

# FOCUS

## Commodity markets: a lot of attention but little understanding

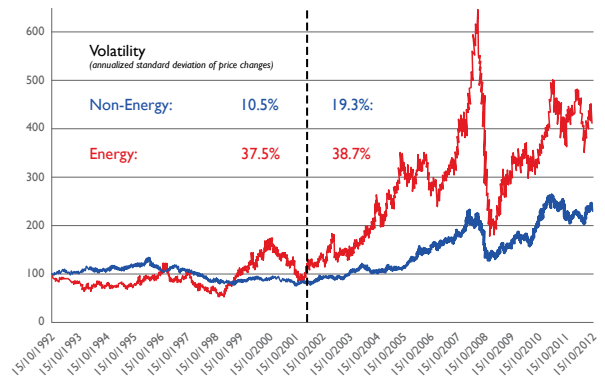
Today, commodity markets, where agricultural, metal or energy commodities are traded, seem to be a source of concern. Why is that so? Figure 1 provides an answer. Over the last two decades, after a first period of 10 years with a flat trend, we observe a dramatic change in the behaviour of commodity prices from 2002 to the present. Starting from a commodity price index of about 100 – that is the price level of 1992 – both indexes have increased significantly to 230 for non-energy commodities and 347 for the energy commodity index, which is an annual average growth rate of 8.7% and 13.2% respectively. Furthermore volatility has also increased. From 10.5% during the first phase for non-energy commodities, to 19.3%. Energy commodity prices, which are usually more volatile, also display larger fluctuations with a volatility index increasing from 37.5% to 38.7%. Higher volatility affects the risk exposure of many economic agents, consumers as well as corporations.

### Trading in finite resources and uncertainty

Interestingly, the sudden drop following the 2007 crisis did not last long, which can be seen as sign of the resilience of commodity prices, as if the trend were irreversible. It revives an old debate about *The Limits to Growth*, the title of a famous book published under the

Figure 1: Commodity indexes (15/10/1992 = 100)

SOURCE: DATASTREAM; S&P GSCI COMMODITY PRICE INDEX



initiative of the Club of Rome in 1972 to warn decision makers and politicians about the unsustainability of growth in a world with finite resources. With China eager to keep on growing at 8% per year and India following a similar trend, it is not surprising that the debate has resurfaced, particularly at a time when fears seem to be a major driver of economic behaviours.

However, some would argue that the same commodity boom occurred in the seventies, and was then followed by a long period of decreasing commodity prices, coming back to the 1980 real-term



level only recently. It all depends on the future demand and supply of commodities and both are very uncertain, hence the concern.

**Types of transactions**

To discuss the volatility issue, one needs first to consider the types of transactions taking place on commodity markets. On the spot market goods are sold for cash and delivered immediately, while both forward and futures contracts allow participants to buy or sell a specific type of asset at a specific time at a given price. However, forwards are customised and traded over the counter (OTC) whereas futures contracts are standardised and exchange-traded with a lower counterparty risk.

Indeed there is a relation between spot and forward prices. Let's assume that a buyer needs to have a given quantity of a commodity at a known future date, the alternative is to buy now and hold the product until it is needed, or, buy a forward contract. In one case he has to pay the spot price and incur inventory holding costs, otherwise he can decide to pay the price stipulated in the forward contract at the due date. The solution with the lowest cost will then be preferred. If there are many participants on the market, the difference between the two solutions will disappear inevitably since arbitrages will take place. In other words the spot price will just be the forward price minus the cost related to an early acquisition and storage, forward prices are driving spot prices. However, if the good cannot be stored – such as electricity – or if the spare storage capacity is very low, then the relation is no longer that simple.

So what drives forward prices? The answer is clear: anticipations about future spot prices. As long as a forward price is lower than the anticipated future price,

market participants will buy forward contracts to pay a lower price at the delivery date. As a consequence demand for forwards will increase until the forward price reaches a level which corresponds to anticipations. This is key to understanding and analysing volatility. If the market environment is highly complex with a very uncertain future, anticipations are not well founded and subject to frequent and rapid changes, resulting in a high degree of volatility on the market. Considering the prevailing global economic situation, characterised by geopolitical risks, social tensions, regulatory and technological uncertainties, it is not surprising that volatility is high.

Many like to stigmatise speculators; with pure financial goals they treat commodities as a new asset class and by doing so generate volatility to the detriment of participants with physical needs. But should they be blamed? Indeed, in such a perturbed and complex environment rogue behaviours driven by greed may exist, but speculation is not what most people believe. It is a technical necessity to create liquidity and contribute to market efficiency.

What are the factors influencing supply and demand of commodities, and what can we anticipate? What is the role of the dominant market players, financial institutions in particular, and how can they contribute to more stability? What can we expect from new regulations? How can companies mitigate their risk when exposed to excessive volatility of commodity prices? What are the strategies of investors taking commodity markets as a new playing field? The following articles provide some answers to these important questions. ■ *Patrick Gougeon, UK Director of ESCP Europe Business School*

“ Considering the prevailing global economic situation, characterised by geopolitical risks, social tensions, regulatory and technological uncertainties, it is not surprising that volatility is high. ”

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## COMMODITIES TIMELINE

**1730**

The Dijoma Rice Exchange is officially licensed for the trading of rice contracts and futures in Osaka, Japan

**1848**

The Chicago Board of Trade is founded

**1864**

The Economist's Commodity Price Index is one of the first to be published

**1882**

The Butter and Cheese Exchange becomes the New York Mercantile Exchange when it begins selling dried fruit, canned goods and poultry

**1877**

The London Metal Exchange (LME) is established. The LME is now the world's premier non-ferrous metals exchange

**1872**

The Butter and Cheese Exchange of New-York is created by a group of dairy merchants

**1933**

The COMEX, which merges the National Metal Exchange, the Rubber Exchange of New York and the National Raw Silk Exchange, is established

**1944**

The Breton Woods System is adopted. This sets up an international monetary system, fixing exchange rates by tying currencies to the US dollar, which was itself indexed to gold

**1957**

The Commodity Research Bureau (CRB) Index is established, tracking spot commodity processes

**1992**

The PAC (Politique Agricole Commune - Common Agricultural Policy) is created, helping to stabilise commodity price volatility for a period

**1991**

The first generation of investable commodity indexes appears when the Goldman Sachs Commodity Index (now S&P GSCI) is introduced

**1976**

The Jamaica Agreement ends the Breton Woods System by allowing the managed float of the price of gold with respect to the US dollar

**1994**

The Uruguay Round exposes European farmers to higher and higher price volatility

**1998**

Dow Jones-AIG Commodity Index (now Dow Jones-UBS Commodity Index) and Rogers International Commodity Index (RICI) are launched

