Pricing Risks

Be prepared for the next round of commodity price swings

By IHS Global Insight

Purchasing and supply managers were caught off-guard by the tremendous swings in commodity prices over the past few years and volatility has not disappeared, despite the recent global economic downturn. Supply chain professionals need to monitor the drivers of commodity markets in order to understand and better anticipate these commodity price movements.

A thoughtful and systematic tracking system of key commodity price drivers, updated on a frequent basis, needs to be developed by each purchasing manager to avoid:

- Buying at the peak.
- Setting false price expectations for senior management.
- Not being prepared for cyclical inflection points.
- Being pressured into buying decisions to meet short-term goals of finance, sales, and marketing.

Given that not all price drivers can be monitored with data, important qualitative factors must also be identified to estimate the potential impacts these factors have on commodity price movements.

Is the Volatility Here to Stay?

The last several years have witnessed not just strong commodity price increases, but also tremendous volatility. After a sharp sell-off during the 2001 recession, commodity prices rose to unprecedented levels between 2006 and 2008, only to collapse late that year. Their extraordinary rise has promoted many observers to label the episode as a "supercycle." (See **Figure 1**.)

While the strength and duration of this cycle was unprecedented, the behavior of markets during the past five years was in the broadest sense normal. Fundamentally, the initial recovery in demand that began in 2002 ran ahead of available supply, reducing inventories. This tightening in markets was reflected in prices which began rising. With enough time, the supply-side of markets began to adjust. Investments were made, which after a period of time, began to yield higher production. Higher prices also affected demand, with consumption growth slowing. With production growth first catching and then surpassing consumption growth, market balances began to shift from deficit to balance, and in many instances, to surplus. The transformation in markets was complete by early 2008, although prices continued moving higher for a period of time.

The last few years have also led to a very high level of volatility. The exact cause is hard to pinpoint, but many analysts have concluded the heightened role of investors was a prominent cause. Traditionally, investors have been viewed as providing liquidity and, thereby, stability to markets. But can investors also be a destabilizing influence on markets? Interestingly, gold prices, where investors are virtually the entire market, were among the least volatile of all commodities over the last 30 years.

Whatever the cause or causes, this increased volatility has raised the need for reliable and timely market intelligence. Buyers and purchasing agents need to have a good feel for price direction before entering a contract or negotiation, or the next budget meeting. Identification of major price drivers for the commodities key to your operations is the first step in the right direction.

What Should You Be Monitoring?

Prices have traditionally moved with changes in supply, demand, and input costs. This framework works well with more downstream (semi-finished and finished) products that have a well-defined production process and localized market.

Commodity prices are more difficult to pinpoint an exact cause for upward or downward pricing pressure at any point in time due to:

1. Production costs typically do not influence prices in the short-term.
2. Markets are global, especially those that are exchange trade.
3. Exchange rates and interest costs will influence all commodities with prices, therefore buffeted by a range of "external" forces.

The multiplicity of factors impacting

Figure 1

Figure 2

commodity markets make a systematic, structured approach to monitoring prices critical in separating truly important information from "background noise." While this may seem like a daunting task, assembling scorecards for important buys can simplify the effort of distilling a great deal of information.

Building a Commodity Pricing Scorecard

The first step in the construction of a commodity scorecard is to identify underlying markets. You need to ask yourself the following questions:

- Which country or region is dominant in the production of the material?
- What are the key end-markets for the commodity? What are the key consuming markets?
- Are there any substitutes?
- What are the primary input costs to the mining or production process?
- Are investors an important factor in the market? If so, are there any technical or financial indicators that can help gauge their behavior?
- Are there any institutional features of the market that require special attention, such as production agreements between countries or environmental regulations?

The second step is to gather the sources of information that answer the step-one questions. Most countries have statistical agencies that track their economy, including production and consumption of their major markets. Please see http://www.census.gov/aboutus/stat_int.html for a current listing of these government statistical agencies.

Additionally, certain sectors of the economy have global associations that track more detailed data. An Internet search by commodity should quickly identify the key associations by sector.

The third step is to place the recent pricing experience in perspective. We recommend that you chart the commodity price over a long period of history (perhaps as much as 30 years) to understand long-term trends in the industry. If the last few years have taught us anything, it is that business (and pricing) cycles are alive and kicking. This long-term price chart, plus an embedded trend line, will help you gauge whether prices are moving too high or low compared to the historical averages.

Additionally, you may want to construct confidence bands around the long-term price trend line to identify potential turning points. Here, we would suggest using one standard deviation off this trend line as a measure of unusual price activity.

Finally, you need to decide the updating frequency (depending upon your resources and the frequency of your data sources) and compile the information in a format conducive to your buying horizon.

