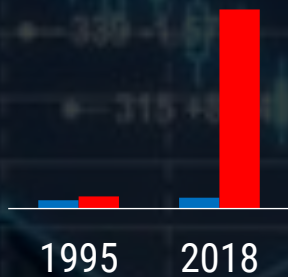


UNDERSTANDING Commodity Financialization

(AND WHY IT MATTERS TO EVERYONE)

A HOW-TO GUIDE FOR MAKING MONEY BY MAKING MARKETS

SUMMARY



Commodity derivatives are increasingly used for financial speculation.

Having reached a certain threshold in futures trading, financial markets play a more decisive role in setting actual prices than supply and demand.



The markets so financialized fail in their functions of price discovery and efficient allocation of economic resources.

False market signals mislead companies in their operations, investments, and strategy.



A wave of mergers and privatizations in the 2000s has turned Western commodity exchanges from non-profit utilities into financial corporations incentivized to grow speculative trading.

In parallel, China started weighing in global commodity markets through unprecedented deregulation of trading on local bourses to boost their pricing power.



These developments fuel a derivative arms race, in which

- Commodity futures turn from tools of risk reduction into market-making instruments for investors and governments chasing yields and influence;
- New derivatives are launched with financial interests in mind, irrespective of industrial needs and reception.



The more sway financial markets hold over price formation, the more risk management becomes regulated, expensive, and indispensable to the real economy.

Commodity stakeholders must act to ensure the proper functioning of their markets.

**“ONE OF THE GREAT MISTAKES IS TO JUDGE POLICIES BY THEIR INTENTIONS
RATHER THAN RESULTS.”**

— Milton Friedman

IN DECEMBER 2018, a leading European bank sent its customers investing tips for the next year. To navigate “an increasingly challenging investment environment”—among the assets that had been around for ages—real estate, bonds, equities—one could find something refreshing:

“The latter stages of the economic cycle have historically been one of the better times to invest in commodities. Overall demand tends to stay high while inventories run low.”

Invest in raw materials? What does it mean? The Merriam-Webster dictionary defines investment as “the outlay of money usually for income or profit.” In economics, investment activities are usually directed at adding value. How can raw materials help in this respect?

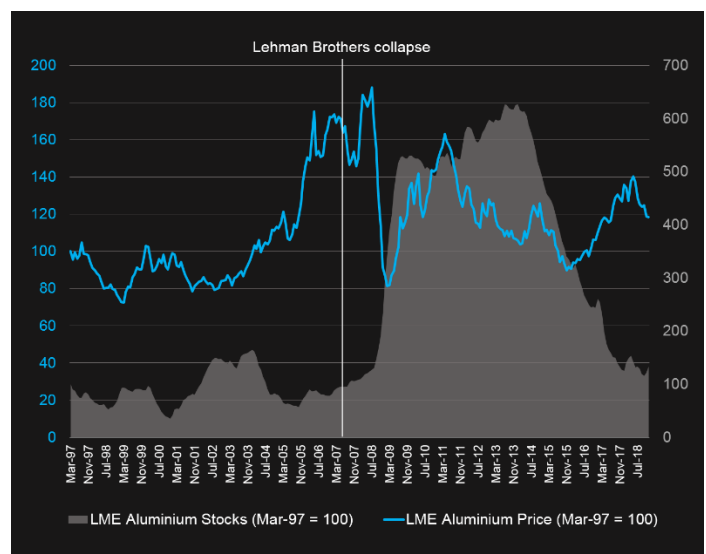
FROM OBSCURITY TO SPOTLIGHT

Until recently, commodities interested mostly those who produced, traded, or consumed them (except precious metals, which is a different story). Commodity derivatives (futures, options, swaps) were invented to help farmers (and, later, miners and the industry) mitigate market risk through harvesting and economic cycles, and had been predominantly used for this purpose since the nineteenth century. Derivatives speculation was mostly confined to insiders: merchants, brokers, and other intermediaries with information advantage, resources, or clout for contrarian financial bets.

The situation changed in the 1990s, when the investment community realized that prices of hydrocarbons, metals, and crops moved asymmetrically to financial markets, providing a safe harbour in stormy weather (acting as a store of value) or a source of speculative income from their price fluctuations, as exemplified by aluminium in Figure 1. The derivatives came in handy, allowing the building and unwinding of trading positions without the physical ownership of barrels, bars, and sheaves.

Initial investments in commodities were reserved to specialized hedge funds. As the news spread, large institutional investors (banks, insurers, pension and mutual funds) started to pile in, ultimately followed by ordinary folk. For exchanges and brokers that facilitate such transactions, it was a gold mine. Commodity derivatives were previously mostly traded by market participants for risk management—but their hedging needs and therefore the size of a related derivative market were limited by production, trade, and consumption. Speculative trading—and the income it generates—are literally unlimited. The more commodity derivatives were traded, the more money flowed to investors, exchanges, and brokers, incentivizing the creation of a whole new ecosystem.

Figure 1: Aluminium as an investable asset



Source: LME

Take crude oil as an example. In 1995, when the oilmen pumped 22.8 bn bbl globally, trading in NYMEX WTI and ICE Europe Brent futures, the world’s two most popular crude derivatives, accounted for 33.5 bn bbl. Last year, production increased to 30.2 bn bbl, but these futures markets alone swelled to 541.6 bn bbl, becoming eighteen times bigger than the global physical output (Figure 2). This is without taking into consideration all other derivatives: other categories (e.g., options, swaps), other oil grades (e.g., Medium Sour, Urals), derivatives for products of oil refining (e.g., gasoline, fuel oil), other exchanges (e.g., MCX,

TOCOM), and cross-trading (the same derivative may be traded on several exchanges, e.g., ICE Europe WTI, and, bilaterally, over the counter). On the whole, the derivative market has grown beyond comparison with its physical cousin. Nobody really knows its size and fully understands the interplay between the two (see Box 1).

