A close-up, black and white photograph of a metal chain link, showing the intricate details of the metal and the way the links are connected. The lighting is dramatic, highlighting the textures and shadows of the metal.

The End of the Commodity Supercycle Brings Challenges and Opportunities

By John Mothersole



As commodity prices continue to fall, several factors are creating opportunities and challenges for global organizations.

With oil prices sinking below \$60 a barrel and commodity prices dropping by 25 percent on average since late-2014, the end of the commodity supercycle is not only clearly in sight – it’s here. Driven by the rise of China as an industrial power and loose monetary policies, the supercycle’s reversal is now presenting a mix of opportunities for challenges for global entities.

Commodities Impact All Supply Chain Sectors

As the raw materials that comprise the basic inputs in global manufacturing, commodities impact nearly every segment of the supply chain. Interchangeable with other “like-type” items, commodities are often the first products to get processed in production. As such, the prices of these commodities – iron ore, copper, oil, and petrochemicals, for example – can have a significant impact on what manufacturers, distributors, and end users pay for finished goods.

But by their very nature, prices paid for commodities are extremely volatile and tend to fluctuate based on any number of market and non-market factors. Unlike products whose prices continually increase in an inflation-like manner, commodities can experience prolonged and significant price corrections. That’s because both demand and supply can experience large changes in a relatively short period of time. Supply can be very “lumpy,” with production tending to come in large chunks, reflecting the capital-intensive nature of most projects where long lead times are normal and operational efficiencies require scale.

Also difficult to gauge, demand tends to swing rapidly. Decisions to increase or decrease the desired level of inventory over the business cycle can greatly amplify changes in apparent consumption. Likewise, where commodities are traded in open exchanges, investor sentiment can create or remove demand based on

factors seemingly unrelated to a commodity’s physical fundamentals. These characteristics of commodity markets make matching supply and demand at any point in time difficult. Moreover, even when markets do achieve balance, the nature of the commodities makes them inherently unstable.

Recent history provides a ready example of this volatility. Beginning in 2002, commodity prices began to rise in a general way. They continued to march higher and higher right through most of the last decade and achieved extraordinarily elevated pricing levels. Remember when oil was hovering at \$140 a barrel? Nickel provides another dramatic illustration: prices were at \$5.40 per pound in November 2005, hit \$24.53/lb. in May of 2007, but were back down \$4.00/lb. by October 2008.



The Supercycle Comes into View

As economists and analysts observed this strong rise in prices across a number of markets, the term “supercycle” came into vogue. Driven by fears of ever growing scarcity, conventional wisdom centered on a belief that the stock of resources was fixed in both the physical and economic sense. As the decade progressed, the idea of a supercycle began to crystallize around the theory of “peak oil.” If there’s only so much oil in the ground, after all, and if you keep taking it, then it’s eventually going to run out. This seeming reality fed anxiety that the competition for resources could only grow fiercer, which only served to push commodity prices up even further, in some sense justifying the fear.

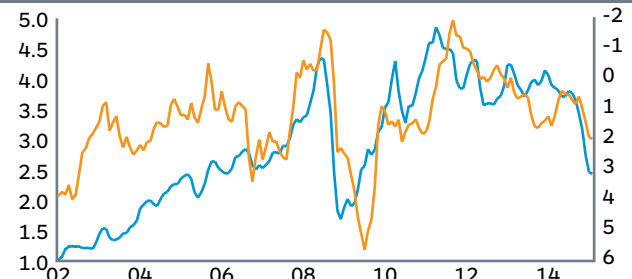
Expanding regional trade links and the development of the BRICS economies (Brazil, Russia, India, China, and South Africa) clearly factored into the supercycle growth. When the BRICS began developing rapidly, many analysts started to extrapolate growth rates for various data over a 10- or even 20-year time horizon, implicitly assuming that the populations in these countries would soon begin to enjoy lifestyles that mimic what Americans enjoy today. Translating these assumptions into physical resource requirements only reinforced concerns that an era of ever-greater scarcity – with ever-higher prices – marked the not too distant future.

Overlooked during this analysis was the fact that markets are dynamic. Given time and proper information (i.e., price signals), markets do adjust. While the term supercycle was used to describe commodity markets in the belief that prices would only move higher, in fact, the “downside” of the cycle was already moving into place. Investments were being made that began to yield stronger production growth.