**2000**

The World Bank convenes an International Task Force to explore new, market-based approaches to help developing countries better manage their vulnerability to commodity price volatility

**2009**

The 'third generation' Summer-Haven Dynamic Commodity Index is introduced: it includes 14 equally weighted commodities out of a total 27, rebalancing its futures portfolio every month

**2007**

The 'third generation' UBS Bloomberg CMCI Active Index is introduced: component weightings of the index are adjusted using a discretionary approach by research analysts

**2010**

The Dodd-Frank financial reform bill is approved. It contains provisions to increase transparency and reduce position limits to prevent the domination of markets by a few firms, helping to moderate, if not prevent, extreme volatility in food and energy prices

**2012**

The European Parliament's Committee on Economic and Monetary Affairs adopts its report on the review of the Markets in Financial Instruments Directive. This piece of legislation is critical to achieve stronger regulation of commodity derivative markets and limit harmful financial speculation on food

# Commodities and their main drivers

EXPECT HIGHER PRICES TO BE THE NEW NORMAL IN A GROWING CONSUMER WORLD SAYS **JEAN-FRANÇOIS LAMBERT**, MANAGING DIRECTOR AND GLOBAL HEAD OF **HSBC'S** COMMODITY AND STRUCTURED TRADE FINANCE DEPARTMENT

Commodity markets have entered uncharted territories, but they have not done so in an isolated fashion. As the world economy slows down, most markets from securities, to bonds, to real estate, are learning how to cope with a new reality – the end of an era of unlimited liquidity and ‘forever growth’.

Despite this, commodity prices are still more expensive than 10 years ago. The question we have to ask is whether this is a short-term phenomenon, or whether commodity prices look set to hold their value over the longer term?

A lot has been said about the influence of financial speculation and development of the commodity market as a new ‘asset class’. Some hold the view that such speculation is driving up prices and that over the long term the value of commodities will fall. Commodity trade finance practitioners take a different view.

In stark contrast with other asset classes, commodity prices are built around the moving and delivering of physical assets. Financial commodity market instruments are key tools for suppliers, merchants and large buyers to protect their prices on future deliveries, and lock in key strategic supplies. At maturity, each ‘financial trade’ gives rise to the delivery and the off-take of a commodity cargo somewhere in the world.

Does this mean that the speculation of some financial players has failed to exert any influence on commodity prices? Of course it has. We have seen a greater volatility of commodity prices over recent years and undoubtedly some of this influence is due to speculation.

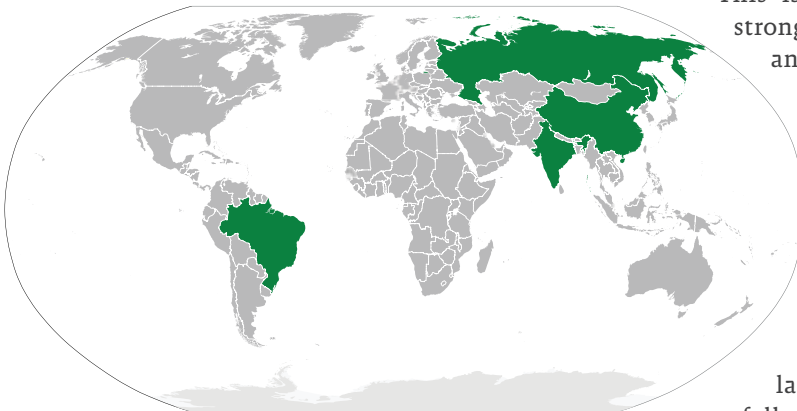
However, nobody has put it better than Professor Philippe Chalmin, a major commodity market specialist, when he compared financial speculation to the ‘foam over the wave of the fundamentals’.

This is because commodities are driven by strong fundamental trends – that of supply and demand.

These fundamentals will prevail over the longer term, because world growth remains the main driver of commodity prices: in short, people will continue to want, and need, energy and food.

Yes, we have seen a slowdown in the world’s economy, chiefly driven by a drop in China’s GDP growth in the last few months from over 10% growth, a fall we predicted to stabilise at around 8%.

However, today, China still represents over 40%



*BRIC economies*



The city of Shanghai has become a symbol of China's rapid economic expansion since the 1990s

of all commodity market requirements, and, even at 8% growth, will *de facto* be the engine of commodity growth.

So, even if current market conditions are uncertain in the short term, epitomised by the fact that spot commodity prices are showing some volatility triggered by fundamental or speculative views, by and large future prices remain unaffected and broadly neutral.

With the growth of the world population – it is estimated the planet will be home to eight billion people by 2025 – and the emergence of new heavily populated economic powers such as China, India and Brazil, securing supply of soft commodities such as wheat, soybean and sugar, energy products such as oil and gas, and base metals, will remain at the very top of the agenda for most economic and political leaders for many years to come.

It is interesting to note that whilst commodity prices have come off recently, most if not all commodities are still much more expensive than they

were a decade ago when the commodity ‘super cycle’ began. While some argue that this cycle is a mere catching-up after the 1980-90 decade when prices were abnormally low, one thing is certain – there is still a long way to go before we can say the super cycle is over.

Perhaps the best way to understand how commodity markets are driven nowadays is to imagine a corridor capped at one end by anticipation of world growth and floored at the other by the resilience of China. Indeed, HSBC contends that China has enough fire power, by way of policy intervention, to re-energise its economy if and when needed.

If this proves to be the case, then commodity prices should not significantly decline and are well supported in the medium term. In fact, our view is that prices will likely remain as much as 30-60% higher in real terms than during the latter decades of the 20th century.

If this is the case, then we should expect the new normal to be more ‘super’ and ‘less’ cycle. ■

“ China still represents over 40% of all commodity market requirements, and, even at 8% growth, will *de facto* be the engine of commodity growth

”

# The role of banks in the commodity markets: bridging the expertise gap

**NIC BROWN**, HEAD OF COMMODITIES RESEARCH, AND **PIERRE-YVES HUG**, SENIOR ENERGY SALES, FIXED INCOME, COMMODITIES AND TREASURY AT **NATIXIS**, TRACE THE EVOLVING ROLE OF BANKS IN COMMODITY MARKETS FROM FINANCIERS TO MAJOR PLAYERS, AND POST-2008

For centuries, banks have provided finance for companies wishing to produce and trade commodities. Traditionally, finance would have been extended to suppliers of commodities against letters of credit secured upon the goods they were shipping, with both vessels and cargo protected by insurance contracts. This trade finance and insurance was the lifeblood of the early financial markets, and helps to explain why, for many years, the Bank of England used a weather vane to assess the likely need for credit in London's money markets (depending upon whether the prevailing wind would be holding vessels back or bringing them into the port of London). In time, this trade-based credit was expanded to include project finance for overseas companies, including explorers, prospectors and mining companies.