Considering that revenues of commodity exchanges and brokers depend on trading volumes, the incentives are obvious. In the early days, the exchanges were not-for-profit organizations controlled by their members. For example, two of the forebears of CME Group, the Chicago Board of Trade and the Chicago Butter and Egg Board, were founded in 1848 and 1898 as voluntary associations of prominent merchants. (This setup didn't guarantee orderly trading, though, as various instances of market manipulation, such as the Ferruzzi soybean scandal of 1989, indicate). In the 2000s, both exchanges demutualized, turned into for-profit stock corporations, and merged. Today, most prominent commodity exchanges are for-profit companies. According to CNN, last year institutional investors owned around 87 percent of CME Group and 92 percent of Intercontinental Exchange (ICE), the two bourses reigning in the Western commodity markets.

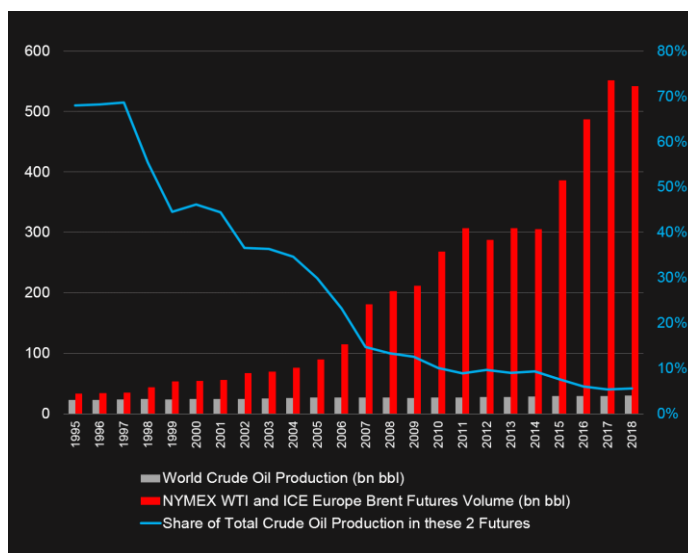
In less than three decades, commodity investing has turned from exotic to mainstream. It is marketed by any broker and investment advisor worth their salt, and exchanges vie for global dominance in commodity futures and related services, which has become a big business.

From 2003 to 2017, a combined net income of CME Group and ICE jumped twenty-nine times, from \$175 million to more than \$5 billion, with profit margins around 60 percent. In 2017, CME Group alone cleared more than four billion derivatives worth more than \$1 quadrillion, which is a 1 with 15 zeros. Both exchanges report trading and clearing fees together, but if the London Stock Exchange is any guide, the latter may rake in more than the former because of increased regulation. The rise of quantitative funds, automated and high-frequency trading (now over half of CME Group volume), and passive investing increase demand for data feeds and services, which already bring to LSE twice as much revenue as trading.

According to the Futures Industry Association, global trading in futures and options grew from 188 million contracts in 1984 to 30.3 billion contracts in 2018. Having made 17.3 percent of this market last year, commodities are on course to become the second-most traded derivative category ahead of equities (Figure 3). Most part of that trading had nothing to do with the needs of the real economy—that is, the original purpose of risk reduction the derivatives were originally invented for.

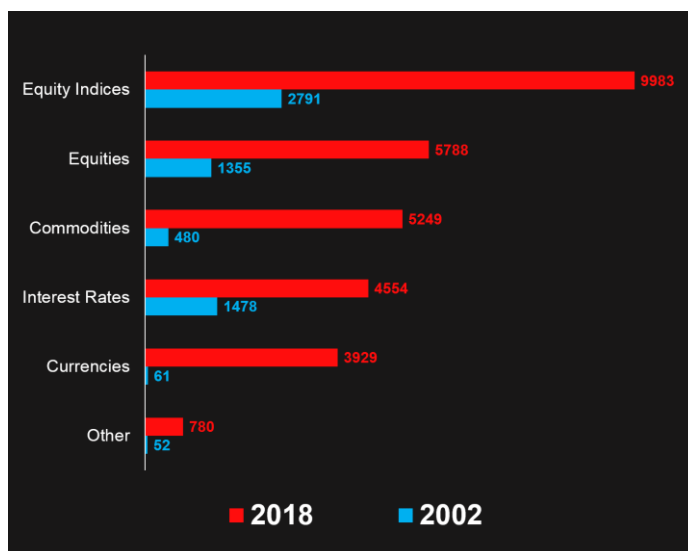
Whether or not you invest in commodities, these processes have a direct bearing on everyone's wallet and the fortunes of many businesses.

Figure 2: Oil physical and derivative markets



Source: World Bank, IMF, CME Group, ICE

Figure 3: Global futures and options trading (million contracts)



Source: Futures Industry Association

BOX 1: MEASURING SPECULATION

How big is speculative trading relative to hedging? Nobody knows for sure, though estimates could be made based on regulatory reporting by commodity exchanges.

In the U.S. and the EU, current reports tally only outstanding futures contracts at the end of a trading day. This is a serious limitation because hedgers (the real economy) hold futures contracts for longer periods, often weeks and months, whereas many speculators open and close positions within the same day. According to Bloomberg, in mid-August 2018, the average holding times of Shanghai oil and rebar futures were 1.5 and 6.9 hours, respectively. NYMEX WTI and ICE Europe Brent futures were held, on average, for 49 and 67 hours. Much of speculative trading thus remains unreportable. To capture it, trading volume and velocity must be taken into account.

