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"Pricing the Future: China's Ambitions for Commodity Derivatives Markets"

The Strategic Imperative of Commodity Pricing Power

Over the past two decades, the global commodity landscape has undergone a structural shift. Price discovery, once firmly anchored in Chicago, New York, and London, is increasingly influenced by developments in Asia, and in particular by China's deliberate effort to build its own pricing infrastructure. China is converting its dominance in physical commodity consumption into influence over how those commodities are priced globally. This shift reflects a strategic reconfiguration of where and how prices are formed.

For Chinese policymakers, pricing power is not an abstract financial concept. It is directly tied to economic security. China is the world's largest importer of energy, metals, and many agricultural products. Yet the prices it pays for these inputs are still largely determined on U.S. and European exchanges, denominated in U.S. dollars, and influenced by financial conditions outside its control. This creates what Chinese policymakers often describe as a structural vulnerability. A country that consumes at scale but does not price at scale remains exposed.

This concern is grounded in observable structural asymmetries. China accounts for a dominant share of global demand in key commodities such as iron ore, copper, soybeans, crude oil, and aluminum[1], yet benchmark prices remain tied to offshore exchanges and indices. These asymmetries translate directly into potential economic and strategic risk[2]. For instance, price shocks transmitted from overseas exchanges can materially affect domestic industrial margins, inflation, and policy planning. Recognizing this, Chinese authorities view the development of domestic pricing mechanisms as essential not only for market efficiency but for national economic resilience.

The response has been systematic. China has built a domestic futures ecosystem designed not only to serve local hedging needs, but to eventually function as a global benchmark system. The launch of crude oil futures on the Shanghai International Energy Exchange (INE) in 2018 marked a turning point. Yu et al. (2023) document a meaningful price discovery role for this contract across a range of Asian crude oil grades, indicating that China has begun to establish regional benchmark influence.

Importantly, this development reflects a broader sequencing strategy, where China first deepens domestic liquidity, then introduces international participation, and finally seeks benchmark recognition. This sequencing mirrors the historical evolution of Western exchanges, but with stronger state coordination, active regulatory oversight, and deliberate alignment with physical

[1] As of 2023, China accounts for over 50% of global steel production (World Steel Association, 2024) and nearly 60% of aluminum output (International Aluminium Institute, 2024). Furthermore, China remains the world's largest consumer of refined copper and the dominant producer of rare earth elements, controlling roughly 70% of global mining output (USGS, 2024). This concentration of physical trade helps enable the transition from a pure trading hub to a global financial center for commodity price discovery.

[2] As of 2023, China's import dependency ratios reached approximately 72.9% for crude oil (GACC, 2024), over 80% for iron ore (S&P Global, 2023), and nearly 85% for soybeans (USDA, 2024). Without the ability to influence international benchmarks or settle trades in RMB, the nation remains vulnerable to "imported inflation" and the potential weaponization of USD-denominated price shocks.

market realities. By anchoring pricing in domestic contracts with tangible delivery mechanisms, China ensures that financial benchmarks are not detached from the underlying commodity flows, which is a critical factor for credibility in global markets.

Beyond energy, similar strategies are evident in metals and agricultural markets. For example, Chinese iron ore and copper futures are increasingly incorporated into pricing discussions and basis negotiations, including in transactions involving major producers such as Rio Tinto and BHP, where Chinese buyers have begun to exert influence over benchmark selection dynamics and contract pricing structures (AFR, 2025; Reuters, 2024). In agricultural markets, the channel of influence is more indirect but no less important. Soybean and corn markets in Southeast Asia are increasingly shaped by Chinese demand conditions and trade flows, effectively extending China's influence over regional price formation even where benchmark pricing remains formally anchored to the Chicago Board of Trade, a subsidiary of CME (S&P Global, 2025). By integrating Chinese futures into their hedging strategies, regional traders can reduce exposure to U.S. dollar volatility and better align pricing with intra-regional supply-demand dynamics. This supports the broader ASEAN-China strategic priority of enhancing food security through more localized, multi-currency pricing frameworks that include RMB-denominated benchmarks (ASEAN Secretariat, 2025). This strategy is both broad and sector-specific, targeting markets where China has a physical and logistical advantage, which then translates into potential financial influence.