At the same time, consumption growth, again reacting to the same higher prices, began to slow. Fundamentally, commodity markets were moving from positions of deficit to balance to even surplus. Prices first stopped rising and then began falling. Although oil prices continued to stay high until mid-2014, reflecting geopolitical risk factors, other commodity prices began moving lower as far back as 2011.

The dramatic collapse in prices over the last half of 2014 has now made obvious the backend of the supercycle – with markets once again adjusting. Companies have begun cutting production, reviewing their spending

The supercycle and excess liquidity



IHS Materials Price Index, left, 2002:1 = 1.0
Real Interest Rates, right, percentage, inverted

Source: IHS

plans, and reevaluating their operations. Concurrently, a number of mergers are being proposed in an effort to rationalize capacity. Demand is also reacting, with consumption being stimulated by bargain hunting buying and increased physical use.

China's Role in the Supercycle

A number of policy-related factors helped to accentuate the jump in commodity prices that started in 2002. In addition to emerging market growth and increased globalization, China's entry into the World Trade Organization that year also helped drive the supercycle. For more than 100 years the West had been salivating over selling to China's huge population. That opportunity slowly began to open in the 1980s when China instituted a series of reforms that made itself receptive to foreign investment and trade. The interrelated advances in information technology and logistics management amplified this opening in the late 1990s.

So while domestic consumption in the BRICS was beginning to rise, investment in these emerging markets to take advantage of lower production costs also surged. In particular, the scale of the build out of China's manufacturing base placed huge demands on commodity markets. To top it off, excess liquidity was being pumped into global financial markets – a trend that impacted both North American and European markets (namely, new home building). Consumption in the advanced economies was thus being driven to unsustainable rates of growth at the same time that investments designed to supply this consumption growth were being made in the emerging markets.

For commodity markets this amounted to a perfect storm of demand. Little wonder then, with demand not just strong but accelerating, that the notion of growing

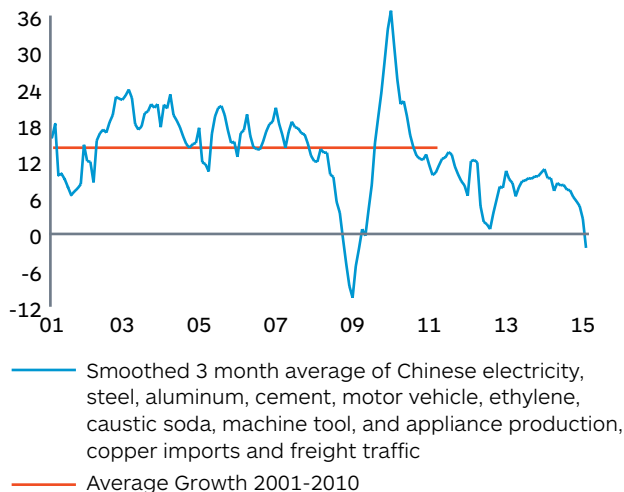
physical scarcity with ever higher prices – a supercycle – began to be used to describe commodity markets. These trends began to shift after 2008. Most obvious was the pop in debt-fueled consumption spending in the advanced economies. But the unsustainability of consumption spending in the advanced economies also exposed the unbalanced nature of emerging market growth. Growth in many developing economies was revealed to be narrowly defined by commodity exports, or in the case of China, manufacturing exports and the infrastructure spending geared to support its manufacturing sector.

The bottom line is that China doesn't need to build many more steel mills, aluminum smelters, or cement kilns. In a very real sense, China is following in the same path followed by South Korea 20 years ago, Japan 40 years ago, and even the United States some 90 years ago.

In China, growth rates of 10 to 15 percent annually extended over a full 10-year period. Coming into the last decade, China was a medium-sized economy; by the end of the decade the country was colossal in terms of its footprint in the raw material markets. Of course, continually adding incrementally when you are expanding at roughly 15 percent annually is challenging. Over the past 15 years, China moved from consuming 10 percent of the world's commodities to consuming 50 percent of them. That's a huge shift within a fairly short timeframe and reflects both China's internal growth and the fact that much of the world's manufacturing base has relocated to China.

The supercycle and emerging markets (China)

Chinese industrial activity, percent change year ago



Source: IHS

The Supercycle Presents Challenges & Opportunities

Commodity prices rose and then stayed strong through most of the previous decade. According to IHS' Material Price Index (MPI), a weighted average of weekly spot prices for a collection of key globally traded manufacturing inputs, commodity prices doubled between 2002 and 2004. They repeated this pattern between 2004 and 2008, a strong price move over a 6-year period. Commodity cycles going back 60 or 70 years didn't last this long and weren't of this magnitude. Hence the name "supercycle."

