Oil Price Volatility: Will It Get Worse and Can It be Managed?

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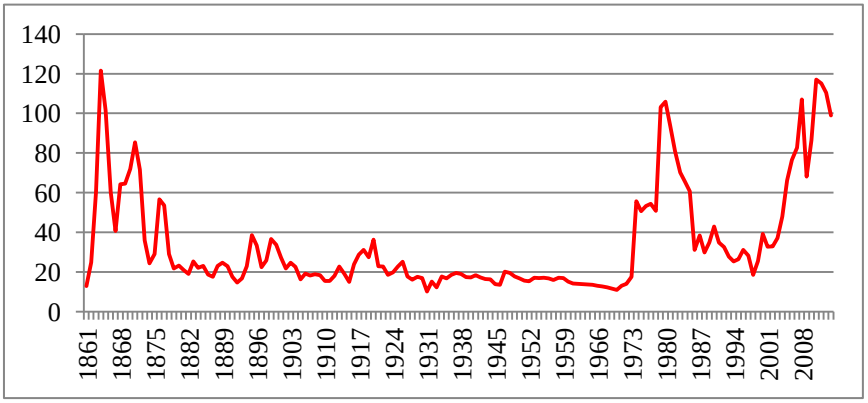
In November 2014, OPEC decided not to cut production to protect oil prices from falling further. This effectively launched oil prices onto a competitive market. This was the first time since 1928. Ever since then, oil prices had been controlled in a managed market albeit not always very effectively. The Achnacarry Agreement between the major oil companies in 1928 introduced the Gulf Basing Point system for oil prices whereby international prices were based upon US domestic prices adjusted for freight rates. In the 1950s and 1960s, prices were administered prices set as posted prices by the majors. Thereafter prices were set in the context of OPEC. Now prices are set in a competitive market and the question arises will they will be less or more volatile than in the past? As can be seen from Fig. 1, before 1928 oil prices in money of the day were extremely volatile.

Fig. 1 Oil Prices 1861-2014 ($2014)



Source: BP Statistical Review of World Energy 2015

After 1928, once the market became an administered market, prices (leaving aside the price shocks of the 1970s and 1986) became much less volatile until around 2000. The more recent history of prices is given in Fig. 2.

This gives rise to the question: what has driven price volatility in recent years? The problem is that there are two oil markets. The wet barrel market where real barrels of oil are bought and sold and the paper barrel market where promises to deliver or take delivery written on paper are exchanged. To understand the wet barrel needs Economics 101. To understand the paper barrel market needs Psychology 101. The links between to two markets can be complex but come down to issues of perception. Those negotiating contracts in the wet barrel market will look to the paper

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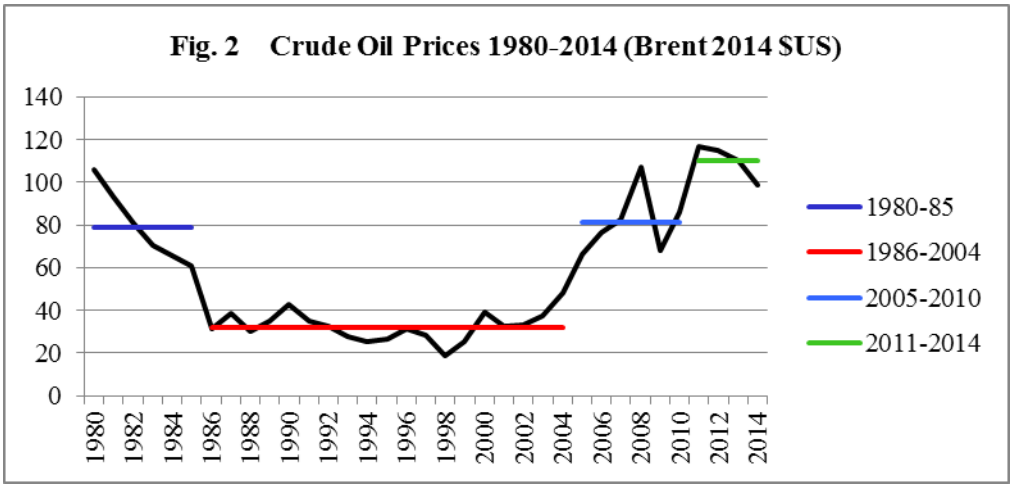