In relatively recent times, the role of financial intermediaries in the commodity markets changed significantly. After the deregulation of financial markets in the 1980s, banks expanded their activities into a range of new markets, offering their clients both broking and market-making services in markets including the London Metal Exchange, International Petroleum Exchange, Marché à Terme International de France and Chicago Mercantile Exchange. This

allowed banks to help their clients, whether producers or consumers of commodities, to hedge their potential exposure to unexpected falls or rises in the price of a wide range of commodities.

In the 1990s, following the repeal of the US Glass-Steagall Act, commercial banks were encouraged to leverage up their own balance sheets in the same manner as a new breed of aggressive trading firms, and they became major players in the rapidly expanding markets for crude oil and other commodities, using proprietary trading strategies which had been developed in the foreign exchange, money and interest rate markets.

During this period, investors too gained a new interest in these expanding commodity markets. Encouraged by research from Gary Gorton and Geert Rouwenhorst, which demonstrated how commodities offered a brand new asset class with returns equivalent to equities but with zero correlation, a further surge of interest in commodities was generated.

Since the financial crisis struck in 2008, much of this financial edifice has been torn down. Proprietary risk is once again being separated from traditional banking activities, and the capital needed to support it is being more prudently assessed. Concerned that the decentralised networks of over-the-counter (OTC) derivative transactions could become a systemic problem, just as they did in the wake of the Lehman bankruptcy, regulators are encouraging clearing and settlement via fully collateralised central counterparties. The effect of speculation upon commodity prices is being questioned by politicians, concerned at the dangers of unacceptably high food and energy prices. As a result of these factors, many banks are returning to their roots as hedgers of risk and financiers of trade and investment projects, acting on behalf of customers rather than pitting themselves against them.

Some banks have chosen to refocus on core businesses; downsizing, closing or selling their



Gold



*Banks became major players in rapidly expanding markets for crude oil in the 1990s*

commodity businesses. Others have pulled out of trading in agricultural commodities. For most banks, proprietary trading in commodities has become a thing of the past.

But it would be wrong to shut down entirely many of the useful services that banks can provide to their clients in commodity markets. We at Natixis firmly believe that there is a role we can play in commodity markets which not only benefits our clients, but also offers a wider public good in terms of fostering greater market and economic efficiency.

Trade finance remains an essential part of the macroeconomic system. In project finance, we are more easily able to lend to our clients if we and they are protected by an adequate hedging strategy versus unexpected falls in the price of underlying commodities being produced. Similarly, end-users of commodities are more secure if their businesses are protected from unexpected increases in the price of key commodities which they consume.

In the world of fully collateralised, centralised clearing and settlement, companies are deterred from implementing adequate hedging strategies due to the need to provide cash margining against their hedged

exposure, since price risk becomes outweighed by an unacceptably high liquidity risk. In this environment, banks can mitigate much of the liquidity risk for their clients by running trading books in which hedging positions for producers and consumers broadly balance out against each other.

Overly complex derivative products may have been partly to blame for the financial crisis, but it would be wrong to discard entirely the use of OTC and structured products. For many clients, their exposure cannot be hedged by simplistic positions in underlying commodity futures, particularly where risks relate to physical aspects of their business that cannot easily be replicated by liquid futures contracts. In these circumstances, banks can add

genuine value by tailoring risk solutions to their specific clients' needs. Where clients are exposed to the risks of inflation, for example, a commodity-based product may offer a simple and elegant solution.

The last decade has taught us much about the commodity markets, and we remain committed to putting this knowledge to good use for the benefit of our clients. ■

“ Many banks are returning to their roots as hedgers of risk and financiers of trade and investment projects, acting on behalf of their customers rather than pitting themselves against them ”

# Regulatory and accounting issues: a focus on energy commodity markets

**WENDI FARRELL**, EXECUTIVE DIRECTOR, **SHANE HENLEY**, SENIOR MANAGER, AND **RIDA RAHMANI**, MANAGER, OF FAAS COMMODITY TRADING RISK MANAGEMENT, **ERNST & YOUNG**, PROVIDE RELEVANT AND TIMELY INSIGHTS INTO THE IMPORTANT REGULATORY AND ACCOUNTING CHANGES FACING COMMODITY AND ENERGY MARKETS

The two important changes facing commodity and energy markets are market regulation and accounting developments for Liquefied Natural Gas contracts.

## *A wave of regulation is on its way – will it create a sea change for traded commodity markets?*

In response to the 2008 global financial crisis, both US and European regulators embarked on a significant shake-up of the way in which regulators would like to see traded markets regulated and supervised. These changes are likely to have a significant impact not only on financial markets, but also on traded commodity and energy markets.

With the Dodd-Frank legislation leading the way in the US, Europe duly proposed similar regulation in the form of MiFID2 (Markets in Financial Instruments Directive) and EMIR (European Market Infrastructure Regulation). The former builds on existing regulation and seeks to further tighten the rules regulating

trading venues and participants in financial markets, while the latter introduces new requirements including the mandatory clearing of over-the-counter (OTC) derivative trades.

The lack of transparency of the OTC derivative market is considered to be a major contributor in enabling the financial crisis. Greater transparency over these derivatives at an aggregate level is viewed by many to be a key component in helping to avoid similar failures in future. Both regulations, MiFID2 and EMIR, currently progressing through the EU legislative process, may carry significant implications for European commodity and energy market participants which were largely exempt from existing regulation.

In parallel with the enhanced financial market regulation, pan-European regulation has been introduced that specifically aims to regulate traded wholesale electricity and gas markets. Regulation of Energy Market Integrity and Transparency (REMIT) shares a number of similar objectives of the financial market regulation. This includes ensuring market transparency and the prevention of market manipulation across an ever-increasingly integrated European energy market. Although introduced at the end of 2011, the impact of this regulation is likely to be felt over the next 12 months as the main operational and compliance requirements are implemented.

The collective impact of these regulations on commodity and energy markets is not yet fully understood by the participants. Market participants have expressed concern over the adverse or unintended consequences of the regulations. These include the potential for increasing capital requirements, reduced market liquidity and the heavy operational



Liquefied natural gas plant, Qatar





*Liquefied natural gas plant, Arizona*

and technology investment required to report trading activity to the various regulatory bodies as proposed under the regulation. It is crucial, however, that over the next few months, market participants dedicate the necessary resources to identify what these changes might mean for their organisations and to put in motion an appropriate response. Our market intelligence indicates a surprisingly large number of organisations have yet to approach this in a concerted way.