U.S. REPORTING

The [Commitments of Traders \(COT\)](#) report, whose origins date back to 1924, is published weekly by the U.S. Commodity Futures Trading Commission. It shows aggregate position holdings of large participants in the U.S. futures markets based on data provided by exchanges, brokers, and other reporting entities.

Unlike its European counterpart, the report doesn't distinguish between speculation and risk reduction. Since it classifies companies rather than activities, all speculative trading by a global merchant with some industrial assets may fall into the "commercial" category. With day trading completely excluded, such methodology may be confusing if not misleading.

The report's shortcomings didn't prevent a significant body of research to be based on it. John Kemp, a Reuters market analyst, has clearly explained these limitations and the "garbage in, garbage out" results of related research [here](#) and [here](#).

EU REPORTING

The implementation of MiFID II regulation has obliged European exchanges to provide more specific information with respect to the nature of derivative trading. As of 2018, the exchanges report "Risk Reducing Directly Related to Commercial" and "Other" (that is, speculative) activities.

As expected, speculative trading in popular futures prevails. From February to March 2019, "Risk Reducing" positions accounted for one-fourth of ICE Europe Brent positions and one-fifth of LME Aluminum positions. When coupled with unreportable daily trading, these findings are generally in line with Figure 2. In relative terms, the average holding of European Brent futures (67 hours) isn't much different from Chinese rebar futures (6.9 hours).

To summarize, "market snapshot" reporting doesn't reveal the real magnitude of speculative trading.

UNINTENDED CONSEQUENCES

Though the commodity market is large, it is dwarfed by its financial Big Brother. The market size of oil—which, in turn, outclasses all other commodities—is less than \$2 tn a year globally. Compare it with world equity and debt markets, which now hover around \$90 tn and \$250 tn, respectively.

When trading in commodity derivatives exceeds a certain level, the law of unintended consequences kicks in. This happens for several reasons:

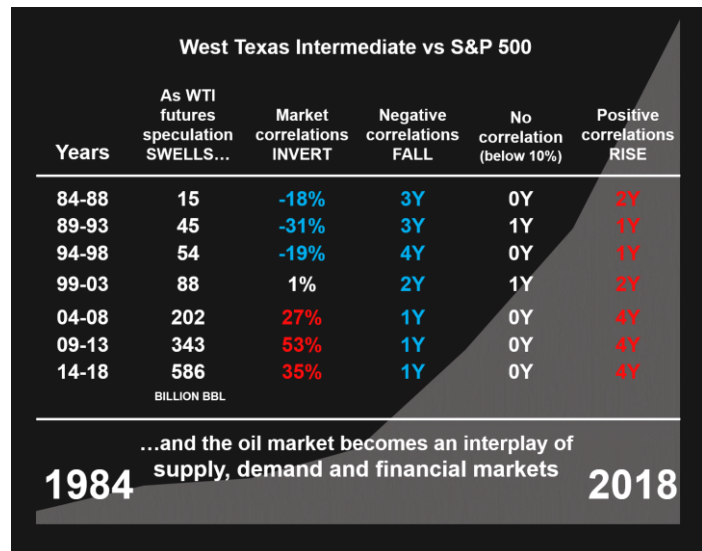
- As explained below, financial intermediation dematerializes commodity price discovery, shifting it from present fundamentals to future expectations, influenced by financial markets;
- Commodity derivatives can be quickly converted into cash and constitute only a fraction of the global investment universe;
- Derivatives create a link between physical and financial markets through which capital may flow freely and quickly, directed by mouse clicks and trading algorithms;
- In a derivative market, hedgers and speculators coexist but have diametrically opposed interests in volatility. While the former need more certainty, the latter thrive in choppy markets that breed trading opportunities.

Free from the need to produce or consume a physical commodity, investors pursue their own agenda. When they constitute most of its futures trading, such commodity becomes a pawn in the financial chess.

As a result, the more commodity pricing becomes financially intermediated and the more commodities turn from mere raw materials into investable assets, the more their markets get manipulated, intertwined with, and sometimes displaced by the global investment agenda, financial market dynamics, and other phenomena unrelated to the fundamentals of supply and demand (Figures 4 and 5).

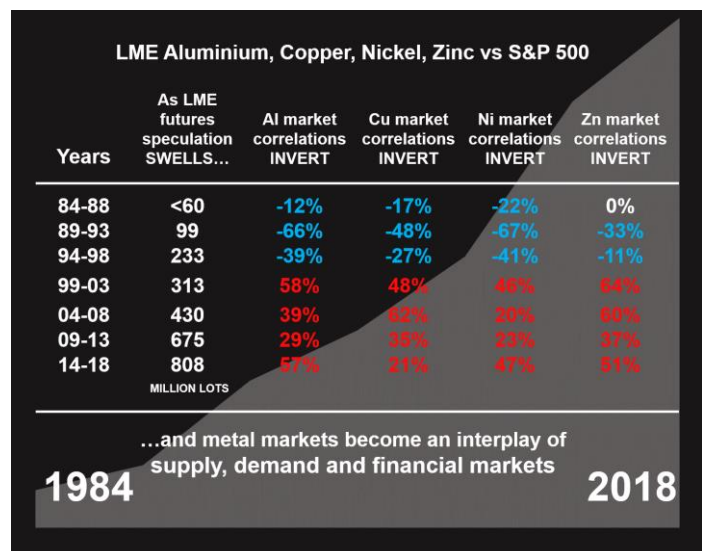
Why bother? Because the markets so “financialized” fail to fulfill their core functions of price discovery and efficient allocation of economic resources. Such distortions damage the welfare of market participants across commodity sectors, especially SMEs and developing countries, but also the society at large.