Source: BP Statistical Review of World Energy 2015

barrel market to give an indication of what prices might be. Those in the paper barrel market deciding where to invest will look to the wet barrel market for signs of surplus or shortage.

There are two problems here that aggravate volatility. First, many of those playing in the paper markets do not really understand the oil industry and frequently misread the state of the wet barrel market often assuming shortages when there are none. While this may sound improbable, similar situation exists in foreign exchange markets – known as "scapegoat theory". Thus economists trying to predict exchange rates using the usual economic metrics will get it wrong because those setting the rate i.e. the traders look at a totally different set of metrics. Second, perception can change in the blink of an eye and with it so can prices!

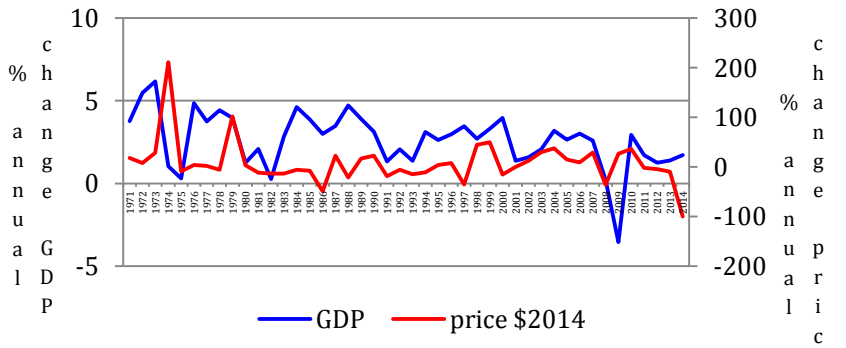
Given this context, what are the prospects for price volatility in a competitive market? In the short-term there are real threats of supply disruptions in the wet barrel market. These can arise from accidents. For example, the recent forest fires in Canada have caused a loss of some 1 million barrels per day and this has contributed to the recent recovery in prices seen over the last few weeks. They can also arise from geo-politics. In the lower price world created by OPEC's 2014 decision, many producers are struggling to maintain the spending they need to calm the political discontent in their countries. In 2014, Ali Aissaoui of Apicorp estimated the weighted average break-even price for OPEC was $102 and only Qatar and Kuwait were below $90. Failure to calm their populations will lead to political upheavals, which could threaten supplies. Currently Venezuela and Nigeria are in this situation. Currently, Iran is growing increasingly frustrated with the lifting of sanctions under the JCPOA nuclear agreement. Remaining financial sanctions and sanctions against doing business with the IRGC are seriously inhibiting the economic recovery expected in Tehran. Given they now face months of abusive rhetoric in the upcoming US Presidential campaign from whichever candidates stand, there is a danger they may jump before they are pushed. The Region is in a total mess. The last time there was so much uncontrolled upheaval was in 1918 at the end of World War I and the collapse of the Ottoman Empire. In this context, Iran could make serious mischief that could affect physical oil supplies, most obviously in Iraq.

