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How Fast will China's Oil Demand Grow?

Posted by Gail the Actuary on July 7, 2010 - 10:30am
Topic: Demand/Consumption
Tags: china, eia, oil, steven kopits [list all tags]

This is a guest post from Steven Kopits. Steven heads the New York office of Douglas-Westwood, energy business consultants.

In my last post, we looked at the supply of oil in the US Energy Information Administration's (EIA's) recently released International Energy Outlook (IEO), which many consider the EIA's definitive annual forecast. This time, we look at the demand side, specifically China. Since the IEO is a government report, many business organizations rely on its forecasts.

Oil demand does not grow linearly with GDP. Rather, the bulk of oil demand growth occurs in the two decades during which societies typically acquire motor vehicles, after which per capita oil demand flattens. For example, per capita oil consumption in the United States is today lower than it was in 1979, even though per capita income has increased substantially since.

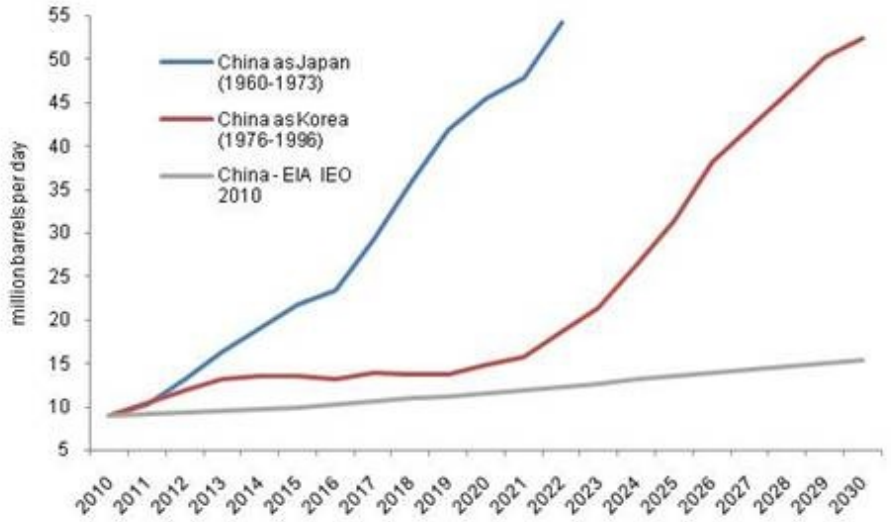
Demand levels attained in emerging economies are relatively comparable regionally. For example, per capita consumption in both Korea and Japan peaked at 1.9 U.S. gallons per day. Korean levels are unchanged; Japanese consumption has declined to 1.4 U.S. gal per person in the last decade. (For purposes of comparison, US consumption will be about 2.5 gal / day per capita in 2010, down from 2.9 gal in 2005.)

Both Japan and Korea are effectively islands (Korea due to its closed northern border), and both are densely populated, mountainous Asian countries. In fact, South Korea's population density is three times that of China. As a result, Japan and Korea's per capita oil consumption is comparatively low next to that of countries with large land masses like the United States, Canada and Australia. China has a land mass equal to that of the United States. On the flip side, China has a one-child policy, which may reduce the need for suburban housing.

In any event, without delving deeper, we might expect China's steady state demand for oil could prove not less than that of more advanced Asian nations. Based on the experience of Korea and Japan, China's current population would be expected to consume approximately 55 million barrels per day at steady state (when per capita consumption plateaus), or nearly 2/3 of current global oil production, were the supply available.

This increase in demand can arise quite quickly. Japan's oil demand increased six fold in the twelve years prior to leveling out. Demand can also develop more slowly. In the case of Korea, a six-fold increase in consumption required twenty years, with much of the delay owing to OPEC pricing strategy following the second oil shock of 1979. Korea's model of development is potentially relevant for China, as China faces an oil price environment not entirely different from Korea's after 1979. Importantly, high oil prices from 1979 to 1985 did not destroy Korea's demand for oil. It only deferred it. Thus, we might expect that, were oil prices to fall substantially

and durably, China's demand for oil could surge fairly quickly. Indeed, were the oil supply available, China's consumption could increase by more than 40 million barrels per day by 2022.



China's Oil Demand Under Three Scenarios.
Source: EIA, EIA IEO 2010, Douglas-Westwood analysis.

In contrast, the EIA sees China's oil consumption at only 10 mbpd for 2015, a growth rate of approximately 2.7% from current levels, and at only 16 mbpd by 2030. Is this consistent with a country whose vehicle sales are up 56% in the first five months of the year? Where sales of Audi's are up 77%, and those of BMW have doubled compared to the first five months of last year? Is China truly going to be satisfied, as the EIA would have it, with less than 1/5th of the per capita oil consumption of Korea in 2030, even though they should be similar by that time?

The differences in views about China's oil demand outlook have enormous policy implications. If the EIA is right, and China will forget how to grow, then pressures on the oil supply will be modest. On the other hand, if China is to develop like other countries in Asia, the pressure on the oil supply will be crushing, with oil shocks, recessions, and war all conceivable outcomes. The energy--as well as the economic and security--policy differences between the two scenarios are like night and day.

Is the EIA sure it has the numbers right?