**Accounting for LNG contracts: fair value or accrual account?**

The Liquefied Natural Gas (LNG) market was previously characterised by LNG being contracted on fixed long-term agreements with pricing formulae indexed to other commodities. These contracts were primarily used as equity purchase agreements in the portfolio. Therefore, most of these contracts were scoped out of International Accounting Standard (IAS) 39 as they did not meet the criteria of

“ The collective impact of these regulations on commodity and energy markets is not yet fully understood by the participants ... it is crucial they dedicate the necessary resources to identify what these changes might mean for their organisations

derivatives for financial reporting purposes.

Over recent years, however, LNG trading has gained substantial momentum to become one of the more actively traded commodities. Due to the increased liquidity in the European, Asian and US markets, there has been a significant rise in spot contracts which are now becoming a core feature of a commodity trader's portfolio.

As the LNG market is transforming from a niche, high-cost activity focused on specific markets into a core feature of the global gas trading strategy, players are reassessing their accounting approach. With the increased liquidity in the market and traders capturing regional arbitrage opportunities and optimising their positions across the global LNG market, it may not be long before most LNG trading contracts fall comfortably within the scope of IAS 39. However, the valuation of these contracts might remain challenging, given the lack of available quoted prices. ■

# Should we blame the speculators?

BEFORE POINTING A FINGER, **DAVID G STACK**, MANAGING DIRECTOR OF COMMODITIES CONSULTING FIRM **AGRIMAX**, CHALLENGES PRECONCEIVED IDEAS AND DEFINITIONS OF WHO THE SPECULATORS ACTUALLY ARE

In some ways this is like trying to find a medical doctor guilty of malpractice. To proceed successfully we must try to find either some kind of negligence or conduct considered to be outside the generally accepted code of practice of the profession. This of course presumes that we are pursuing an individual engaging in some kind of rogue behaviour and not an entire profession. Today, with the world's greatest economic decline at our feet, we are looking for answers and someone, or some group of people, to blame.

The view of what constitutes speculation and its impact on market processes varies widely among academics, politicians, the media and the general public. Academics generally view speculators as a group of individuals who trade primarily based on an individual asset's standalone, expected risk-reward trade-off. In contrast, in the public, the mass media and the political arena, speculators are often considered less important or less noble than other market participants who trade financial futures or commodities solely as an indirect (e.g. hedging) part of their ordinary business activities. Whatever the separation between hedging and speculation, the popular concern is the degree to which either hedgers

or speculators have direct influence on market prices above and beyond their primary market functions.

Within the trading community, speculation is viewed primarily as activity in markets which you do not fully understand and have not made a sincere and professional effort to apply the customary analyses and perform the due diligence required by your organisation to put money at risk. At this point we note the successful operation of names like Tiger Capital run by Julian Robertson and Centaurus run by John Arnold. Both were highly successful and effective funds for their investors, which ultimately made a sufficient return on investment to close their doors to outside investors. There are many more examples of successful speculators, some of whom are household names like Warren Buffett and George Soros, just as there are those like the infamous Amaranth Advisors, which closed with spectacular losses and did not return the expectation to their shareholders. By the naïve definition in the preceding paragraph they were all speculators. So is our definition lacking?

Clearly it is too narrow and simple. The Utility which over-hedges or under-hedges its exposure is speculating. The Pension Fund which tries to protect

its pensioners and invests in new markets is speculating. We don't mean new markets in the sense of ones being discovered, but more importantly ones in which they have little or limited experience. A regulator which hypothesises on markets and market players it does not understand is speculating. The oil company which drills wells in the expectation of finding oil is speculating. The same oil company speculates when it under-invests in infrastructure or environmental safety. As a matter of record Milton Keynes ran two hedge funds and widely engaged in highly leverage activity. In short, speculation is rife and commonplace. ■



© Flickr/Pete Souza

*A speculator by some definitions, Warren Buffett with President Obama*

# In defence of commodity markets

IN 2011, THE FRENCH GOVERNMENT AND THE EUROPEAN COMMISSION JOINTLY ORGANISED AN INTERNATIONAL CONFERENCE ON COMMODITY MARKETS. PIERRE NOËL, SENIOR RESEARCH ASSOCIATE AT JUDGE BUSINESS SCHOOL, UNIVERSITY OF CAMBRIDGE, ATTENDED IT, AND REFLECTS HERE ON SOME OF THE ISSUES RAISED

Mr Sarkozy's speech was a passionate plea for Europe to lead the world in regulating global commodity markets, which he characterised as without rules, opaque, immoral and a financial catastrophe in the making. That the oil price could, in 2008, collapse 50% in a few weeks while demand contracted by just a few per cent was proof to him that something was fundamentally wrong. With the oil derivatives market representing 35 times the physical market (46 times for wheat) he pointed to 'financialisation' and speculation as the cause, calling for rules to limit positions, improve transparency, and make it more expensive to trade in futures and derivatives.

Anti-market rhetoric resurfaces each time commodity prices go up. What is worrying is the apparent unwillingness of policy-makers to distinguish between market manipulations, which public authorities should indeed have the power to investigate and prosecute, and politically unpleasant market outcomes. The temptation to ban the latter is futile and can have consequences far worse than the targeted 'problem'. This risk is often overlooked because the functions performed by commodity markets are not properly appreciated. Let me mention three such functions, particularly important in today's globalised world.

First, global 'financialised' commodity markets are the only practical means to peacefully allocate scarce resources. They make resource wars redundant, hence much less likely. This is not a theoretical point. Mr Chavez has realised that selective oil embargoes are impractical while the Chinese are finding out that they do not need to control producing regions politically or militarily in order to get the oil they need. There is a growing acknowledgement in Beijing that China's oil security rests on a well-functioning global commodity market, not attempts to bypass it.

Secondly, international commodity markets are a very important supply crisis management tool. It is not a sense of responsibility but suppliers' and traders' profit motive that redirected cargoes of liquefied natural gas (LNG) away from Europe towards Japan after the Fukushima disaster. The LNG market is now commoditising quickly, which further increases security of supply for all. Conversely, the lack of proper gas transport capacity trading in Europe

prevented spontaneous reallocation of supply to areas of shortage during the Russia-Ukraine gas crisis of January 2009. Had traders been able to 'profit from the crisis' markets would have transformed localised shortages into a pan-European rise in prices, alleviating the pain for the most impacted countries. Unfortunately the REMIT (Regulation of Energy Market Integrity and Transparency) legislation put forward by the European Commission will constrain the commoditisation of European gas, harming both competition and security of supply.

Thirdly, 'financialised' commodity markets help producers manage risks by selling all or part of their production at known and guaranteed prices long before they actually produce. A delegate from the Brazilian farm industry explained how access to the deep and liquid markets on the Chicago Mercantile Exchange was critical to running their business and that increasing capital ratios would make it more costly for them to hedge risks.

