



Five Years after the Peak: Our Take on Price Discovery

For some time on our editorial calendar we had planned a cover story entitled "Five Years after the Peak," marking the five-year anniversary of the U_3O_8 price reaching its peak of \$136 per pound in July 2007. The outline of this cover included recounting such notable market developments as the Kazakh production expansion, the Fukushima accident, the role of the hedge funds, the rise of China, and the continued role of the government in nuclear fuel supply.

This was before the World Nuclear Fuel Market (WNFM) conference and its panel discussion on market price reporting (Ux Weekly, June 11, 2012). After attending this session, we decided there were some thoughts we would like to share, and a good place to do it was in conjunction with this planned cover since the motivation for the cover is, after all, related to price.

It turns out that this accommodation did not represent much of a stretch. Subjects that we had already planned to address in the cover included the developments in price reporting over the past five years, price volatility, the futures markets, the role of brokers and the creation of daily prices, and the introduction of the forward price curve as changes in price reporting have paralleled the changes in the market. And importantly, much of the concern surrounding price discovery today stems from the fact that price rose to such a high level in 2007. Note that this concern is held not just by utilities, but also by producers as they have become painfully aware that such price excesses are not sustainable.

What follows is a rather long cover addressing these points. In doing this, we will not feel as bad about not providing a cover story next week, since we will take one of our two one-week breaks for the year and report price only. We need to note that some of this discussion/information has appeared before in other of our publications, but never before in the Weekly. However, we think it is time that it receives a broader dissemination.

Prices and the Role of Speculators

Appropriately, one of the first things to look at is the \$136 peak price of five years ago. Here, some on the WNFM price panel bemoaned the presence of speculators/investors in the market, charging that they were the cause of the price spike and really added nothing positive to the market, so they should get out.

Our view of this is somewhat different. To be sure, hedge funds and other speculators helped drive up the price as they bought into a market with limited supply and limited liquidity. However, structurally, the market was set up for a price explosion as production was stagnant and long-term contracts had large quantity flexibilities that allowed utilities to purchase uranium at fixed prices as the market price soared higher. If producers did not have this material, then they had to resort to spot purchases or loans to cover the shortfall.

Importantly, outsiders (and this is how some view speculators) saw the supply/demand imbalance and the emergence of China as a nuclear power titan and risked capital on these beliefs. What they did not see was the dramatic increase in Kazakh production that helped drive price back down. However, we would contend that no one saw this development coming. The chart above shows that on a net basis, Kazakhstan accounted for all of the production increase from 2000 through 2011. If it were not for the Kazakh expansion, price would be much higher today, perhaps not \$136, but potentially even higher than this if not for Fukushima.

And, it is not the case that you need to have the involvement of speculators to have price increase dramatically. In this respect, it is important to note that 2007 was not the first time that price reached the \$130 level, at least in real terms. In 1977, price was \$43, which in terms of 2012 dollars exceeded \$130, as shown in the chart above. To a large extent, the cause of both price spikes was the creation of large market imbalances by the actions of governments.

Another point related to speculators is that they do take on risk, which is an important function in a market where uranium producers must get financing, either debt or equity. Buying uranium is a way that speculators can gain more exposure to the commodity, but they are exposed to the commodity when investing in a uranium producer or making a loan to a producer. It can be argued that this function is even more important today as price and demand are lagging, yet production still needs to grow to meet future demand.

The Long-Term U_3O_8 Price and the Forward Price Curve

The biggest bugaboo when it comes to uranium prices is the reporting of long-term prices. One panelist went to great lengths to discuss all of the problems associated with reporting long-term prices. We are acutely aware of this, having written about this, and this is the reason we resisted publishing the long-term price for such a long time. (See "The Long-Term Price in Concept and Practice," Uranium Market Outlook, Q2 2009.) However, once we saw where the market was heading in 2004, we decided the benefits of publishing this price would outweigh the costs. Our objective has never been to publish a perfect long-term price, but rather to provide the industry with a reading of the long-term price, a practice which is better than to have no indication of this price at all, a point raised by another WNFM panelist with whom we agree.

What is surprising is that despite all of the complaining about this price, it is very misunderstood. When asked about the price premium (over the spot price) associated with the long-term price, all of the price panelists indicated that it related to security of supply, but no one mentioned that it related to security of price, which is more to the point. To realize this, just ask yourself whether the supply associated with a base-escalated price contract with producer X is any more secure than the supply with a market-price provision from the same producer.

The reason that the term price premium relates to security of price is, by entering into this type of contract, you can know with certainty what your future price will be, subject to the type of escalation (if any) in the contract. And, if a standard inflation index is used, you can get rid of this uncertainty by employing an inflation swap where you trade off a floating inflation rate for a fixed rate.

In this way, the term price represents another way of fixing the future price compared to buying material on the spot market and carrying it forward in time. The chart below, developed by Armajaro Securities in conjunction with UxC, shows two curves – an adjusted fair value forward price curve and a base-escalated curve hedged into fixed prices. The adjustments in the former curve relate to ensuring the curve is in line with actual transactions taking place in the market, while the adjustments to the latter curve are to convert the published long-term U_3O_8 price to a series of fixed prices using inflation swaps.

The resulting highlighted curve represents, for any future date, the lowest-cost price on these two curves. What is interesting about this chart is that while the term price always is at a premium to the spot price, it can go at a discount to the spot-based forward price curve (the adjusted fair value forward price curve), which represents an alternative way of achieving future price certainty.