How Pricing Power Should Be Measured

Assessing China's progress requires moving beyond simple metrics like trading volume. Chinese exchanges already rank among the largest in the world by volume. However, volume alone does not equate to influence. In some cases, high turnover reflects retail-driven speculation rather than institutional price discovery. Volume indicates how much a market trades, but it does not indicate whether those trades generate prices that are informative, stable, or widely used.

A more meaningful way to evaluate progress is through market quality and external relevance. Market quality can be understood through liquidity, efficiency, and volatility. Liu et al. (2020) construct a Market Quality Index and show that Chinese commodity futures markets perform credibly across these dimensions, although they remain more volatile than U.S. markets. Their results also highlight cross-commodity variation, with metals exhibiting stronger informational efficiency and lower noise relative to agricultural contracts, which remain more policy-sensitive. This suggests that while structural design matters, the maturity and sophistication of participants also significantly influence market quality. The findings imply that some markets, like copper and aluminum, are approaching international standards, while others, particularly grains and oilseeds, still require deeper institutional engagement.

The most striking evidence of the structural difference between Chinese and Western exchanges is the Turnover-to-Open Interest (TOI) Ratio. A high ratio indicates frequent, short-term speculative trading, while a low ratio indicates long-term position-taking and institutional hedging. As shown in Table 1 on page 3, Chinese liquidity is significantly "faster" than its Western counterparts. This quantitative divergence proves that while Chinese exchanges possess massive volume, that volume is largely speculative. In contrast, Western liquidity is "sticky" and institutional, which remains the prerequisite for a global pricing benchmark.

External relevance is the more decisive metric. The key question is whether market participants outside China use Chinese prices as a reference in physical or financial transactions. This is

where pricing power becomes visible in practice. When a physical cargo is priced off a futures contract, that contract becomes embedded in global trade flows.

Table 1: Comparative Activity (March 2026)

Commodity	Exchange	Trading Volume (Lots)	Daily Volume (Lots)	Open Interest (Lots)	TOI
Soybean	DCE (China)	6,101,686	305,084	388,632	0.79
Soybean	CME (US)	7,213,688	360,684	985,126	0.37
Copper	SHFE (China)	6,348,104	317,405	526,684	0.60
Copper	CME(US)	1,421,683	71,084	220,756	0.32

Notes: Trading Volume is the total volume traded in March 2026. Open Interest is the total number of contracts as at the end of the month.[3] Daily volume is estimated as Trading Volume divided by 20 trading days within a month. TOI = Daily Volume / Open Interest.

There is growing evidence of this shift. In iron ore markets, for example, pricing has historically been tied to benchmarks such as the Platts Iron Ore Index (IODEX). More recently, basis trading linked to domestic futures contracts has gained traction within China[4]. While global benchmarks still dominate, domestic futures prices are increasingly used to negotiate spot premia and discounts, particularly within the Chinese mainland and in regional seaborne trade flows (Argus, 2026).

At a deeper level, pricing power can be decomposed into three interacting components: market depth, informational efficiency, and benchmark adoption. Market depth ensures that large positions can be transacted without price distortion, which is particularly critical in high-demand commodities such as iron ore and crude oil. Informational efficiency ensures that prices reflect fundamentals rather than noise. Benchmark adoption ensures that these prices are actually used in real economic transactions, from procurement contracts to cross-border trades. China has made substantial progress in the first, moderate progress in the second, and selective progress in the third. Over time, we can expect these elements to reinforce one another, creating a self-reinforcing cycle of increasing pricing authority. Only when all three are present does a futures contract transition from a trading venue to a pricing benchmark.

At the same time, a structural ceiling remains. Global commodity trade is still overwhelmingly denominated in U.S. dollars. As long as that remains the case, Chinese benchmarks will operate alongside rather than fully replace established Western benchmarks. China's objective is not to supersede these benchmarks, but to become an unavoidable reference point within them. Progress should therefore be understood as convergence rather than displacement.