Not everything is fine with international commodity markets. Here is a list of possible actions for G8 and G20 governments to consider:

- Stop subsidising biofuels. Paying people to turn crops into fuel artificially links the poor's need for food and the rich's willingness to drive.
- Put forward international initiatives to combat export restrictions and commodity cartels.
- Remove implicit government guarantees to financial institutions so that they face the true risks of their trading activities, including commodity derivatives.
- Transfer money to poor countries when commodity prices rise.
- Reward governments that replace fuel and food subsidies by direct cash payments to consumers, which do not destroy incentives to conserve.

What of the 2008 oil price crash? I tried to explain that when the demand curve crosses the supply curve in its very steep section, even a small leftward shift can send the price plummeting. It holds, by the way, even if you were to put all greedy speculators into jail.

Global commodity markets should be acknowledged as useful economic institutions. If commodity traders make too much money out of them, simply tax them heavily at the margin. ■

# Risk exposure and challenges facing commodity producers

COMMODITY PRODUCERS MUST GRAPPLE WITH CONSIDERABLE RISK FACTORS, AS **OTHMAN COLE**, ASSISTANT PROFESSOR OF FINANCE AT **ESCP EUROPE BUSINESS SCHOOL** EXPLAINS, CITING RECENT EVENTS AT SOUTH AFRICAN MINES

In the current global epoch of complexities and uncertainties, commodity producers are increasingly faced with a myriad of risk factors. These include major fluctuations in market prices, movements in exchange rates, changes in interest rates, as well as operational risks and environmental hazards. They are also exposed to security of demand risk, quantity risk, inflationary cost risk for their key inputs, and also very importantly political risk.

While each of these risk factors deserve adequate assessment, this article focuses primarily on price risk and, related to that, highlights the recent operational and political risk events experienced by mining companies in South Africa. It can be argued that commodity prices are inherently volatile due to the cyclical nature of investments: oversupply, followed by price collapse, underinvestment, lack of adequate supply, and then price rises. According to the IMF, crude oil and copper are the most volatile across asset classes (see Figure 1 below).

A major development that is expected to have a significant impact on crude oil prices in the medium-to-long term is the increase in production in Iraq. It is expected that Iraq's output will more than double by the end of the decade, and it will become the world's second largest oil exporter after Saudi Arabia by the 2030s. According to the International Energy Agency (IEA), Iraq would account for 45% of the anticipated growth in global oil supply in the current decade.

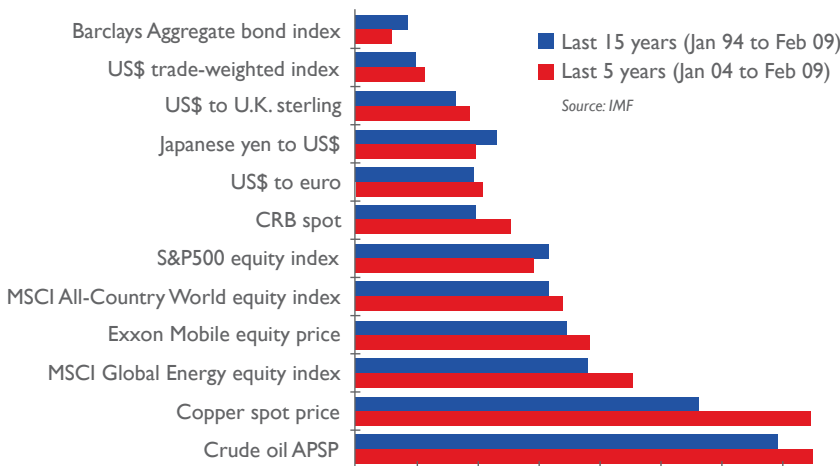
At present, Iraq oil exports have risen to 2.6m barrels per day, the highest in more than three decades. The IEA's central scenario predicts Iraq would more than double its exports to 6.1m barrels per day by 2020. It is expected that 80% of these exports will go to Asia, primarily China. Another factor expected to impact on crude oil prices is shale oil. According to the US Department of Energy, weekly crude oil production in the US is at the highest level since 1996, primarily due to shale oil.<sup>1</sup>

Volatility in metals is currently evident in iron ore prices, which collapsed by 36% to less than \$90 a tonne in just two months as Chinese traders and

steelmakers decided to step away from the market and run down their existing stocks. Prices have since recovered rapidly, reflecting the major fluctuations inherent in most commodity prices. For example, prices for benchmark Australian iron ore jumped 12.4% in just two days to the highest level in three months at \$120.25 a tonne.

Iron ore prices are expected to rise even further in the next six months, as the Chinese government has recently approved in September plans for

Figure 1: Price volatility across asset classes





Commodity producers are also faced with significant operational and political risks

Rmb1 trillion (\$158 billion) in infrastructure spending, which analysts believe will have a significant impact on the short-term demand for iron ore. It is argued, however, that such an increase in demand from China and elsewhere will not be sufficient to support prices in the medium term, and it is unlikely prices will reach their previous highs of almost \$200 a tonne.

Aluminium, the world's most widely used metal after steel, is facing paradoxical supply and demand dynamics. Demand is growing faster than for almost any other commodity and customers are paying record premiums to secure supplies in the physical market. However, analysts argue that there is still a vast overhang of stocks that were built up during the financial crisis (see Figures 2 and 3 below). It is believed that total global stocks stand at 10m-12m tonnes, enough to build more than 150,000 Airbus 340s.

Analysts argue that these large inventories have not triggered a price collapse because the banks and trading houses that largely own them are using them

to finance long-term deals, and in effect remove them from the market. But since this will not go on forever, the question remains of what will happen when these financing deals come to an end, and what the impact will be on aluminium prices.

Commodity producers are also faced with significant operational and political risks, which is currently evident with escalating industrial unrest in South Africa. In August, Aquarius Platinum, the world's fourth-largest platinum producer by volume, experienced serious clashes at its Kroondal mine between security staff and former employees, in which three people died and at least 20 others were injured. This followed significant strike action at another mine owned by Lonmin, another major platinum producer.

In early October, Amplats, the world's biggest producer of platinum, formally dismissed about 12,000 illegally striking workers, about a fifth of its workforce. The ongoing strikes and clashes by the unions had already cost the company about Rand 700 million (\$80 million) in lost revenue. The strike action has also spread to Xstrata with 400 of its 886 employees at its Eland platinum mine going on strike. It is estimated that more than 100,000 workers throughout the industry are involved in the industrial action.

Commodity producers therefore have to grapple with various risk factors to a greater or lesser extent, in which operational and political risks generally translate to revenue risk. For commodity consumers on the other hand, fundamental supply and demand dynamics as well as speculation and hedging contribute significantly to fluctuations in market prices. This has been evident across a number of commodities, as price changes since January 2007 show copper increased by 32.4%, Brent crude increased by 98.2%, and iron ore increased by 185%. ■

<sup>1</sup> 'Brent spread over WTI widens to year-high', *Financial Times*, 8 October, 2012.