Now, it is certainly the case that some utilities may believe that prices will not reach the levels shown here and thus would have no intention of locking in these prices today. By the same token, not all producers are necessarily willing to lock in these prices either, as they think price will go much higher. Implicitly, both groups are willing to accept price risk. This is not to say that deals will not take place at prices above or below the forward curve published as of a specific date either; when this happens, the forward curve is adjusted to reflect this market activity.

The key point is that it is possible to lock in future prices using different means, and given the nature of this market, which is almost always in contango (the forward curve is upward sloping), locking in a future price involves a premium to the spot price. Therefore, the premium being paid is for price certainty.

To carry this one step further, you can lock in price with a financially settled futures contract by agreeing to pay a premium over the current spot price. Obviously, there is no supply security premium here because no physical supply is involved. However, if you think about it, there is an implicit supply security as long as there is a spot market where uranium can be purchased. Once price is locked in, the price paid for a spot purchase is immaterial.

Development of the forward curve has been more than informative; it has had a direct impact on market activity. Specifically, it helped spur activity in the mid-term market, which has become much more prominent in recent years. This is a case where more price information has facilitated trades that in turn have led to more data points for the forward price curve.

Price "Manipulation" and Price Reporting

The somewhat touchy issue of price manipulation was discussed at some length during the course of the panel discussion. While "price manipulation" or market manipulation has a specific legal meaning (it is illegal), it appears that the term was being thrown around loosely with no specific legal connotations. With this disclaimer, we can go on to discuss this issue, but perhaps "price influencing" would be a better term.

One issue raised in the panel was how price reporters might combat price manipulation or price influencing. If we heard this correctly, one panelist said that they did not consider bids and offers, but only transactions in determining price when price manipulation was suspected.

This is not the way it is done in other commodities, nor is it the approach that we follow. At issue is whether the size of the transaction exceeds the size of a legitimate bid. If a company does a deal at a price that is lower than a legitimate bid of an equal or greater size, this raises questions about whether this deal was done solely for the purposes of price setting.

In this respect, we had already modified our price definition to include bids as well as offers. We have also tightened our price reporting window so that offers and bids made late in the day when there is not sufficient time for a counterparty to respond to them are not included in our determination. To be sure, a bid or offer not only has to be legitimate, but has to be viewed in the context of what can realistically be accomplished in the market at a particular point in time. Our intent is to report what is happening in the market rather than to have market participants fashion their activity to obtain a particular price result.

The Marriage of “Old” and “New” Price Information

There was a question to the panel of whether the new pricing information provided by brokers and other nontraditional sellers (by uranium market standards) can co-exist in the future. This query made us smile in that we immediately embraced the “new” price information in our publications and price reporting. We jointly developed the uranium futures contract with NYMEX (now CME) and published bid/offer information from the new brokers Tullett-Prebon and MF Global in the Weekly. Sometime thereafter, we introduced the daily UxC Broker Average Price (BAP), with Evolution Markets and Armajaro Securities as the current participating brokers. More recently, we introduced the aforementioned forward price curve with Armajaro. In short, we have constantly been looking at ways to bring new price information to the industry.

The Quest for the Perfect System

The title of the WNFM panel discussion (“The Quest for Perfect Market Price Reporting”) seemed somewhat overreaching to us, to put it kindly. Even the stock market, which spends billions of dollars to develop price information, is far from perfect as reflected in the recent Facebook offering. Billions of dollars are not being spent for nuclear fuel price discovery, or if they are, we are really missing something.

Reporting prices requires the development of systems and methodologies to collect and transmit price information in the most objective and consistent way possible. Prices ultimately reflect human behavior in the market and are dictated by greed, fear, and a host of other emotions. It is never going to be perfect. A more relevant question is whether it is getting better. The answer to this question has two parts. One is whether there is more useful price data available. The other is whether market participants understand what these data represent.

On this anniversary of the \$136 price, we think perhaps another relevant question is whether such a price excursion is more or less likely to happen now than it was in the early 2000s. Back then, we wrote a number of covers warning that the market was giving inadequate price signals and even talking about market failure, which would have been manifest by an absolute shortage of uranium. We even tried to develop a forward price (Ux Weekly, Sept. 1, 2003) by asking for bids and offers for 2006 delivery in hopes that this information would perhaps better enlighten market behavior.

Even though we were a primary source of price information for the industry, we knew the price information available at that time did not adequately describe the prospects for the market. Thus, the \$136 price itself was somewhat a function of the shortcomings of price information, not in the sense that there were not offers or deals at this price level, which there were, but because more complete price information was not available in earlier periods, which could have averted, or at least mitigated, this dramatic price run-up.

This recognition on our part is the reason we were so eager to embrace all of the new price information that has become available, in large part because of this price run-up and all of the attention that was paid to the uranium market. Without question, the availability of price information today, while certainly not perfect, is demonstrably better and more expansive than it was before 2007.

A case in point is the reaction of price following Fukushima. While things were crazy for about a week, which was understandable given the degree of shock to the market, price did not drop to \$20 or \$30 as some thought it might (which may have been the outcome in some earlier period). Price did, however, get to a sustainable trading range in a relatively short period of time.

Despite some reservations about the price panel concept, we do think discussions about price reporting have their place. In this respect, while this cover may have seemed excessively critical in some respects, we believe it is important to highlight certain misconceptions or to present alternative viewpoints when it comes to prices and price reporting, especially considering that we are one of the primary suppliers of price information to the industry. We will continue in our efforts to bring better and more complete price information to the industry, along with an explanation of what this information represents. In doing this, we will look to other commodities to see what systems may work well in nuclear fuel, and continue to work with market participants to determine the data services they would like to see as we fulfill this market function.

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