Moreover, market adoption is uneven. Certain industrial sectors, particularly state-linked energy and metals firms, are more likely to reference domestic contracts, whereas multinational firms trading internationally still rely heavily on established benchmarks. The trajectory of

[3] DCE soybean: http://www.dce.com.cn/dce/channel/list/172.html
SHFE copper: https://www.shfe.com.cn/reports/tradedata/monthlyandyearlydata/
CME soybean and copper data: https://www.cmegroup.com/market-data.html

[4] Basis trading is a physical pricing mechanism where the final Transaction Price = Active Chinese Futures Price ± Negotiated Basis. "Basis" is a fixed premium or discount negotiated between the buyer and seller to account for quality differences and logistics. This increasingly anchors price formation to domestic platforms, allowing participants to hedge price risk directly on the referencing exchange.

pricing power will therefore depend on both domestic policy design and the willingness of foreign participants to accept and trust these new references.

How China Has Structured Its Exchanges

China's exchanges are fundamentally different from their Western counterparts. U.S. and European exchanges evolved from private trading venues into global financial platforms. Chinese exchanges were designed from the outset as state-supervised entities designed to support national development objectives. Fan and Zhang (2020) emphasize that these exchanges were instrumental in China's transition away from administered prices, providing a controlled mechanism for price liberalization while maintaining macroeconomic stability.

One defining feature is the "third-month" liquidity pattern, where trading activity concentrates in deferred contracts (i.e., January, May, September for many key commodities) rather than the front month. This pattern reflects contract design, delivery cycles, and regulatory constraints that shape how participants distribute their positions across maturities. By concentrating liquidity in later months, exchanges enhance hedging flexibility for industrial users while simultaneously managing short-term speculative pressure. This tension between flexibility and policy consistency is central to the trade-off China faces in scaling international participation.

The exchanges frequently adjust position limits, minimum order size, margin requirements, and transaction fees. These tools function as active policy levers, allowing authorities to dampen speculative surges or stabilize markets during periods of stress. This is particularly evident during episodes of rapid price increases, such as in energy and base metals markets. This duality, which combines administrative intervention with market discipline, distinguishes Chinese exchanges from established Western exchanges.

This flexibility serves a clear domestic purpose. However, it introduces uncertainty for foreign participants. From the perspective of international investors, the ability of regulators to intervene dynamically creates an additional risk factor that is not present in more rules-based systems. This affects not only participation decisions but also the willingness to use Chinese contracts as hedging instruments. As international engagement deepens, regulatory transparency and predictability will become key determinants of global adoption.

Speculation, Retail Participation, and Market Behavior

The role of speculation in Chinese commodity markets is often misunderstood. Volatility is often attributed to speculative activity, particularly given the high level of retail participation. However, academic evidence paints a different picture.

Fan et al. (2022) describe speculators in China as a necessary component of the market. Their presence provides liquidity and facilitates risk transfer without necessarily increasing volatility or distorting fundamental relationships. In this sense, speculation is not inherently destabilizing. What matters is the composition of that speculation. Chinese markets have a larger share of retail investors compared to Western markets. This introduces behavioral dynamics such as herding and trend chasing. Fan and Qiao (2023) show that commodity momentum effects in China are largely driven by local factors and differ from global patterns. This suggests that domestic investor behavior plays a significant role in shaping price dynamics.

Under normal conditions, this structure can function effectively. However, when speculative activity becomes too dominant, it can overwhelm fundamental signals. Bredin et al. (2025) show that market efficiency declines when the balance shifts too far away from fundamental traders. This effect is amplified by capital account restrictions. In more open markets, mispricing can be corrected through arbitrage by global investors. In China, barriers to capital

movement limit this corrective mechanism. As a result, pricing distortions can persist for longer periods and may take the form of localized bubbles (Fan et al., 2024). This distinction is critical for understanding China's pricing power. A market can be large and active without being globally authoritative. For a benchmark to be credible, it must be trusted as a reflection of underlying fundamentals, not just trading activity.