Figure 2: LME aluminium stocks jump to record levels...

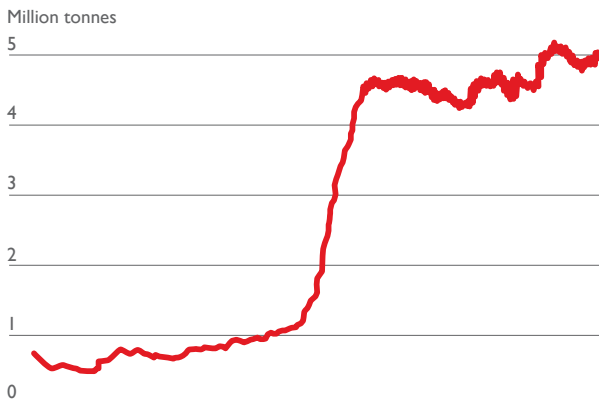
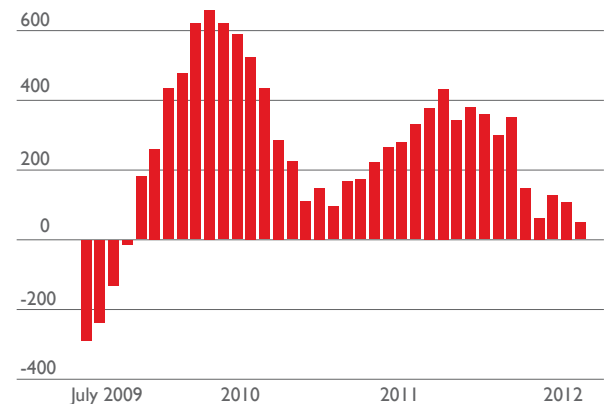


Figure 3: ...while global aluminium production rises  
Annual change ('000 tonnes)



# Michelin: a commodity-based industry

**ERIC LE CORRE**, MANAGING DIRECTOR OF **MICHELIN UK** TELLS **PATRICK GOUGEON**, UK DIRECTOR OF **ESCP EUROPE BUSINESS SCHOOL**, HOW A COMPANY MANAGES ITS RISK EXPOSURE WHEN IT IS AS DEPENDENT ON A SINGLE AGRICULTURAL COMMODITY AS TYRE MANUFACTURER MICHELIN IS ON RUBBER

*Your company is exposed to commodity risk, which commodities?*

Michelin spends €7 billion per annum on commodities (2011 figure), to be compared to €21 billion net sales. The bulk of that is spent on rubber: Natural Rubber accounts for 42% of the total spend, synthetic rubber for 24%, the remainder is fillers, chemicals, steelcords and textiles

*So, rubber purchases amount to about €3 billion, that is nearly 15% of sales. How is the rubber market organised?* Worldwide Natural Rubber production amounted to 10.7 million tonnes in 2011, and the supply grows at a 3% per annum pace. Tyre manufacturers purchase 70% of the world's natural rubber production. On average a passenger car tyre contains 15-18% Natural Rubber, a heavy truck tyre 40%. Southeast Asia is the

main producer – Thailand, Indonesia and Malaysia account for close to 70% of the world's production – and contrary to a common perception, 85% of plantations are very small with only few hectares, and belong to small village farmers. This industry employs some 6 million people directly around the world and some 20 million indirectly.

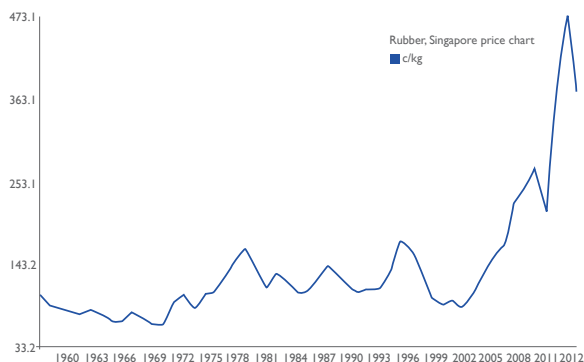
Natural Rubber, once collected from rubber trees, is transformed through remilling plants that wash it (removing leaves, insects, dirt, etc.), blend it (to ensure consistency), dry it and package it before selling it on in the form of either smoked rubber sheets (SSR) or bales of rubber (TSR).

*Rubber prices (see Figure 1) are volatile and influenced by many different factors. How is your business impacted and how do you handle the risk?*

Over the past decade natural rubber prices have increased three to four fold, from less than \$1 per kilogram to above \$4.5 at some point. In addition to the increase we have also witnessed increased volatility of the prices. A recent study from the European Tyre & Rubber Manufacturers' Association (ETRMA) has actually highlighted that the current imbalance between supply and offer on a worldwide basis cannot fully explain the volatility of prices.

As a company, Michelin's main objective is to guarantee a 100% on-time delivery of Natural Rubber to our manufacturing plants around the world, whilst respecting the specified quality. We aim to achieve the best cost but also do factor in the long term: we do not necessarily go for the cheapest price – which may jeopardise delivery – nor do we go for

Figure 1: Evolution of rubber  
Compiled by mongabay.com  
using figures from World Bank Commodity Price Data



short term ‘coups’ which may endanger our sourcing. We really emphasise visibility of our supply.

Natural Rubber has, of course, an impact on the cost of manufacturing a tyre, but the more sophisticated and technical the tyre, the less natural rubber represents of its total cost. So premium tyre manufacturers are proportionately less impacted than budget ones by the natural rubber price rises and volatility.

***Do you have an organisation in place for real time assessment of your commodity exposure?***

Since 1927 we have had a dedicated subsidiary, SMPT (Société des Matières Premières Tropicales), based in Singapore, which acts as sole supplier of Michelin Group’s Natural Rubber needs. It buys on all markets and guarantees our manufacturing plants across the world a one hundred per cent on-time delivery of their needs. Since 2012 it has also housed Michelin Group’s rubber tree agricultural expertise pole.

In order to be effective in our buying it is critical for us to know all the players in the industry, be they farmers, remillers, states or manufacturers. Michelin also aims to help make the market more transparent (by supporting the International Rubber Study Group, IRSG) through better information on supply and demand. It also promotes socially responsible farming through the promotion of a Green Label for the Natural Rubber *filière*, for instance.

***To what extent can you pass changes in commodity prices through to your sales price?***

Given the use it makes of Natural Rubber to enhance the performance of its tyres, Michelin is able to pass Natural Rubber price increases through to its customers.