Figure 4: Oil financialization



Source: World Bank, IMF, CME Group

Figure 5: Metals financialization



Source: World Bank, IMF, LME

Take another example. Indonesia is a leading exporter of nickel ore. As of 2009, its government mulled export restrictions on unprocessed minerals to boost domestic smelting. Initially not taken seriously, the government’s deliberations intensified in 2012–2013 and culminated in a ban on nickel ore exports in early 2014. Nickel prices jumped on fears of ore shortages, even

though mounting stocks suggested a supply glut. It took only months for several producers, especially in the neighbouring Philippines, to ramp up ore mining and exports, which again sent nickel prices south (but with nickel stocks, financed at near-zero interest rates, growing regardless). Facing a budgetary squeeze, the Indonesian government decided to relax the ban in 2017, which apparently triggered the unwinding of related investment positions (Figure 6).

Two lessons can be learned from this story:

- Financial investors have less information about commodities than those involved in their production, trade, and consumption (an obvious fact that is often neglected);
- Having no firsthand knowledge of each market's structure and undercurrents but continually seeking actionable trading information, investors are prone to overreact to newsfeeds, misprice commodities and aggravate boom-and-bust cycles.

The increased market volatility underlines the importance of risk management for the real economy—but no longer the relevance of financial derivatives for price discovery. A financialized commodity market is stacked against the industry because its derivatives aren't used for their original purpose of risk reduction but instead mostly to "make" markets for and by investors looking for yields. Those who produce and consume commodities become hostage to investors that hold the ultimate pricing power.

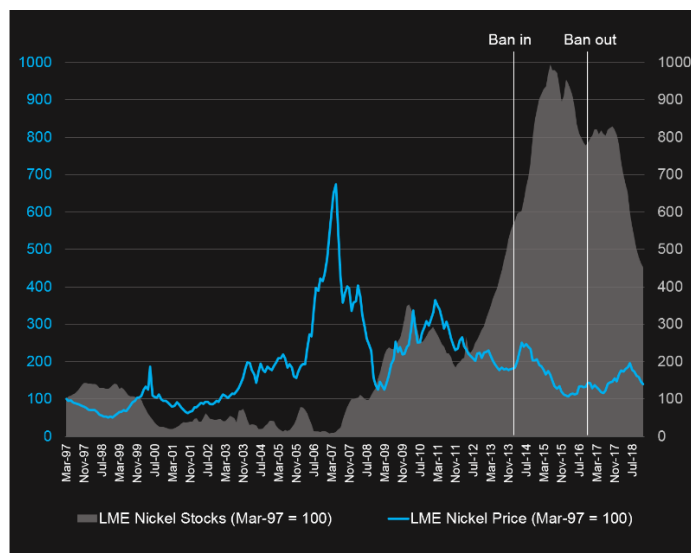
The implications are manifold:

- Prices are inflated for end users when too much capital flows into bullish positions and depressed for producers when investors dump futures; uncertainty is increased for both.
- Producers don't get the right cues from the market, which leads to wrong economic decisions (e.g., which crops to seed, plants to build, capacity to add).
- Wealth destruction and bankruptcies for communities, businesses, and those who put too much faith into investment research (and ignore the fact that issuers of such research may trade for their own account).
- The shareholders of producing companies, especially public, may be encouraged to redeploy capital elsewhere (e.g., correlated financial indices or businesses unaffected by financial markets).
- Perversely, the more sway financial investors hold over price formation, the more hedging becomes regulated, expensive, and indispensable to the real economy.

Consider another perspective. On March 10, the world was hit by news about the crash of a Boeing 737MAX8 in Ethiopia. In just a few days, Boeing's share price fell by more than 10 percent, wiping out nearly \$30 bn off its market value and sending ripples through many aviation stocks. In a stock market, such events change valuations of related public companies but generally don't concern the general public or the economy at large. In commodity markets, they change prices of everyday essentials, such as food and energy, concern every household, and have an enormous effect on developing countries.

Not all commodities are equally good for investing. Foodstuffs are a poor store of value because of limited shelf life; their markets are often heavily protected and regulated. As Figures 4 and 5 show, energy and metals offer a better combination: needed by all and traded across the globe, they are storable and less regulated and volatile. To turn them into investable assets, only two more conditions are required: centralized price discovery and a derivatives market. The former provides investors with reliable, instantaneous information for trading, while the latter links a physical market with its paper "alter ego" to quickly build or unwind investment positions. Here's how they work in tandem.

Figure 6: Nickel investment story 2014–2017



Source: LME

MARKET STRUCTURE: FROM DECENTRALIZED TO CENTRALIZED

In the metals category, aluminium and steel illustrate two different ways of market organization.

Like crude oil, aluminium is traded on commodity exchanges where (and only where) its price is negotiated and set. A typical aluminium supply agreement doesn't indicate a fixed price but simply incorporates the exchange price with some premium or discount. In practice, this means that a few decades back aluminium smelters delegated the price discovery function—in other words, a right to price their entire production—to a centralized trading venue, where market participants could meet and negotiate prices based on supply and demand (the “fundamentals” in economic parlance). Over time, the fundamentals were completely replaced by their expectations, and those betting on such expectations overwhelmingly outnumbered those producing and consuming aluminium.