Internationalization and the Global Transmission of Prices

China's push to internationalize its futures markets is an attempt to bridge this gap. By allowing foreign participation in selected contracts[5], China aims to deepen liquidity, improve market quality, and increase the global relevance of its prices. However, opening access alone does not guarantee global adoption. This process has produced mixed results. Fan et al. (2020) find that internationalization improved the market quality of purified terephthalic acid (PTA) futures, while reducing quality of iron ore futures.

More broadly, price discovery between Chinese and Western markets remains asymmetric. Liu and An (2011) document bidirectional spillovers, but with stronger influence flowing from U.S. markets to Chinese markets. This pattern is particularly evident in globally traded commodities. Subsequent research reinforces this conclusion while also highlighting gradual change. Yang and Zhou (2020) show that international crude oil benchmarks continue to dominate return and volatility transmission to Chinese oil futures. At the same time, Zhang et al. (2023) find that Chinese crude oil futures respond to global risk factors in increasingly sophisticated ways, indicating deeper integration. There is also evidence of growing domestic influence in specific sectors. Yu et al. (2023) document an emerging price discovery role for Chinese crude oil futures within Asia. In agricultural markets, Yang et al. (2021) find that Chinese futures contracts contribute meaningfully to price discovery as market maturity improves, although this role varies across commodities.

The result is not a single global benchmark system, but a layered structure. For commodities where China holds a near-monopoly on exchange-traded volume, such as PTA or RBD Palm Olein, the domestic market acts as the undisputed global anchor. Because no equivalent contracts exist in the West, global participants must reference Chinese screens to resolve price discovery. In contrast, for dual-listed commodities like crude oil or copper, price discovery is shared, but not evenly. This layered structure reflects coexistence rather than replacement of benchmarks. For instance, despite the legitimacy of the INE crude as a regional benchmark, its global reach remains tethered to a financial hierarchy dominated by USD-denominated trade.

An additional complication is the persistence of friction. Structural silos, reinforced by capital account restrictions, continue to prevent seamless global arbitrage. This allows domestic prices to deviate from global fundamentals, creating breeding grounds for localized price bubbles. Fan et al. (2024) observe that while positive "price manias" in China can exhibit global contagion and influence market sentiment, negative bubbles driven by domestic pessimism tend to remain localized. Until cross-border collateral management and RMB convertibility are

[5] Internationalized commodity futures in China comprise 12 core contracts across INE, DCE, and ZCE. INE (crude oil, low sulfur fuel oil, TSR20 rubber, bonded copper, freight index), DCE (iron ore, No.1 soybean, No.2 soybean, soybean meal, soybean oil, RBD palm olein), and ZCE (PTA). A broader set of contracts has been progressively opened to foreign investors via Qualified Foreign Investor (QFI) access, including linear low-density polyethylene (LLDPE), polypropylene (PP), polyvinyl chloride (PVC), ethylene glycol (EG), liquefied petroleum gas (LPG), methanol, rapeseed oil, rapeseed meal, paraxylene, flat glass, soda ash, peanut kernel, and manganese silicon/ferrosilicon. Additional contracts under discussion include fuel oil, stainless steel, pulp, copper and nickel. See, e.g., Orient Futures (2026) and Reuters (2025).

fully realized, Chinese benchmarks will continue to provide critical regional price discovery while remaining uniquely local in their return characteristics and risk profiles.

These frictions are not incidental; they reflect a deeper structural trade-off embedded in China's market design. This creates what can be described as a "Dual Function Paradox." The state seeks to project global pricing power while simultaneously using the exchange as a domestic tool for social stability. These two objectives are inherently in tension. To become a global benchmark, an exchange must offer predictable, hands-off regulation that allows for transparent price discovery. However, the Chinese state frequently utilizes administrative levers to dampen price spikes that might otherwise fuel domestic inflation or social unrest. This duality unintentionally sets a ceiling on the contract's global status. International hedgers are often reluctant to use Shanghai or Dalian as their primary benchmark because the risk of sudden regulatory interference that is impossible to hedge. Consequently, the state's priority for domestic price stability acts as a permanent brake on the internationalization of the RMB-denominated contracts, suggesting that for the foreseeable future, global benchmarks will remain anchored in the more intervention-resistant environments of London and Chicago.