***Do you consider hedging too expensive and just accept the risk?***

It is not that it is too expensive, but simply given the size of the market and the share of the world production of Natural Rubber that we purchase, it is simply not possible from a practical standpoint... Through better transparency of the market, knowledge of all players and stakeholders and acting responsibly and with anticipation we can somewhat smooth out the volatility of prices.

***Could vertical integration be a natural hedge?***

Very few tyre manufacturers own Natural Rubber plantations and these only account for a small proportion of their needs. Out of the three global tyre manufacturers, Bridgestone controls approximately



*Rubber being extracted from a tapped rubber tree*

40% of its needs through its plantations in Liberia and Indonesia. Given the price of farm land today acquiring plantations would be very expensive and would not bring a significant competitive advantage.

***Could you deal with the risk on this commodity through substituting Natural Rubber with other commodities?***

Natural Rubber comes from latex, a liquid that flows from the bark of the rubber tree when it is cut. Many plants produce latex, whose function is to protect them, but so far only Natural Rubber lends itself to economically efficient farming and provides the right level of performance we are looking for. The many properties of Natural Rubber cannot be fully reproduced in laboratories.

We obviously explore the different ways likely to help us reduce our dependency on Natural Rubber through using renewable natural resources. Our objectives are at the same time technological, environmental and economical ones. The aim is to properly master performing raw materials at competitive market prices. Diversity of supply is of course a factor that will help us stabilise prices, and reduce volatility. ■

# EDF Energy: a utility view of commodities risk

EDF ENERGY'S DIRECTOR OF STRATEGY AND CORPORATE AFFAIRS, PAUL SPENCE EXPLAINS HOW AN INTEGRATED ENERGY COMPANY MANAGES RISK, BALANCES SUPPLY AND DEMAND, AND MEETS CONSUMER REQUIREMENTS

Electricity is a peculiar form of energy. We have become dependent on it for all aspects of our daily lives, yet often pay scant attention to its characteristics. It is difficult to store or transport long distances; it is the ultimate local and ephemeral form of power. Yet the commodities on which it depends are exactly the opposite – the coal, gas, oil and nuclear fuel markets are fundamentally global and long term in nature. They are subject to some of the fiercest environmental, geopolitical and macroeconomic forces imaginable. Will the wind blow? Will conflict disrupt oil supplies from the Gulf? How will gas markets be affected by political events in Russia?

These are the factors that any energy company has to negotiate on a daily basis. When one considers the expectations that consumers in most of the Western world have of the reliability and predictability of their electricity supply, the scale of the issue becomes clear. Once the fluctuating demand between different times of day, different days of the week and different seasons of the year are factored in, the gargantuan task of managing risk and balancing supply and demand is cast into even sharper relief. Customers rightly do not want to be exposed to this risk. Our job is to make sure we have the right capacity, the right plant flexibility and the right risk management techniques to deal with it for them.

The UK consumes 50 million tonnes of coal a year and 1,000 TWh of gas, while managing the output of more than 4,000 wind turbines. We also depend on large amounts of nuclear fuel, biomass and other fuel sources. Our job is to manage all the associated risks. We must look to both the short and long terms to deliver the consistency and benefits our customers require as well being able to shield them from the price volatility in wholesale markets. We must also do so profitably and sustainably so we can manage our own business for the long term. As an integrated energy company supplying both domestic and business customers and generating power for the grid, this takes two separate but closely correlated activities.

When we sell power to a domestic or business customer for a particular period, we must then buy the



*Hartlepool nuclear power station*

corresponding electricity to fulfil that contract. That period may be as long as three years, so we need to take a view on how all the different markets will look over that period and how each will contribute to the supply we need. To protect ourselves from fluctuations in those calculations, we then need to buy financial products, or hedges, to make sure our own risk is managed.

Conversely, when we plan our own generation, we need to judge whether the demand will be there to purchase our own output. This is even more important when drawing up plans to build new power stations, which will have a generating life of 60 years or more. These massive infrastructure projects, such as Flamanville in France or Hinkley Point in the UK, require even more risk assessment. We need to allow for raw material price changes, movements in carbon markets and the variable exchange rates in play. Risk management is a key skill for integrated utilities.

Functioning and efficient markets – both physical and virtual – are therefore essential for the management of our business and ultimately for our consumers. It is only by ensuring the broadest participation in the energy market, and its proper organisation, that we can hope to harness the challenges of commodity risk and ultimately deliver a positive societal impact for all our stakeholders. ■



# Commodities: a new asset class for many types of investors

**FRANÇOIS COMBES**, COMMODITIES GLOBAL HEAD OF TRADING AT **SOCIÉTÉ GÉNÉRALE** DESCRIBES HOW COMMODITIES HAVE BECOME AN IMPORTANT ASSET CLASS WITH HIGHLY LIQUID AND TRANSPARENT MARKETS

**H**ard assets have always been important in an investor's portfolio, historically taking the form of land, property and precious metals. Commodities, such as oil, corn and copper, while also being hard assets, have historically been the concern primarily of producers and consumers. To deal with output and input price and timing risks, commodity futures markets were developed, starting with rice futures trading in Japan around 1730 to the corn and wheat trading in Chicago from 1865 – the world's oldest commodities futures market. What risk wasn't taken from producers by consumers, and visa versa, was and still is left for investors to take.

## *First generation*

It wasn't until 1991, with the introduction of the Goldman Sachs Commodity Index (now the S&P GSCI), a broad long-only index of energy, base and precious metals, agriculture and livestock commodities, that commodity futures became more broadly available to investors. The Dow Jones-AIG Commodity Index (now DJ UBS) was launched seven years later. These remain the main first generation benchmark indexes. Academic research helped increase demand for these indexes, with strong empirical evidence that broader commodity indexes should help lift risk-adjusted returns. But the indexes saw critical limitations as investments continued to rise, due to design construction. Specifically, these passive indexes took long positions on nearby contracts and rolled them on a specific schedule to the next nearby contract as they moved closer to expiration. The roll proved generally profitable when most contracts were in backwardation (nearby contract higher than the deferred contracts). However, with key markets like oil moving into more prolonged contango structure (nearby contract lower than the deferred contracts), this construction started to underperform. Also, the similar 5-9 business day rolling period and a known roll schedule for the benchmarks resulted in trading losses by creating opportunities to exploit these predictable trades.

## *Second generation*

Second generation commodity indexes continue to be designed to address these shortcomings. By creating non-discretionary rule-based rolling, newer indexes can move out of the forward curve in commodities that are in steep contango, minimising losses, and stay close to the first nearby contracts that are in backwardation, to maximise gains. Moving away from nearby contracts reduces traditional correlation to equities, but increases expected returns while also reducing expected volatility – net improving the gain in risk-adjusted returns to both the commodity index as well as the broader investment portfolio. Also, by choosing different rolling schedules, predictable trading losses could be avoided.