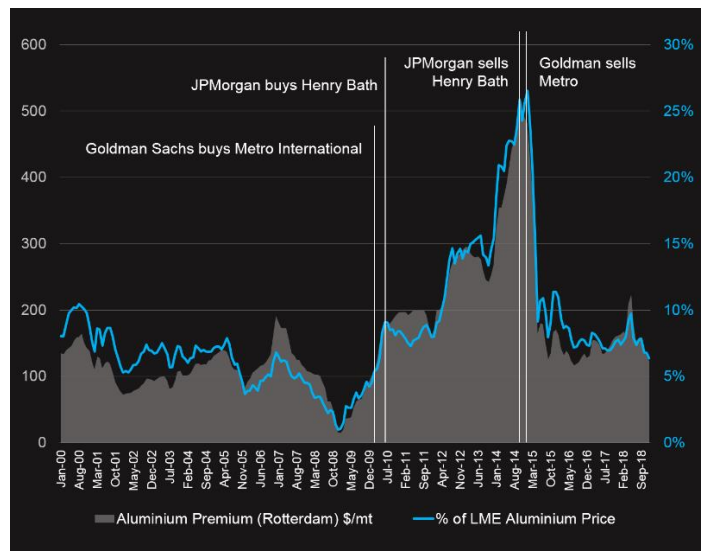
The steel market is organized differently. It remains decentralized and atomistic, which means that each company negotiates prices with other market participants based on its economic situation and available information. A typical supply agreement indicates a concrete, fixed price of steel. The only way to have a reliable indication of the current steel market is to pick up the phone and call companies directly engaged in the physical supply chain. Independent price reporting agencies research this market and provide benchmark prices that may be used as its gauge.

Centralization makes all information about the aluminium market instantaneously available to all—suppliers, traders, end users, and financial investors. The fact that the latter know much less about market technicalities doesn't prevent them from having a decisive role in aluminium price formation.

Once a commodity market becomes centralized, it is nearly impossible to roll it back to a decentralized state. A few years ago the industrial community was outraged by scandals involving large investment banks and trading houses that snapped key storage facilities worldwide and created artificial bottlenecks in the physical flow of aluminium and other metals, apparently profiting from higher end prices and warehousing rents (Figure 7).

High-profile lawsuits, investigations, and U.S. Senate hearings ensued. As a Head of Global Commodities at one of these banks was quoted in a class-action complaint, *“Just being able to trade financial commodities is a serious limitation because financial commodities represent only a tiny fraction of the reality of the real commodity exposure picture . . . We need to be active in the underlying physical commodity markets in order to understand and make prices.”* The public outcry only resulted in disposals of warehousing assets by banks and some penalties but left the market structure unchanged.

Figure 7: Banks' foray into metal warehousing



Source: LME, Fastmarkets

A contest for the right to “make prices” goes on, with new contenders and higher stakes.

PRICE DISCOVERY: FROM COMMERCIAL TO FINANCIALLY INTERMEDIATED

Another difference between aluminium and steel is how their prices are negotiated (or “discovered” in finance-speak).

In case of aluminium, a future price is first negotiated in a derivative market on a commodity exchange, which then rolls back to the present through “arbitrage,” determining aluminium’s current (spot) price. In other words, the aluminium market is driven by future price expectations, which direct prices for those who need physical material now. Over the years, aluminium’s derivative market has become increasingly integrated into global financial markets.

The steel market, in contrast, is grounded in the present and driven by commercial rather than derivative transactions (Box 2). Even though several commodity exchanges have been developing steel futures for more than a decade, they were largely dismissed by market participants, especially producers unwilling to leave price discovery to financial intermediaries. A notable exception is China, where the world’s largest physical market coexists with a vast derivative market (more on this below).

BOX 2: MAKING SENSE OF DERIVATIVES

PHYSICAL AND DERIVATIVE MARKETS

In physical markets, sellers and buyers trade physical assets, such as commodities. In derivative markets, sellers and buyers trade financial assets, such as futures and options.

The main difference between physical and financial assets is that the former are tangible, and the latter are not. Physical assets tend to lose value due to wear and tear, whereas financial ones don’t experience such depreciation.

MARKET PRICE AND MARKET VALUE

Market price is a current price at which similar assets are bought and sold. Market value is an opinion of asset worth based on analysis of relevant data. It is the price that an asset could bring in an open market between a willing buyer and a willing seller, with no outside influence or barriers to sale and purchase.

The difference between market value and market price of an asset is that the former, in the eyes of the seller, may be more than the latter—what the buyer is willing to pay and the other way around. Market value and market price can therefore diverge, sometimes by a wide margin.

COMMERCIAL AND DERIVATIVE TRANSACTIONS

The above differences help distinguish commercial and derivative transactions:

- Commercial transactions denote an exchange based on market prices. For example, a commercial agreement may indicate a mutually agreed upon price or set a mechanism for its calculation based on information available to contracting parties.
- Derivative transactions denote an exchange based on market values. For example, the price of a commodity future contract derives from market participants’ predictions and expectations about the future price of the underlying physical asset. On a timeline, these are expressed in a forward price curve denoting market value—opinions of potential asset worth based on analysis of available data.

The aluminium market's transformation didn't happen overnight. Initially, the producers dismissed financial derivatives as most steel producers do today. After the launch by London Metal Exchange (LME) in 1978, trading in aluminium futures languished for a decade before traders, who needed hedging tools, started to support exchange pricing, eventually followed by end users. Then trading volumes started to grow quickly. In 2012, when the LME was purchased by Hong Kong Exchanges and Clearing for \$2.2 bn to become a for-profit corporation, futures trading reached 1.5 bn tons, thirty times the world output.

Since steel prices are volatile, there is a growing need to manage market risk. This need gives the exchanges a powerful argument in wooing customers. Steadily but surely, steel price formation starts moving from a decentralized commercial market to a centralized derivative one. As one derivate trader put it, *"It may be emotional or irrational but after all, the volume of orders will decide which way the price will go."* Which begs a quick review of the Efficient Market Hypothesis (EMH), a key argument to make price discovery centralized and financially intermediated.

WHEN RATIONAL THEORIES MEET IRRATIONAL PEOPLE

The EMH claims that in an efficient market the prices of traded assets reflect all available information and instantly change to reflect new information. In other words, the markets always get the prices right, and assets are always traded at fair value. By facilitating the flow of information between a large number of market participants, a centralized exchange does a better job in price discovery than atomized physical markets. The last financial crisis has proven (again) that reality is more complicated.