In terms of commodity pricing in the post-supercycle era, the peak-to-trough decline is projected to be more than 40 percent – with a low point surfacing in the second quarter of 2015. And, even if commodity prices stopped falling right now, cost pressures downstream would continue to unwind into the third quarter of the year. That's because it takes time for the entire supply chain to feel the impact of lower commodity prices. A finished goods manufacturer, for example, may not feel such impacts for months after they begin at the raw goods level.

Firmly entrenched in the downside of the commodity supercycle, all sectors from energy, chemicals and industrial manufacturing to technology, transportation and finance face profound opportunities and steep challenges ahead. In fact, certain upstream producers of commodities and raw materials are already facing the brunt of the storm as prices tumble. Companies in this situation are asking themselves what they can do to create operational efficiencies, lower costs and preserve margins.

An energy company that sees falling crude oil prices as a hurdle, for example, and whose input material costs have yet to retreat, might be able to capture some raw material price declines of its own while at the same time driving more operational efficiencies and putting more effort into continuous improvement processes that allow it to operate more profitably.

Despite the lion's share of attention focused on low oil prices, commodities ranging from copper, iron ore, and steel to chemicals, transportation, and labor are all impacted by the end of the commodity supercycle and now represent supply chain opportunities for companies that make use of them (See "10 Ways to Benefit From Falling Commodity Prices").

Material Price Index (MPI) Forecasts



IHS Material Price Index, 2002w1=1.0

Source: IHS

Commodity Price Declines Don't Always Equal Cost Reductions

In looking at the MPI in relation to the supercycle, IHS' models predict that a "floor" will soon develop in commodity markets. That floor is based on two factors. First, IHS still sees a global recovery underway, with growth slowly accelerating over the next two years. Growing demand, albeit slow growth, suggests a certain amount of support for pricing – not necessarily pressure – that would prevent prices from declining much further. Second, for some commodities, prices are nearing production costs. Further price declines are therefore likely to trigger production cuts, with the resulting contraction in supply then tightening markets.

In comparing raw material prices with the different stages of the supply chain – from crude materials to finished goods – there is a correlation among the different points and the "lagged transmission" effect that occurs in the commodities market. In simple terms, the volatility that takes place upstream in supply chains takes time to move downstream and is "dampened" in the process. In some instances, this can keep organizations from taking full advantage of price declines for the semi-finished or finished goods that they buy. However, in cases where price declines do not materialize, buyers can expect to see - or negotiate - an absence of price increases where declines in upstream costs can be identified.

The end of the commodity supercycle presents a mixed bag for companies. The world's airlines, for example, are in a great position to take advantage of lower fuel prices. In fact, these companies have the potential to be more profitable than ever because what consumers are paying for airline tickets and associated fees are

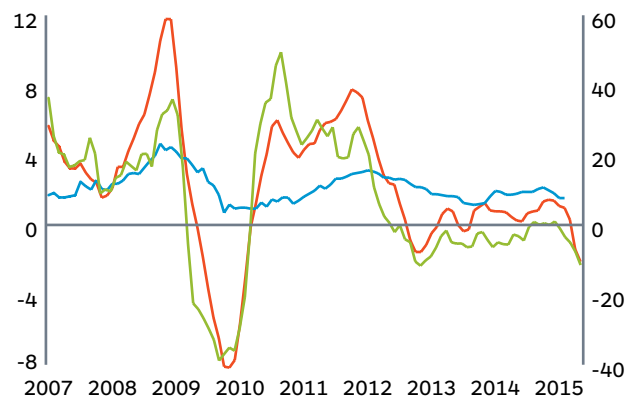
not receding as fast (if at all). This puts the airlines that have purchased fuel on shorter timelines (a year or less) in a particularly favorable position.

Automobile manufacturers have an equally strong foothold in the market, where lower fuel costs put more money in consumers' wallets and push buyers to look at larger, higher-margin vehicle options (such as SUVs). At the same time, carmakers are enjoying weak aluminum, steel, and rubber prices. On the other end of the spectrum, energy producers are implementing continuous improvement strategies and standardizing their operations in an effort to offset the negative impacts of lower oil prices.