## *Third generation*

The third generation of commodity indexes looks to exploit time-varying information within commodity markets as well as better exploit curve information to position indexes, across commodity forward curves and also across commodities by changing relative weights.

Commodity investors have moved from being solely specialised investors who take near-term speculative positions to more passive retail and institutional investors who are looking for long-term diversification. Private banks, pension funds, endowments, insurance companies, and institutional investors are looking for improved risk-adjusted return in an increasingly low yield market. Here, interest is increasingly in second and third generation indexes, including both long-only and absolute return indexes. On the active side, hedge fund, commodity trading advisors (CTAs) and institutional investors may still look to first generation indexes for short-term risk management, given the higher volatilities and still likely stronger negative correlations with other parts of their portfolio; however, here too investors are looking increasingly at second and third generation indexes to improve expected risk-returns, especially within the context of their overall investment portfolio. ■

# A focus on commodity indexes

**KOSTAS ANDRIOSPOULOS**, ASSISTANT PROFESSOR IN FINANCE AT **ESCP EUROPE BUSINESS SCHOOL**, EXAMINES THE NEW STYLE INVESTMENT THAT COMMODITY INDEXES REPRESENT, AND HOW THEY COMPLEMENT TRADITIONAL PORTFOLIOS

Commodity indexes have been around for many years and as is the case with all early equity indexes, they were used mostly for benchmarking and to track spot commodity processes. One of the first published commodity indexes is the Economist's Commodity Price Index that started in 1864. Then, in 1957 the Commodity Research Bureau (CRB) Index was established, tracking spot commodity processes, and after undergoing major revisions in its composition it is still published today. Nevertheless, it is in the past 20 years that the development of commodities indexes has witnessed tremendous changes. The first generation of investable commodity indexes appeared only in 1991 when the S&P GSCI (originally the Goldman Sachs Commodity Index) was introduced. A few years later, in 1998, the Dow Jones-UBS Commodity Index (originally the Dow Jones-AIG Commodity Index), and the Rogers International Commodities Index (RICI) were both launched. Both the S&P GSCI and the RICI are heavily weighted towards the energy sector, while the Dow Jones-UBS, because of the rule that no sector can weigh more than one-third of the index, has energy at its limit; in many instances this limit is exceeded between the annual rebalancing periods.

The common characteristic, and a major disadvantage of these early indexes is that they invest in commodity futures contracts that are close to expiration, thus they roll forward their futures positions more frequently which makes it very expensive to follow an index replication strategy using exchange-traded futures. In addition, holding a long futures position via an index that

invests in the front of the curve is sub-optimal, especially in recent years, because many commodity futures curves have been experiencing steep contango (a state when the futures price curve is upward sloping) at the front end of the curve, thus also diminishing the returns of the various investment products that are based on the respective index. Nonetheless, correlations among these early indexes over long periods of time are quite high, even though they have many differences in terms of their construction methodology.

The latest addition to the family of commodities indexes is the so-called third generation indexes that attempt to improve the returns of the previous two

“Commodity indexes attempt to replicate the returns equivalent to holding long positions in various commodities markets without having to actively manage the positions”

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by incorporating commodities selection; overweighting or including only commodities that are expected to deliver higher returns in the near future, while underweighting or omitting completely commodities that are expected to perform poorly. The UBS Bloomberg CMCI Active Index introduced in 2007 and the Summer-Haven Dynamic Commodity Index introduced in 2009, are two

examples of the third generation commodity indexes. The latter index includes 14 equally weighted commodities from a total of 27, rebalancing its futures portfolio every month using basis and momentum to identify the greatest possible risk premium. The former index uses a discretionary approach of its research analysts who, according to their view adjust the component weightings of the index. However, these types of indexes carry with them a major disadvantage since the method or the research analysts used to select the commodities and

their respective weightings can be unsuccessful, and thus underperform passive indexes.

Based on the aforementioned, commodity investing could safely be considered a new style of investment as there is a large number of mutual funds, hedge funds, exchange-traded funds (ETFs), exchange-traded notes (ETNs) and over-the-counter (OTC) return swaps that follow commodities through index investing. Recently, many new energy commodity ETFs and ETNs have come to the market, making it easier for a retail investor to obtain exposure to commodities. There are various types of these Energy Index Funds either based on the construction type of the fund (single- or multi-contract, long-only or bearish), or based on the energy sector



Trading commodities

they track (broad energy or sector specific). In fact, in the US alone, based on industry estimates, assets allocated to commodity index strategies have risen from \$40 billion in 2001 to \$320 billion in 2011, with an estimated 70% of these funds invested in the energy sector. According to a 2008 Commodity Futures Trading Commission (CFTC) report, from the total of commodity index investing in US exchanges alone, about 42% is conducted by institutional investors (pension and endowment funds), 25% by retail investors (ETFs, ETNs and similar exchange-traded products), 24% by index funds (a client/counterparty with a fiduciary obligation to match or track the performance of a commodity index), and 9% by sovereign wealth funds.

Commodity indexes attempt to replicate the returns equivalent to holding long positions in various commodities markets without having to actively manage the positions. Being uncorrelated with the returns of traditional assets such as stocks and bonds, commodity index investments' returns provide a significant opportunity to reduce the risk of traditional investment portfolios; thus explaining the economic rationale for including a commodity index investment in institutional portfolios such as those of pension funds and university endowments. Currently there are numerous publicly available futures' indexes, with different risk and return profiles, offering exposure to commodity markets; each of these indexes also offers specific exposure to certain commodity sectors via their traded sub-indexes.

The variations in commodity index performance across indexes and during different market conditions lie with the differences in the construction methodology

of each index. It is critical for every investor in the commodities markets to be aware of these differences. The main differentiations relate to the index sectors' composition, constituent commodities selection, rolling and rebalancing strategy, which are crucial and apply only for futures indexes, and the methodology used for calculating the constituents' respective weights; such as liquidity- or production-based weights, arithmetic or geometric calculations. The latter has been an important determinant of the indexes' performance, especially with the recently large weight allocations towards the energy sector across all indexes. Nonetheless, these tracking funds have a number of advantages over traditional debt instruments (notes, bonds, certificates). They offer less expensive and less risky investment products, while at the same time providing protection against inflation. Also, they can provide easy access to a broad range of investors, a simple way to manage accounting and disclosure procedures, and can lead to fewer taxes since in many countries index fund returns are treated as capital gains and not as income. A commodity ETF can be used by the respective industry market players to complete parts of their existing portfolio or to perform tactical strategies. They can be used for hedging commodity investment risk, portfolio diversification, or as a control measure of inflation exposure.

To conclude, commodity index investing is still relatively 'young' compared to other more established asset classes such as stocks and bonds, but we should expect an increasing interest in and innovation by market players in the coming years ■