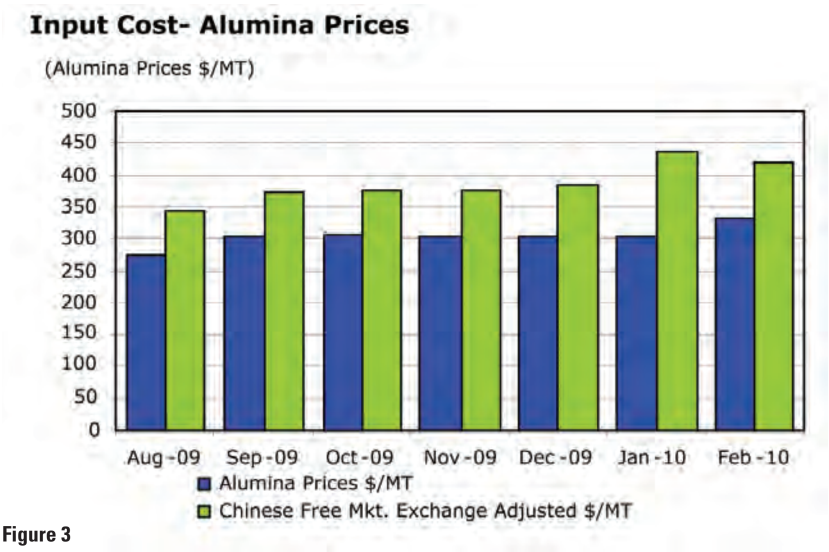

Figure 3

An Example – Aluminum

Step 1 – Identify the key price drivers for aluminum:

■ Production – The highest producing countries are China, Russia, and Canada, in descending order

■ Key consuming markets – Can stock, construction, transportation equipment, in China, U.S., Japan, Germany and Russia

■ Substitute products – Plastics, glass, copper, and aerospace composite

■ Key input costs – Bauxite and alumina

■ Simple technical indicators – 100- and 200-day [price] moving averages

■ Other factors – Forward curves, spreads, and inventories

Source: www.world-aluminium.org; minerals.usgs.gov/minerals/pubs/commodity/aluminum

Step 2 – Identify timely data to represent price drivers

■ Production – International Aluminum Institute (**www.worldaluminium.org/Statistics/Current+statistics**), the Aluminum Association (**www.aluminum.org/**) also offers detailed statistics on the North American market; however, much of this information requires a subscription

■ Key consuming markets – Timely data for industrial production of beverage cans, construction products, and transportation equipment, such as aircraft and cars, is available for the United States and China. Please see **www.federalreserve.gov/releases/g17/Current/ (U.S.)** and **www.stats.gov.cn/english/statisticaldata/index.htm** (China). Also the United Nations compiles industrial production by country but is not as timely as the source government sites (**unstats.un.org/unsd/mbs/app/DataSearchTable.aspx**).

■ Substitute products – The price indexes of composite and glass is reported by the U.S. Bureau of Labor Statistics (http://www.bls.gov/ppi/). The London Metal Exchange offers daily prices for copper and plastics (**www.lme.co.uk/plastics-data.asp** and **www.lme.co.uk/copper.asp**).

■ Input costs – Bauxite and alumina information is collected by the U.S. Geological Survey (**minerals.usgs.gov/minerals/pubs/commodity/bauxite/**)

■ Technical indicators – The London Metal Exchange and Shanghai Future Exchange offer daily prices to calculate these technical indicators (**www.lme.co.uk/aluminium.asp**) and (**www.shfe.com.cn/Ehome/index.jsp**).

■ Forward curves, spreads, and inventories – LME and SHFE can be used for forward curves, spreads, and visible inventories. Reported inventories are posted by the International Aluminum Institute (**www.world-aluminium.org/Statistics/Current+statistics**).

Step 3 – Compile pricing history and 20% pricing bands

■ London Metal Exchange and Shanghai Metal Exchange offer daily, weekly, or monthly price data.

Source: secure.lme.com/Data/community/Dataprices_daily_metals.aspx#stocks; www.shfe.com.cn/Ehome/index.jsp

This Initial Investment Can Reap Big Rewards

The setup of the commodity scorecard will take time and almost certainly progress through a number of iterations. While you may know the answers to the "scorecard questions" above, finding the data and even having to construct the data can take time. But information is everywhere. It is easy to be overwhelmed by the sheer amount and lure of finding the commodity key. The key is to establish drivers for the major raw materials to your operations and then begin monitoring this select set of data.

This process will save your organization money and in the longer term, you may even gain some of your initial investment time back through greater efficiency. The goal is to be one step ahead of commodity prices and better anticipate the beginning of the next supercycle. ■

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