Factoring in these examples, it's clear why the roughly 40 percent decline in commodity prices don't always translate into price cuts within the supply chain. Prices as a whole may be moving down dramatically, but different items are moving at varied rates within the supply chain. Just because oil prices drop by 50 percent, for example, doesn't mean metals prices have dropped quite that significantly. To achieve the best cost savings, organizations need to figure out which commodities are at their lowest points, which are still retreating, and which will have the biggest impacts on their supply chains. Equipped with this information, companies can effectively determine the best possible buying scenarios and ascertain the impact of the price fluctuations and commodity supercycle on their total supply chains.

Lagged transmission of recent price moves means cost pressures downstream will weaken throughout 2015

(percent change year ago)



PPI, Core Finished Goods
PPI, Core Intermediate Materials
PPI, Cost Crude Materials

Source: IHS

Leveraging the Opportunities

As supply managers keep a sharp eye on the opportunities and challenges being presented by the end of the supercycle, expect commodity pricing to remain a focal point. Volatile and dynamic in nature, these prices could shift at any time.

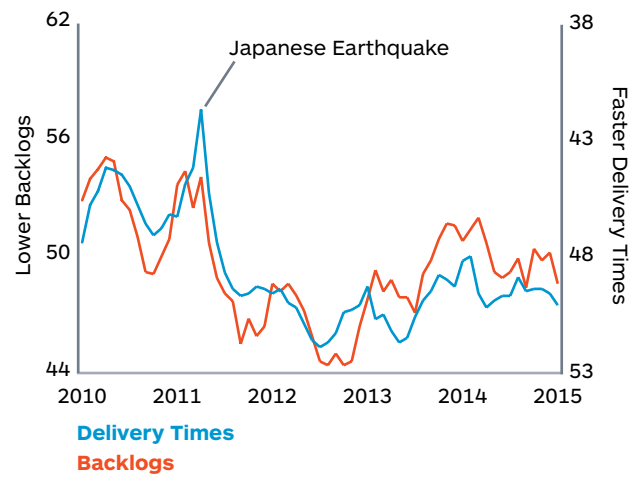
When assessing the current and future pricing structure within the commodity market, it's important to factor supply chain leverage into the equation. There are, in fact, various measures of leverage that can be utilized to get a glimpse of what's going on in supply chains. And while this data is consistent with the pricing information, in the sense that the two tend to move together, it can be more powerful for buyers, because it suggests where the advantage may lie in supplier negotiations.

Two of the best measures of leverage are lead times and backlogs. Backlogs can be compared to customers lining up at a merchant's door; the longer the line, the more pricing leverage a supplier has. Right now,



Measures of leverage in supply chains have been softening for some time

Global PMI Diffusion Indexes



Source: IHS

backlogs are relatively low or are declining, signifying that leverage is in the buyer's court. This is extremely unusual during a so-called "recovery," when you would typically see markets begin to tighten, with lines forming, and delivery times lengthening. When this occurs, suppliers gain an increasing advantage over buyers. But that's not happening. In fact, since early-2014, we've actually seen these two measures of leverage swing away from sellers and towards buyers. It's a very different kind of recovery that represents continuing opportunity for supply chain managers over the coming 6-12 months.

All in all, those companies that are feeling the negative effects of lower prices must focus on driving operational efficiencies and continuous improvement in order to operate profitably – or not operate at all. On the other hand, buyers enjoying the benefits of lower commodity costs should capitalize on the time to drive products to market and enjoy material/input cost reductions. Regardless of their companies' positions on the supply chain, all buyers should pay attention to what's transpiring in the aftermath of the commodity supercycle and the significant impact that these developments have on the prices that manufacturers, distributors, and end users pay for finished goods.

**JOHN MOTHERSOLE, IS DIRECTOR OF RESEARCH,
IHS PRICING & PURCHASING**

10 Ways to Benefit From Falling Commodity Prices

The broad commodity price declines may raise questions about the global economy, but the silver lining for purchasing managers is the potential to capture significant cost savings. Here are a few highlights of the global pricing environment that every procurement executive needs to know before their next negotiation session:

- 1. It is not just oil prices that have declined significantly.**
The correction in commodity markets since July 2014 has been broad based. The near-60 percent plunge in oil prices has rightly captured attention, but non-oil commodity prices are also down significantly, falling by more than 25 percent over the same span. Moreover, we now believe commodity prices are likely to continue falling into the second quarter before stabilizing. Given the normal lagged transmission of raw material price changes downstream in supply chains, cost pressures will continue to soften through 2015.
- 2. Copper is one of those commodities where the price has dropped dramatically.** Copper prices are trading near \$6,000/metric ton, down from \$6,700 in mid-November. While IHS was bearish on copper, prices fell below our near-term expectations due to the U.S. dollar strength and renewed concerns over Chinese growth. IHS now believes that prices will remain relatively range bound in the second half of 2015.
- 3. Iron ore prices are also facing a new normal.** Just as surging tight oil production has pushed oil markets into surplus, so too is a flood of production from new iron ore mines rewriting the outlook in steel markets. Spot prices, which stood over \$130 per metric ton in January 2014, are under \$50 per metric ton as the big-four ore miners engage in the same kind of market share strategy designed to knock out high-cost competition. With global mill capacity ample, steel buyers have the leverage to fully capture this ore decline in finished steel prices.
- 4. Steel prices are now much lower than expected in all regions.** Lower feedstock cost, including iron ore, is a key reason for the weaker prices. Asian and EU prices are also off due to the weakened demand, while North America has suffered from an import surge of lower-priced steel. IHS expects a weak rally in Europe and Asia. North American prices will have continued downward pressure until the differential with global prices is eroded.
- 5. The impact of lower oil prices on chemicals varies by product.** Some chemical products and their derivatives are more closely associated with crude oil feed-stocks than others, namely those that rely on refinery-generated raw materials. Petrochemical and plastic products that have seen the most significant downward price movement in recent months have been connected to benzene, toluene, xylene, and propylene; all byproducts of crude oil refining. Others have also seen significant price declines, but to a lesser degree.
- 6. Oil prices have dropped, but so have some of the materials supporting production operations, namely frac sand.** Producers of frac sand are in for a rough year. Although prices have held steady, due in large part to take-or-pay contracts, they are nearing a turning point. Initially, the losses will be minor. However, as frac sand producers increasingly struggle to maintain production in a worsening demand environment, the discounts will grow. Adding to the downward pressure on prices over the coming quarters is the wave of new mines and processing facilities scheduled to come online throughout 2015. The timing could not be worse. As a result, frac sand prices are likely to tumble through early 2016.
- 7. U.S. labor markets will continue to improve; however, higher labor costs will not erase the positive benefits from lower commodity prices.** The U.S. unemployment rate has dropped well below 6.0 percent, pointing to stronger wage growth ahead. Wage growth will accelerate in 2015 but will remain at rates that will not erode cost savings opportunities. After five years of sub-2.0 percent growth, wage costs will lift to 2.5 percent this year.
- 8. Lower oil prices do not equate to lower prices for all. The U.S. economy will benefit tremendously from lower oil prices.** IHS has now lifted U.S. GDP growth to 3.1 percent in 2015 from 2.7 percent in our fourth-quarter 2014 forecast. Falling gasoline prices and other consumer energy costs will put more money in consumers' wallets. Real consumer spending will be a significant driver of U.S. growth in 2015 and means stronger demand for selected goods and services in the U.S. economy.
- 9. Transportation is one area that will benefit from the increased U.S. demand.** Lower diesel and other energy prices suggest that trucking and railroad rates decline in 2015. However, improving demand in the U.S. economy is propping up rates to rates near 1–2 percent. Expect some deceleration from the 3–4 percent growth in 2014, but transportation buyers won't realize the full cost savings.
- 10. The stronger U.S. dollar will reduce the impact of lower commodity prices in some countries.** While lower commodity prices will benefit the cost structure for manufacturers and other suppliers, the price paid by companies in Europe and Canada for U.S. products will be pressured higher by the exchange rate. The euro has now dropped near \$1.10 and the Canadian dollar has sunk to near 80 U.S. cents. The stronger U.S. dollar forces U.S. suppliers to lift local prices to recoup the lower value of the local currency. Further, the weaker currency will mitigate the drop in commodities priced in U.S. dollars, and therefore the prices in euros will not drop as much as prices in U.S. dollars.

For more information, please contact:

Americas

Tel: 1-844-505-4975

Email: CustomerCare@ihs.com

Europe Middle East, and Africa:

Tel: +44 (0) 1344 328 300

Email: Customer.Support@ihs.com

Asia Pacific:

Tel: +65 6439 600

Email: SupportAPAC@ihs.com

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