For a start, the EMH doesn't make a distinction between physical and derivative markets and doesn't take into account that their subjects, objects, and motives are very different (see Table 1). Indeed, financial markets may process information faster, but speed often comes at the expense of quality, resulting in overshooting, undershooting, and misallocation of resources. This happens because most market participants tend to react likewise to newly available information, and adjustments of their exposure to risk takes place almost in unison.

TABLE 1: PHYSICAL VS. DERIVATIVE MARKETS

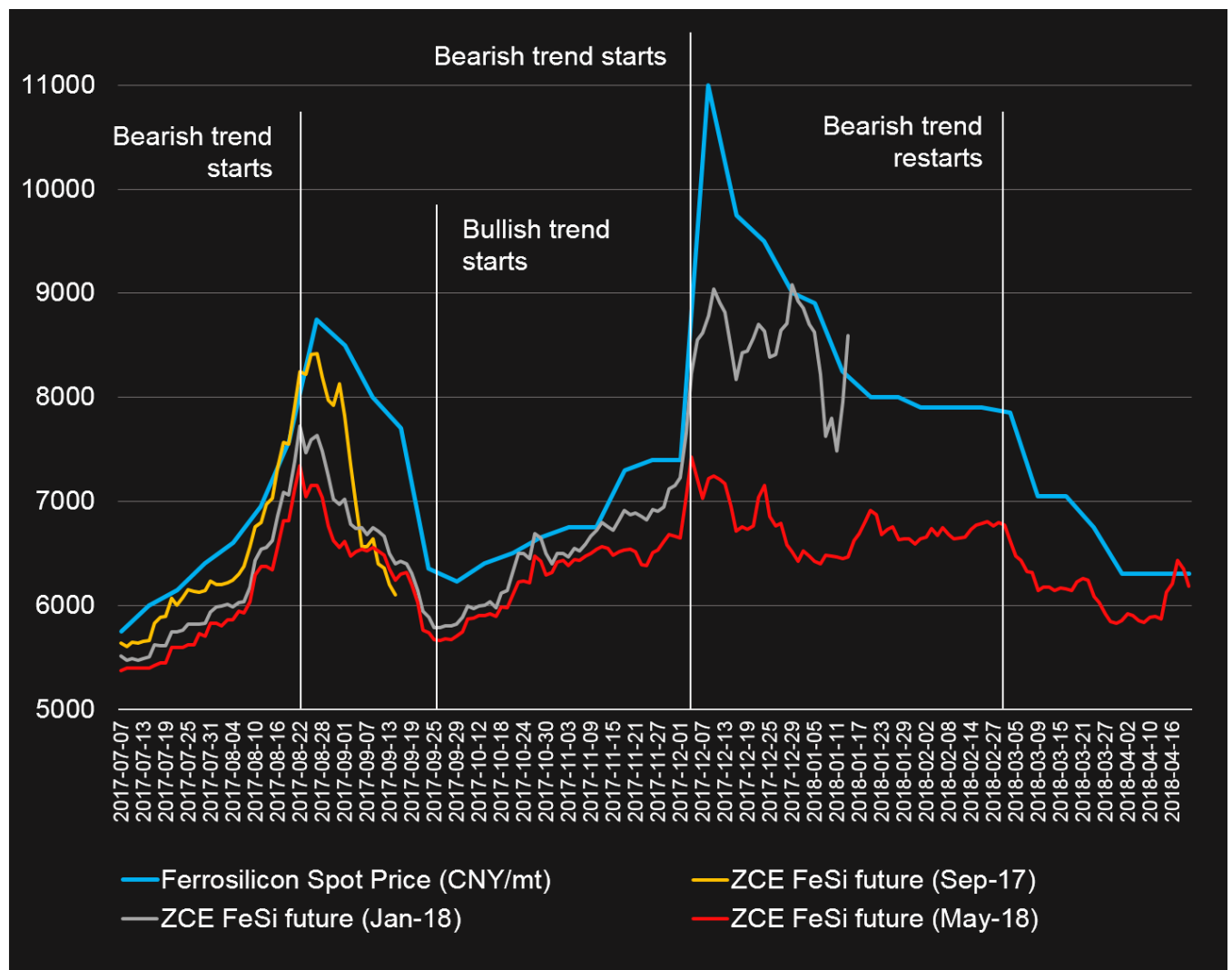
	PHYSICAL MARKET	DERIVATIVE MARKET
MARKET INTELLIGENCE	Decentralized: multiple interactions to gather information and make decisions	Centralized: all information is available to all market participants at the same time
KEY CONSIDERATIONS	Current state of supply and demand	Expectations of future state of supply and demand
PRICE DISCOVERY SUBJECTS	Physical sellers and buyers	<ul style="list-style-type: none"> Physical sellers and buyers Financial investors and speculators Trading algorithms and artificial intelligence
PRICE DISCOVERY OBJECTS	Market fundamentals	<ul style="list-style-type: none"> Market fundamentals Investment strategies and constraints (e.g., portfolio composition, monetary policies, flights to safety) Behavioural biases (e.g., anchoring, herding, trend-chasing, second-guessing)

The EMH also states that in an efficient market information and power should be dispersed. This goes against the business logic of commodity exchanges, where the exact opposite is taking place. Indeed, it is much harder to “corner” a decentralized market where every participant has its own view about the current price and the price going forward.

The EMH also claims that newly available information induces the economic agents to update their expectations appropriately. In derivative markets, however, participants are mostly concerned with guessing how such information may influence the behaviour of other participants. Back in 1936, Keynes used the metaphor of a beauty contest in which the judges’ votes are driven by trying to second-guess the prettiest woman for other judges instead of making their own choices. In the same way, the “fundamental” value of a commodity asset is less important in a derivative market than expectations about the judgment of other participants.

