 oil environment given that oil averaged \$66 per barrel in 2006. Generally speaking, upstream companies had EBITDA margins in the 60%-75% range with cash operating costs of around \$11 per barrel of oil produced. Service companies and offshore contract drillers had EBITDA margins in the low 30% range and mid 50% range, respectively. We expect the oil-related companies to have similar margins in the future if oil returns to \$65 per barrel. However, that is probably where the similarities to 2006 ends. Recall that energy companies, particularly oil service companies, were viewed as ideal candidates for LBO's during 2006.

We believe that the energy sector will probably trend closer to the Corporate index in the next several years than it did in 2006, given the substantially reduced threat of a leveraging event (excess returns for the energy sector was

-57 bps relative to corporate excess returns of 126 bps).⁶ Obviously, the premise for \$65 crude oil is an improving world economy, which also portends a more efficient credit market. Therefore, over the next several years we expect the spreads of energy-related bonds to compress substantially.

Specifically, we believe there are opportunities within the Oil Services subsector as Chart 3 indicates. Several Oil Service credits trade at unusually wide levels as a result of the risk aversion trade from the Fall of 2008 and the reduced capital budgets of the upstream. Given the current credit quality and the likely improved operating environment beyond 2010, we are optimistic about the excess returns of several issues including the Weatherford 9.625% notes due 2019 currently offered at Treasuries +520 providing a yield of 8.32%; the Weatherford 9.875% notes due 2039 currently offered at Treasuries +512 providing a yield of 9.18%; and the Nabors Industries' 9.25% notes due 2019 currently offered at Treasuries +580, providing a yield of 8.92%.

Chart 3: Credit Spreads for Energy and Oil Field Services vs. Corporate Index



Source: Barclays

Notes:

- 1) Based on world GDP data from 1970 through 2008 from the IMF.
- 2) Based on the average expectation from OPEC and the International Energy Agency as of April 2009.
- 3) The World Oil Outlook by OPEC, page 54

- 4) The Energy Intelligence Group, March 2009
- 5) The Original E&P Survey, Lehman Brothers 12/12/08
- 6) Lehman Brothers Investment Grade Corporate Update 1/2/07

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