Who Put the BS in BIS?
or
Did Financial Markets Cause the Crude Oil Price Collapse?[1]

Philip K. Verleger, Jr.
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Our title for this commentary takes its cue from Craig Pirrong's February 8 *Streetwise Professor* blog titled "When It Comes to Oil, the "I" in BIS is Superfluous." His article and our analysis here come in response to a press release from the Bank of International Settlements (BIS) that provided a short summary of BIS's forthcoming study. The full analysis will come out in March. The key paragraphs in the release read as follows:

> Since mid-2014, after remaining relatively stable for four years at close to $100, the price of crude oil has dropped by roughly 50% in US dollar terms.
>
> Changes in production and consumption seem to fall short of a fully satisfactory explanation of the abrupt collapse in oil prices. The last two episodes of comparable oil price declines (1996 and 2008) were associated with sizeable reductions of oil consumption and, in 1996, with a significant expansion of production. This seems to be in stark contrast to developments since mid-2014, during which time oil production has been close to prior expectations and oil consumption has been only a little weaker than forecast. Rather, the steepness of the price decline and very large day-to-day price changes are reminiscent of a financial asset. As with other financial assets, movements in the price of oil are driven by changes in expectations about future market conditions. In this respect, the recent OPEC decision not to cut production has been key to the fall in the oil price.
>
> However, other factors could have exacerbated the fall in oil prices. One important new element is the substantial increase in debt borne by the oil sector in recent years. The greater willingness of investors to lend against oil reserves and revenue has enabled oil firms to borrow large amounts in a period when debt levels have increased more broadly. Issuance by energy firms of both investment grade and high-yield bonds has far outpaced the already substantial overall issuance of debt securities.[2]

The summary also cites the activity of spread traders during the recent price drop. In particular, BIS suggests these traders have pulled back from selling price protection to oil firms with high debt levels:

> However, at times of heightened volatility and balance sheet strain for leveraged entities, swap dealers may become less willing to sell protection to oil producers. The co-movement in the dealers' positions and bouts of volatility suggests that dealers may have behaved procyclically—cutting back positions whenever financial conditions become more turbulent.

These last two sentences raise a serious question: "Do the BIS authors understand the role of insurance and hedging?" These words suggest they do not, assuming that by "procyclically" they

[1] Excerpted from "Here We Go Again," Notes at the Margin, February 9, 2015 [http://goo.gl/sBh4zm].
[2] Bank for International Settlements, "Oil and Debt" (February 2015) [http://goo.gl/vrXgtk].

mean swap dealers and others offering hedges to producers have an obligation to write more price insurance as prices fall.

Insurance and hedging have a longstanding role in economic thinking. One buys insurance to protect against catastrophic events in the future. Commodity producers can hedge their output against the risk of a price collapse. In general, hedges and insurance are established in advance. One would be a fool to seek auto insurance after an accident or health insurance after a serious illness is diagnosed. This logic, however, escapes the BIS authors.

Instead, they suggest that banks and swap dealers should step forward and offer price protection to producers after prices have begun to decline. Such demands are absurd because swap dealers and financial institutions are only intermediaries. These organizations require counterparties to take long positions before writing price insurance policies to producers. Swap dealers and banks are essentially powerless to act once a collapse starts.

With this background, it is surprising that the BIS authors did not ask why those taking on debt had not already hedged. They might even have noted Continental Resources' decision to close its hedges at the end of September 2014. Reuters reported that the company netted a $433 million gain in its third quarter by ending its hedging, adding that the firm's CEO was "declaring a premature victory over OPEC," which he had described as a "toothless tiger."[3]

The obvious flaw—a fatal one in our view—in the BIS study, though, is the authors' failure to consider the important change in the market that occurred at the end of November. The decision of key Middle East producers to withdraw their guarantee to cut production dramatically changed the expectations of market participants. Indeed, the unwillingness of low-cost producers to make sacrifices to benefit high-cost operators completely altered the market structure.