For most investors, news and rumours about events that might change supply/demand fundamentals are actionable; any real change, which is noticeable only to physical market participants, is not. Since futures markets are centralized, they command much more visibility, which is often billed as transparency. Greater visibility “sets the scene” of expectations for all market participants irrespective of their attitude to derivatives markets. Because of this, the futures markets dominate the price formation in the spot markets and not the other way around.

Figure 8: Does speculative trading affect spot prices?



Source: ZCE, Fastmarkets

In the Chinese derivative steel market, for example, bullish trading escalates in response to news about government economic policies, such as infrastructure spending, completely ignoring the average steel capacity utilization. At 70 percent to 80 percent, it leaves ample room for extra production and shouldn't normally result in higher prices, which is confirmed by regular [price divergence](#) in future and physical markets. However, when the narrative benefits one group in the supply chain, it happily plays along, inadvertently accelerating the transfer of price formation to a derivative market.

Another example is ferrosilicon, a raw material for steel production, whose futures were recently launched by Zhengzhou Commodity Exchange (ZCE). As in steel, ferrosilicon derivative and physical markets coexist for the time being; in the former, concentration on one to two trading months and high trading velocity indicate heavily speculative trading. Because it is much more visible and some group is always benefiting more from the futures "market view" instead of relying on its own judgment, the physical market clearly follows its derivative counterpart (Figure 8).

To recap, derivative markets are not the efficient markets described in economics textbooks. In theory, each market participant is too small to influence prices and only has information concerning individual supply and demand. In financial markets, of which commodity derivatives form an integral part, the uniformity of available information provokes herding and highly correlated movements in and across markets, with the power of influencing both future and spot prices of all traded assets.

CHINA JOINS THE FRAY

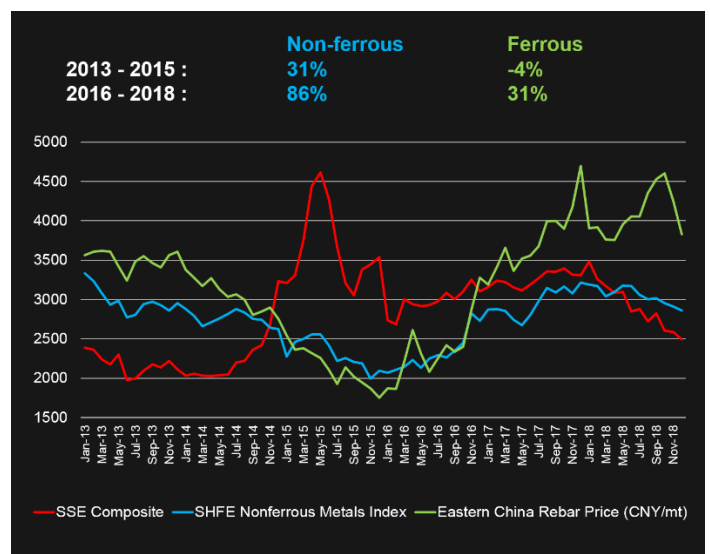
Today, any analysis based on Western exchanges becomes less relevant because derivatives trading moves east. China leads the pack not only in terms of sheer volumes but also unorthodoxy in developing its derivative markets.

As the world's largest consumer and producer of many commodities and materials, China has a legitimate interest in having a say in their price formation. But how to break into commodity pricing "franchises" that have been developed for decades and sometimes centuries? Apparently, the answer is maximum liberalization of the domestic derivative markets to grow their liquidity (that is, the volume of trading). Because in the contest for global influence, liquidity is king.

So far, the results are startling. In 2016, the volume of trading in reinforcing bar (rebar) futures at Shanghai Futures Exchange surpassed 9.3 bn tons, exceeding the entire Chinese steel output by a factor of 12 and becoming the most traded future contract in the world. Last year, the volume of trading shrank by almost half, to 5.3 bn tons, but remained the most traded metal derivative globally. According to the Futures Industry Association: *"The decline in Chinese volume reflects an important feature of the domestic market. Much of the trading in China stems from speculative trading by retail investors, which tends to be less steady than institutional trading."* The opportunism of these investors is chronicled, inter alia, by [Reuters](#) and [Bloomberg](#).

In 2018, eight of the top ten metal and agricultural derivatives were traded on Chinese exchanges. In just one year after launch, the volume of trading in ZCE apple futures climbed to third place in global agricultural ranking and overtook CBOT corn, which has been around since 1877. Energy derivatives lagged behind (just two out of the top ten), but this is going to change too. What do these developments mean for commodity pricing? A short answer may be more financialization, including those markets that escaped it before, such as steel (Figure 9).

Figure 9: Correlations between China's financial and metal markets



Source: SSE, SHFE, Fastmarkets

In the West, even though the exchanges' revenue model has changed, investors still assumed that to become legitimate a commodity derivative should first be adopted by the industry for its original purpose, namely risk management. The LME's first venture into ferrous markets, a billet future launched in 2008, may have failed because of this reason. In China, futures are ostensibly launched with financial investors in mind, irrespective of industrial needs and reception.

In such financialization on steroids, it may take just several market cycles to completely move price formation onto an exchange. Coming back to the ferrosilicon example, even though market participants may publicly dismiss futures trading as speculative, producers use the bull narrative as an excuse to raise prices; when the futures market tanks, the same applies to buyers. When exchange pricing becomes more attractive, some parties start delivering or withdrawing physical material from exchange warehouses and then suggest referencing the exchange price in supply agreements. This way, to obtain a license to "make" prices through a derivative market, an exchange doesn't need consent or participation from the supply chain; it simply needs a volume of trading by financial participants that is high enough (Figure 10).