Risk Management and the Position of Chinese Traders

Chinese commodity users operate in a dual-system framework. On one side, they rely on domestic exchanges that reflect local conditions and regulatory structures. On the other, they engage with global markets to hedge exposures that cannot be fully managed domestically. This creates a layered risk management strategy. State-owned smelters and miners such as China Minmetals, Jiangxi Copper, as well as agricultural giants such as National Cereals, Oils and Foodstuffs Corporation (COFCO) and Sinograin typically rely on Western exchanges such as CME and LME to hedge price risk tied to globally traded benchmarks, particularly when contracts are denominated in U.S. dollars. At the same time, they would use domestic futures to manage basis risk and local price fluctuations. This reflects a segmentation between global price risk and domestic basis risk.

This dual exposure introduces several risks. When physical contracts are priced in dollars but hedged domestically in RMB, firms face currency risk and basis risk simultaneously. If domestic prices diverge from global benchmarks, hedges may become imperfect. Capital account restrictions further complicate this process. They limit the ability of firms to move capital freely across markets, which constrains arbitrage and hedging flexibility. As a result, Chinese firms often need to manage risk within a segmented system rather than a fully integrated global market. This segmentation is also part of China's broader strategy. By maintaining some degree of separation, China preserves policy control over domestic markets while gradually expanding international participation. This controlled segmentation is both a constraint and a strategic feature of China's market design.

Future Trajectories

Looking ahead, we can expect China to continue its push for derivatives internationalization through several key steps. The upcoming 15th Five-Year Plan is likely to signal a further expansion of the number of "internationalized" contracts, potentially moving into green commodities such as carbon credits and lithium carbonate futures listed on the Guangzhou Futures Exchange to align with global energy transition goals. There are also emerging indications that the government will seek to integrate the Digital Yuan into futures settlement to bypass traditional dollar-clearing systems.

The development of "Belt and Road" commodity trading hubs is another critical trend. China is seeking to establish localized trading centers in partner nations that use Chinese exchange prices as their primary reference. This "network power" could eventually create a block of commodity trade that operates largely outside of the Western financial orbit. Another trend to monitor is the increasing sophistication of Chinese institutional investors, who are beginning to replace the retail base and bring a more fundamental-driven approach to price formation.

Finally, the predictive power of Chinese commodity prices should not be underestimated. Investable commodity premia in China (Bianchi et al., 2021) have been shown to possess a strong predictive ability for global real economic growth, suggesting that Chinese markets are increasingly informative about global industrial cycle.

Policy Recommendations

Based on this analysis, I offer the following recommendations:

First, maintaining leadership in price discovery requires continued emphasis on transparency and trust. U.S. exchanges benefit from deep institutional participation and strong regulatory credibility. Preserving and enhancing these strengths is essential, particularly given the informational role of Chinese demand in global pricing.

Second, to compete with the physical-delivery advantages embedded in Chinese contracts, physical infrastructure remains critical. Expanding delivery networks (especially in Indo-Pacific region) and strengthening ties with key commodity-producing regions will reinforce the link between financial contracts and physical markets.

Third, financial infrastructure should not be overlooked especially as China explores alternative settlement systems and RMB-denominated clearing mechanisms. Advances in clearing, settlement, and collateral management will shape the next phase of competition. Ensuring that U.S. systems remain efficient and accessible will help sustain the central role of dollar-denominated markets.

Finally, policymakers should recognize that China's approach is gradual and strategic. It is not attempting to replace existing benchmarks overnight. Instead, it is building parallel systems that may, over time, reshape the global landscape. The question is not whether China will participate in global price discovery, but how much influence it will ultimately command.

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