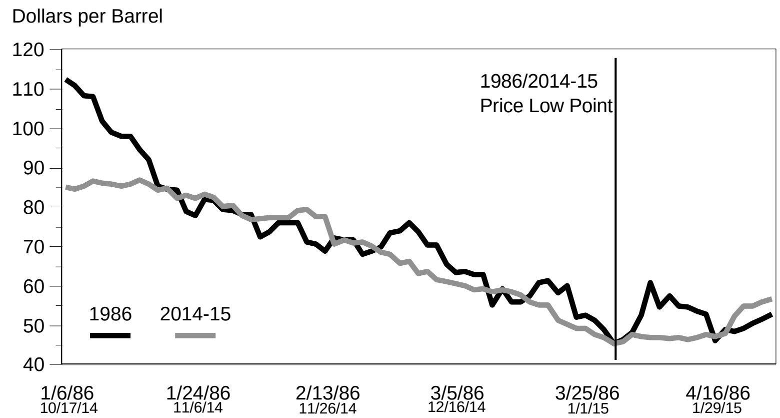
The BIS economists, like most economists at major central banks, lack the knowledge, skills, and tools to account for such changes. They rely almost entirely on models based on high-frequency time-series data. Using elegant statistical methods, they can coax a great deal of important information from seemingly unrelated data. They are limited, though, by the extent of their databases. In this case, for the BIS economists, history begins in 1990. Economists relying on time-series data are powerless to deal with structural change, especially if they do not have long-term historical data for comparison.

For the record, the oil market experienced a similar structural change in 1985 and 1986. Then, as now, a key player decided to change its strategy. In late 1985, Saudi Arabia began to aggressively market crude, just as it did in the summer of 2014. Initially, market participants did not believe the country would maintain this course. They eventually discovered, though, that the Kingdom was serious in its intent. Prices collapsed then, just as they have now. Indeed, the 1985-1986 price decrease was *almost identical* to the recent decline, *almost identical*. The only difference is that no swap dealers or banks were involved in 1986.

[3] Ernest Scheyder, "Going Out on a Limb, North Dakota Oil Titan Scraps Hedges," Reuters, November 6, 2014 [http://goo.gl/qeaAr1].

To illustrate this close similarity, I created Figure 1, which compares oil prices in 1986 with recent prices. I generated the price paths in the graph by matching the low price of Dated Brent in 1986 with the low price of Brent in the current episode. The 1986 low price of $10.70 per barrel occurred on April 1. This compares to the recent low of $45.21 reported on January 13, 2015. For presentation purposes, I multiplied all 1986 prices by 4.23, the ratio of the two prices.

Figure 1
1986 Dated Brent Price Decline vs.
2014-15 Dated Prent Price Decline



See text for graph explanation.
Source: PKVerleger LLC.

I prepared Figure 1 using data published by Platts. After reading Neil Hume’s article, I pulled the 1986 edition of *Platt’s Oil Price Handbook and Oilmanac* off the shelf and painstakingly entered the 1986 data, hoping to find that the market move in 1986 was similar to the current move. As readers may observe, my effort was rewarded.

In fairness to the BIS economists, I doubt there is a single copy of the 1986 *Oil Price Handbook and Oilmanac* in Switzerland. Indeed, they likely do not know of its existence. Thus, they could claim they lacked the data needed to make the historical comparison.

Under the circumstances, though, I would find such an explanation inexcusable. Economists studying markets have an obligation to be thorough rather than rushing to publish conclusions an expert can demolish quickly. (It took me two hours to disembowel the BIS study.) Economists also have an obligation to understand the market they are discussing. The BIS authors do not.

The message here should be clear.

> *Commodity markets did not cause the price drop. The decrease resulted from a structural change in the market after Middle East producers abandoned their role as moderators of price declines. Furthermore, the price fall would have been more severe—and the financial losses greater—had some producers not elected to hedge in advance. Finally, financial markets cannot be expected to moderate a price decline once it becomes clear that prices will fall. Insurance must be purchased ahead of the events it protects against.*