NEXT CHAPTER

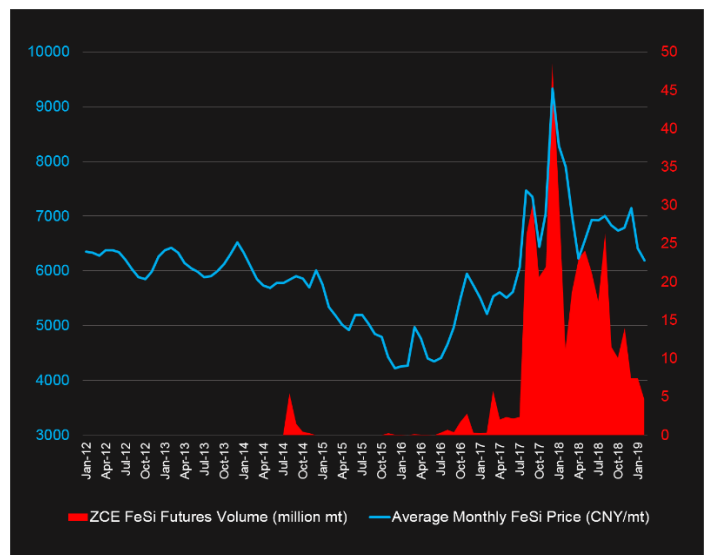
Economics is sometimes called dismal science because it is hard to test its many hypotheses. Statistical analysis is often muddled by many variables, some correlated with others.

In academia, a debate about the influence of financial markets on commodity prices goes on. One faction, referring mostly to the EMH and the analysis of COT reports (see Box 1), asserts there is none. Another, taking a more observant approach, disagrees: the LIBOR scandal, when several banks rigged the world's interest rates to the tune of trillions of dollars, could hardly be explained by formulae and rational economic logic. In the meantime, as Figures 4 and 5 demonstrate, some commodity prices became clearly correlated with financial markets, revealing the real forces behind them. Quantifying these effects deserves a thorough scientific study based on meaningful data.

In this respect, financialization of commodities is part of a wider modern economy narrative:

- In a low-yield environment, investors are scrambling for alternatives. Commodity investing (or, avoiding politically correct euphemisms, speculation) provides an alternative that looks more credible than, say, Bitcoin, whose futures were launched by CME Group and CBOE in 2017.
- The recent wave of exchange buyouts and privatizations has turned them from utilities into money-making machines for shareholders (mostly investment funds), forgoing the original purpose of both commodity exchanges and commodity derivatives. The employees of exchanges and brokers have new KPIs to meet.
- As China continues asserting its role in commodity pricing, the increasing economic rivalry with America and its exchanges encourages a derivative arms race, in which laissez-faire meets coordinated policy.

Figure 10: Relationship between futures volume and spot prices



Source: ZCE, Fastmarkets

A combination of these factors may destabilize not only markets—consider, for example, renewable energy transition—but also entire commodity-dependent nations. In case of Venezuela, if a barrel of crude oil above \$100 was driven by both fundamentals and speculation, it is easy to see how the petrodollars windfall first led to economic profligacy and then ruin (Figure 11).

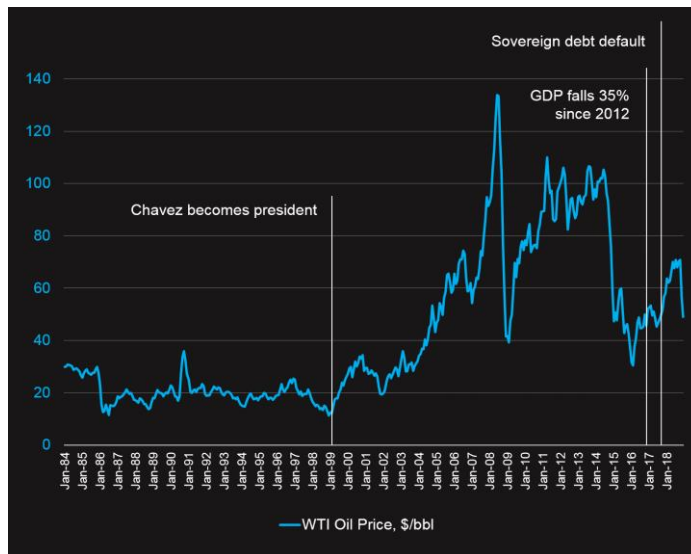
What can be done about it?

Until recently, most thinking was in terms of regulation to curb excessive, market-distorting speculation. The problem with this approach is that it's hard to quantify and implement. Most academics and businesspeople agree that some level of speculation is good to grease markets, but where is the threshold between "benign" and "bad" speculation, and who should be granted or denied a right to speculate? The longer such debate continues, the harder may be the final reckoning.

Innovation may be a better answer, shifting the onus from regulation to self-governance. One example is [SteelHedge](#), a forward pricing utility in commercial markets aiming to reduce uncertainty, complexity and volatility across the ferrous value chain. It provides suppliers and end-users with all the benefits of traditional risk management while keeping price formation decentralized and grounded in fundamentals, taking hedging back to its roots. Another is price volatility insurance developed by the Lloyd's market. The more solutions will be around, the better for the real economy.

As for the bank's investment tips for 2019, we'd rather keep commodities to themselves. The world economy should not dance to the tune of financial markets. Their gyrations should not bother hardworking people and businesses. They already have enough on their plates. As farmers know better than most, for whatever a man is sowing, this he will also reap.

Figure 11: Venezuela's oil boom-and-bust cycle



Source: IMF



DON'T PUT THE KIDS IN CHARGE OF THE CANDY SHOP.

— Common sense