

### **Rising crude oil prices and their impact on world economy**

Ken Koyama, PhD  
Director  
Strategy and Industry Research Unit  
The Institute of Energy Economics, Japan

Crude oil prices have continued to rise. On March 7, the benchmark West Texas Intermediate crude futures price gained \$1.02/barrel from the previous day to \$105.44/barrel, up more than \$20/barrel from around \$85/barrel in the middle of February. The North Sea Brent futures price remained high, closing the day at \$115.04/barrel. The high crude oil prices have attracted attention as an international energy market problem and are expected to decelerate the world economy. A sense of vigilance has been growing gradually.

Indicating a sense of vigilance against the adverse impact of rising crude oil prices on the world economy is an interesting change seen in the correlation between crude oil and stock prices. The 30-issue Dow Jones Industrial Average on the New York Stock Exchange continued a moderate upward trend after rising above 10,000 in July 2010. It topped 11,600 in early 2011 and exceeded 12,000 in February. The latest peak was 12,391 on February 18. Until the day, stock price hikes basically went together with crude oil price rises. Until late last year, particularly, stock prices had a roughly positive correlation with the WTI futures price. While stock prices continued to rise from early this year, the WTI price slumped. Toward mid-February, the WTI price fell to around \$84/barrel. The decline might have been attributable to an increase in crude oil inventories in Cushing that is a problem peculiar to WTI, as explained in “A Japanese Perspective on the International Energy Landscape (30).”

Since the week of February 22 when the Libyan crisis entered a new phase on the government's use of force against antigovernment movements and the intensification of confrontation, however, a new combination of rising crude oil prices and falling stock prices has been seen. This means that crude oil prices have basically had a negative correlation with stock prices. On March 7 when crude oil prices soared as noted above, the Dow Jones average lost 80 points from the previous day to 12,090. In this way, the correlation between crude oil and stock prices has entered a new phase. On March 8, in fact, the Dow Jones average gained 124 points to 12,214 while the WTI futures fell \$0.42/barrel to \$105.02/barrel. Their correlation thus remained negative even though the Dow Jones average turned up.

What would the background of the negative correlation be? A simple explanation may be that the causality relation between the two economic variables has been

reversed. When stock and crude oil prices maintained their positive correlation until late February, the macroeconomic trend (as reflected by stock prices) was an explanatory variable against crude oil prices as an objective variable. At present, crude oil prices might have become an explanatory variable against stock prices as an objective variable. (This means that crude oil prices had been susceptible to the macroeconomic trend before the reversal and have shaken the trend since the reversal.) But of course this is a too much simplistic view. Stock prices are determined by many factors, not determined by crude oil prices alone. Crude oil prices are also determined by many factors, not determined by stock prices alone. It may be needless to say that complex conditions of factors work to determine crude oil and stock prices.

But crude oil prices' relationship with stock prices (a mirror of the macroeconomic trend) directly indicates how seriously market participants view crude oil price hikes on the intensification of the Libyan crisis, geopolitical risks behind the intensification and the crisis's spillover. Their relationship implies that the Middle Eastern situation and crude oil prices are creating important risks to the world economy.

In fact, discussions have grown rapidly about analyses on effects that crude oil price hikes would exert on the world economy. For example, a Deutsche Bank report on March 3 indicated that world economic (GDP) growth would be lowered by 0.4 percentage point if the benchmark crude oil futures price rises to \$110/barrel and by 2.0 points if it soars to \$150/barrel. Crude oil price hikes' negative effects on GDP are projected to differ from region to region, depending on oil imports' economic weights, the sizes of net oil imports, and energy consumption efficiencies. The hikes are expected to exert a relatively greater impact on European countries and the United States among industrial nations and on Asian developing countries. As is known well, the fact that spikes in prices of foods and resources including crude oil have caused growing inflation fears and begun to affect citizens' livelihood has become an important matter of concern.

The Middle Eastern turmoil and crude oil price hikes have caused problems particular to various regions. The Libyan crisis has had the greatest direct impact on oil supply in Europe. The European economy, which has been plagued with the sovereign debt crisis since last year, is viewed as vulnerable to the crude oil price spike. The United States has faced the oil price problem at a time when it has begun to see brighter economic signs including improvements in employment data. Given that economic problems are expected to become the biggest focus for the next presidential election, crude oil price hikes' emergence as an economic risk is of great significance to the Obama Administration. In China, the stabilization of people's livelihood has become an urgent lesson with economic management priority given to inflation control ahead of the planned leadership transition in 2012. China is thus forced to be vigilant with regard to crude oil price hikes. At present, the world economy has gotten on a growth path, with the Dow Jones average at high levels above 12,000 on the New York Stock Exchange. However, concerns are growing about the future course throughout the world and in major countries.

Under such situation, all relevant countries will have to enhance their efforts and cooperation to prevent crude oil prices from rising further and from exerting negative effects on the world economy. Saudi Arabia has already expanded crude oil output. Some other OPEC countries such as Kuwait and the United Arab Emirates have launched moves to increase crude oil production. Discussions have reportedly started on an emergency OPEC meeting to deal with the rapid crude oil price hikes. If the destabilization of the Middle East begins to spill over to other oil producing countries, oil consuming countries may have to take market-stabilizing measures including an IEA-coordinated release of oil reserves. If crude oil prices are excessively destabilized to cause an unusual spike, concerns may grow about speculative moves on the market, as seen in 2008. Then, the enhancement of surveillance on the market may become a focus of attention. In any case, all relevant parties will have to make efforts to fight against crude oil price hikes that are becoming an important matter of concern in the world economy and international relations.

Contact: [report@tky.ieej.or.jp](mailto:report@tky.ieej.or.jp)

The back issues are available at the following URL.

<http://enken.ieej.or.jp/en/whatsnew/JPOIEL.html>