

The Impact of Physical Commodity Supply Trends on Financial Market Behavior

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Do the market prices of physical commodities reliably reflect their underlying fundamentals, or does financial market behavior sometimes distort the relationship? That question was top of mind on a February 10, 2011 GARP Webcast in which Glen Swindle, Managing Director and head of power trading at Credit Suisse, and Morgan Downey, Bloomberg's head of commodities, examined the impact of physical commodity supply trends on financial market behavior. Eric Kavanagh, CEO of the Bloor Group, and GARP ERP Program Manager Michael Sell moderated.

Hindsight Is 20/20

To explore the effects that supply, demand and inventory have on price dynamics, Swindle and Downey discussed four examples: The remarkable rise in oil prices from 2002 to 2008, followed by a dramatic collapse and subsequent recovery; the ever-expanding spread between West Texas Intermediate (WTI) crude and Brent crude prices; how the natural gas market and its famously seasonal curve are being affected by increased supply; and the impact of added wind generation on the Texas power markets beginning in 2007.

Are fundamentals occasionally disconnected from market prices? The last few years have offered up some good opportunities for examination, according to Swindle.

But in looking at such cases, Swindle cautioned, it's important to consider the perspective of someone dealing with the data available at the time. "Hindsight being 20/20, you can look back and say, 'the forward markets weren't reflecting the fundamentals,'" but, in fact, a reasonable processing of the information may have been reflected in the market prices.

Oil Market Uncertainty

At the start of 2008, the oil market was entering a period of uncertainty after a year that saw the price of WTI crude climb from less than USD 50 a barrel to more than \$100. Global demand was increasing steadily. "Could market supply meet seemingly endlessly growing demand, and at what point or what price level would demand begin to react?" asked Downey, putting himself in the place of a market participant at the time.

Following the credit crisis, the price of WTI crude fell from USD 145 a barrel in mid-2008 to USD 35 by the end of the year, but two years later the market had nearly recovered. "Is that a reaction to fundamentals or is that a market that's living on a knife edge?" said Downey. "Because they're quite big swings for a two-year period."

Acknowledging that the price swings were dramatic, Swindle suggested that there was only one stretch where the markets did not behave in a self-consistent manner. "If you really think the market's going to be stressed, you see backwardated curves," he said. "If you really think there's going to be a glut, you see contango curves." But during the period when oil was between USD 120 and USD 140, there wasn't any meaningful backwardation or contango, "which is evidence that prices may have been evolving outside of fundamental drivers."

Otherwise, the oil markets were relatively sane, reasoned Swindle. “You could argue that crude oil is, in some sense, like interest rate swaps,” he said. “They’re like mother-ship curves that lay above a vast array of energy commodities and are driven by a whole lot of things, not the least of which was the precursors to the credit crisis and subsequently the selloff.”

Downey pointed to supply cuts from OPEC—which he called “the Fed of the oil market”—as a stabilizing factor. “The fact that they now have this spare capacity due to demand falling off over the last few years has added a degree of calmness to the oil markets. We’re back up at USD 90, but you don’t see people freaking out as people did back in 2008,” he said, adding that “people think that as oil prices go towards USD 100 or USD 300, on the basis of WTI, that there is a bit more of a buffer on the supply side right now.”

An Unreasonable Spread?

Turning to the widening price differential between the WTI and Brent benchmarks, Swindle asked, “Just how is this reasonable, and what’s driving it?” Over the past year, said Swindle, he’s heard the size of the WTI-Brent spread increasingly characterized as an anomaly. But, he said, “you’re exploring new territory in storage levels that have never really been seen before, and you can’t possibly look at this price dynamic without factoring in the inventory directly. It would be completely missing the boat.”

“Generally, people look at Brent-WTI because they’re very liquid and are the most commonly traded futures,” said Downey. “But it’s kind of a proxy for what really is deep heartland U.S. crude oil, which is WTI, versus Gulf Coast shore-based crude oil for delivery on a tanker. And that actually accounts for the vast majority of the Brent-WTI differential.” Basically, he said, it’s a pipeline transportation issue.

It’s not a short-term phenomenon. “It takes a while to build a pipeline,” said Downey. “Even just to change the direction of a pipeline, it takes quite a while.” But it’s a phenomenon that the market will eventually react to.

“How long will that take?” asked Swindle. “How much higher can that spread go?”

According to the market, responded Downey, the WTI discount will fall from USD 10 to USD 2 within the next two to three years. “As oil prices increase, the Brent-WTI spread widens to encourage oil sands production and to also encourage pipelines to be constructed. It’s a very good example of how in a free and open market, the market will create the incentive to normalize supply and demand.”

A Seasonal Curve

Whereas the forward curve for crude oil is relatively flat, the North American natural gas curve is highly seasonal, with summer dips and winter peaks. In January 2011, however, storage was high versus the last ten years, and prices were down. Downey

wondered whether the fundamentals of the market had changed over the last three years, as supply has risen dramatically due to shale fracturing.

In broad-brush strokes, the natural gas market appears “tolerably rational,” said Swindle. Looking at the spread between October and April gas, it’s at an extremely low level because of the high inventory. “On the other side,” he added, “the only time you’ve ever seen a March-April spread really bite people at settlement was when inventories were very, very low.”

Are the natural gas markets approaching the bottom of the cycle in terms of costs? “I would argue that if things didn’t change and people were sure things wouldn’t change for a while, gas prices would be lower than they are right now, meaningfully,” said Swindle, who credited market uncertainty over how natural gas producers will react to falling prices. “Who’s going to be the first one to blink and retrench and say, ‘Well, we’re producing enough now?’”

Slow to React

One of the best “lab experiments” demonstrating market reaction to changing supply dynamics has been the effect of wind generation on the Texas power market, according to Swindle. Considerable wind generation was added to the West Texas power market in 2008, creating significant price distortions, including negative prices, in the face of evolving market dynamics. Negative prices

continued on back page

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occur, explained Swindle, because tax incentives can encourage generation even when the clearing price doesn't warrant it.

Heat rates, or the ratio of power to natural gas, dropped to around 3 as additional wind generation came online. "People knew from, say, 2007 that wind was going to be built, and the market heat rates started to decline," said Swindle. "But even when it was incontrovertible there was going to be wind generation, the market heat rates were still in the order of maybe 5 or 6."

Why wasn't the market more responsive? "People can be aware of a secular change, they know something's going to happen, they know it's probably going to be long lived, but it takes a while to get a handle around how a complex system like a power market is actually going to react to a big supply change."

Conclusion

Downey said that he hasn't seen the fundamentals disconnect from market prices over a meaningful time period in the energy commodity markets, but intraday movements can be quite unusual. "When you have uncertain information, or a lack of clarity in information, the market moves around trying to find a level where that clarity is restored," he said.

There is a tremendous amount of information available to market participants today. "Most shops now throw very large quantities of resources at trying to sort out what we loosely call fundamentals," said Swindle. But even with ever-increasing amounts of data on hand, it can be very hard to get the market right. "I think most of the apparent decouplings are actually within modeling or analysis or viewpoint error, given the complexity of the problems we're trying to solve," he said.

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