Such short-term geo-political events are also likely to frighten the paper barrel market adding a fear premium onto the price. In the medium term there are two drivers in the context of price volatility. First, this lower price environment is seriously reducing investment in the upstream, both unconventional and conventional. Conventional oil dominates global oil supply. Furthermore it is an industry where you have to run to stand still because of the natural decline rate. Thus assuming that oil demand continues to increase (which is the general consensus) then maybe five to ten years down the road there is a possibility of a supply crunch leading to a major price spike. However, the shale technology revolution has dramatically reduced the lead-time on shale oil projects. Currently there exists a "fracklog". This refers to the fact that a large number of wells have been drilled in the USA but not completed. They were drilled because the terms of the lease required it but they were not fracked because prices were too low. When prices begin to rise, these wells will be fracked quickly increasing physical supply acting as a ceiling on price. Thus the price elasticity of supply has become much more elastic and this could well dampen price volatility in the future creating counter-cyclical supply trends.

However, taken overall the odds are on greater price volatility in the future. Why does this matter and what might be done to manage it?

There are many problems created by oil price volatility. Globally it can influence overall GDP growth as can be seen from Fig. 3.

Fig. 3 OECD GDP Growth and Oil Price Growth 1971-2014



In the 1970s, the oil price shocks tended to reduce global GDP growth. The logic was that higher oil prices shifted aggregate demand from spenders such as OECD countries to savers such as the OPEC countries. However, this Century lower prices have been more associated with poorer stock market performances and weaker GDP growth. The reasons for this change in causality are not entirely clear, but are probably connected to the fact that the oil producers account for a much greater share of global GDP than before. Volatile prices also have implications for energy investments and there has been much discussion of how lower oil prices might affect the spread of renewables in the energy mix. This is compounded in Asia where gas prices in many cases are contractually linked into oil prices. For the oil producers, price volatility creates significant macro

economic challenges trying to balance budgets and manage balance of payments. Consumer countries can also struggle with price volatility as it can lead to swings in current account deficits. It also has implications for domestic energy policy not least in terms of the primary energy mix.

Given price volatility is more likely in the future and leads to negative consequences, clearly the question arises as to what might be done? One solution might be to revert to setting price in an administered market in the hope this would mute volatility. This however would require an agreement within OPEC to revert to the quota system and at the same time might require some sort of agreement between OPEC and Non-OPEC countries to manage production. Given the current state of relations between Saudi Arabia and Iran such agreements seem an unlikely outcome. Thus the initial agreement to cap production but excluding Iran that was reached in Doha in April was subsequently rejected by Saudi Arabia. Currently Saudi Arabia's main policy objective is to try and restrict the growing influence of Iran in the region and to that end it appears determined to limit Iran's ability to return to the market and recover economically from the consequences of sanctions since 2012.

In the past control of commodity price volatility was attempted by the holding of physical stocks in an effort to manipulate supply. However, all the historical experience suggests this is not an effective solution. Certainly the experience of using the IEA stocks to manage price volatility has in reality, on the few occasions they have been used, aggravated volatility not reduced it. A variation on this has been to create stabilization funds to smooth revenues for producers and oil bills for consumers. Such funds have not always worked well simply because they can easily be raided and are often subject to corruption. Also, to work for producers, the funds need to accumulate a certain amount of capital and this can only be achieved if the fund begins in periods of high prices. In a period of lower prices such as today, it is too late. Another option is to try and control the vagaries of the paper barrel markets by regulation. However, too much regulation means such markets simply disappear into cyber space. It would also require the two main markets – NYMEX and the ICE - to act together for fear one might gain a competitive advantage over the other. Finally, it might be possible to use hedging in the paper markets to insure against price volatility. There are two problems with this solution. First it can be very politically sensitive if those hedging bet the wrong way. Second, such hedging is forbidden in Islam since it is seen as a form of gambling.

Overall the most realistic solution to oil price volatility is simply to live with it as an inevitable consequence of markets working.

Writer's Profile

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Educated as an economist and as a specialist on the Middle East at Cambridge and SOAS; 1973-1979 teaching at the American University of Beirut in Lebanon; 1979-93 at the University of Surrey. Between 1993 and 2008, he was Professor of Petroleum Policy and Economics at the University of Dundee, Scotland, a chair created by BP. He is an expert in the international petroleum industry, economic development in the Gulf and energy economics.