THE DAWN OF A NEW ORDER IN COMMODITY TRADING

THE INDUSTRY IS ABOUT TO UNDERGO ITS LARGEST TRANSFORMATION IN 30 YEARS

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It is difficult to open a newspaper without reading about another multi-billion dollar deal by a previously unheard of commodity trader. Baar-based commodity trader Glencore International recently bought the Calgary-based global food ingredients company Viterra Inc. for $6 billion, just months after announcing a nearly $80 billion merger with Zug-based mining giant Xstrata. Not long before that, Glencore raised $10 billion in the largest initial public offering of 2011.

We predict there will be many more commodity trading acquisitions, investments, public offerings, and new entrants as the industry establishes a formidable global asset footprint for the future. These developments, combined with the long-term trend of rising commodity prices and financing costs, will force the industry through its largest transformation in 30 years.

This industry shake-up underscores how the rules guiding the commodity trading industry are being rewritten. In the 17th century, the success of traders such as the Dutch East India Company and Arab Silk Route merchants was based on intricate knowledge. Traders could earn rich profits if they knew the route from producers to end consumers, the exact value of commodities at each location, and if they could manage the logistical challenge of bringing their goods to market. But that is no longer a recipe for success in a world of easily accessible and reliable information.

$80 billion

The announced value of a merger between commodity trader Glencore International and mining giant Xstrata

Today's top commodity traders are masters of "optionality." These traders prosper because they can pay producers more than end users can while selling commodities more cheaply to end consumers than producers can afford. Traders do so by carefully managing a range of options in relation to the time, location, quality, lot size, and logistics of sourcing or delivering their precious cargoes. They exploit the options inherent in their portfolio of purchase and supply contracts. That's something producers and end users are often unable or unwilling to do.

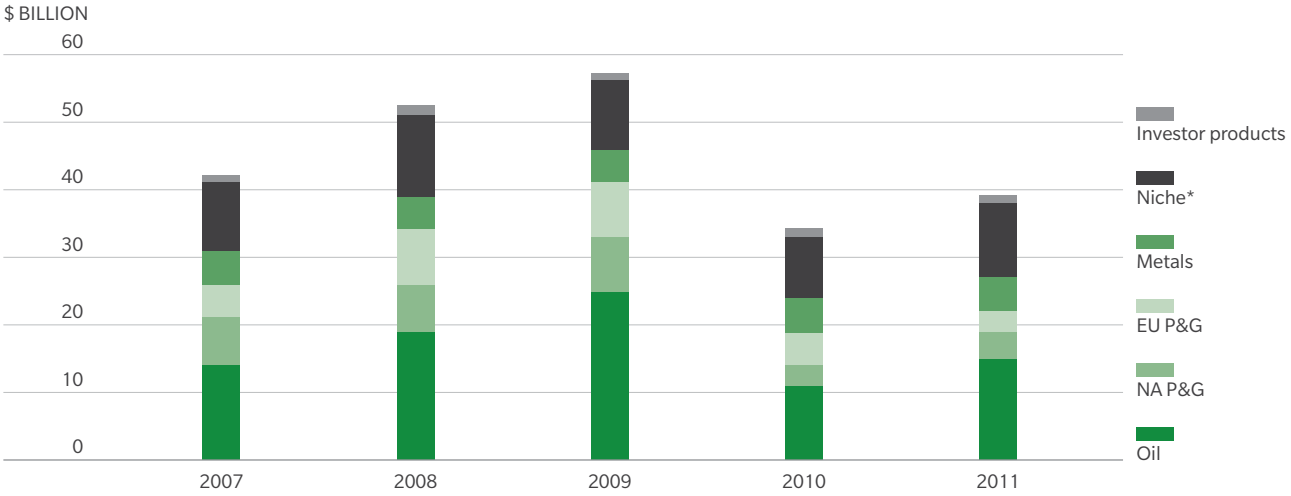
SMOOTHING OUT SUPPLY AND DEMAND IMBALANCES

Put another way, traders make the vast majority of their income by smoothing out imbalances in supply and demand, not from speculation or high prices. A steadying hand for world markets may not be the first image that comes to mind regarding commodities traders. Yet given their logistical network and inventory reserves, they are frequently the ones best able to correct a shortage or other imbalance.

Indeed, our research shows that commodity traders earned 35 percent less in revenues in 2010 than they did in 2009, even though commodity prices were higher. (See Exhibit 1.) As commodity prices remained relatively stable at high levels until the end of that year, traders had less capital to buy and sell commodities and fewer opportunities to smooth out imbalances.

Competition is increasing, as more commodity producers, traders, and end consumers angle to capture what we call the "total value of optionality." This is defined as the combination of the absolute value of the commodity, the volatility of its price, and the frequency and magnitude of events that disturb the dynamic equilibrium of the commodity's markets, so-called grey swan events.

EXHIBIT 1: TOTAL COMMODITIES TRADING GROSS MARGINS



Source: Oliver Wyman proprietary data and analysis, annual reports, investor presentations, market interviews
* Includes LNG, coal, emissions, agricultural commodities

Competition across this value chain varies greatly by commodity. In the oil market, there are a large number of producers, traders, and end consumers. As a result, Exxon Mobil, the largest non-national energy producer, has only a 3 percent share of world production. That is very different from some mineral markets, where a trio of large producers such as Melbourne-based BHP Billiton, Rio de Janeiro-based Vale, and London-based Rio Tinto Alcan account for more than 70 percent of annual output.

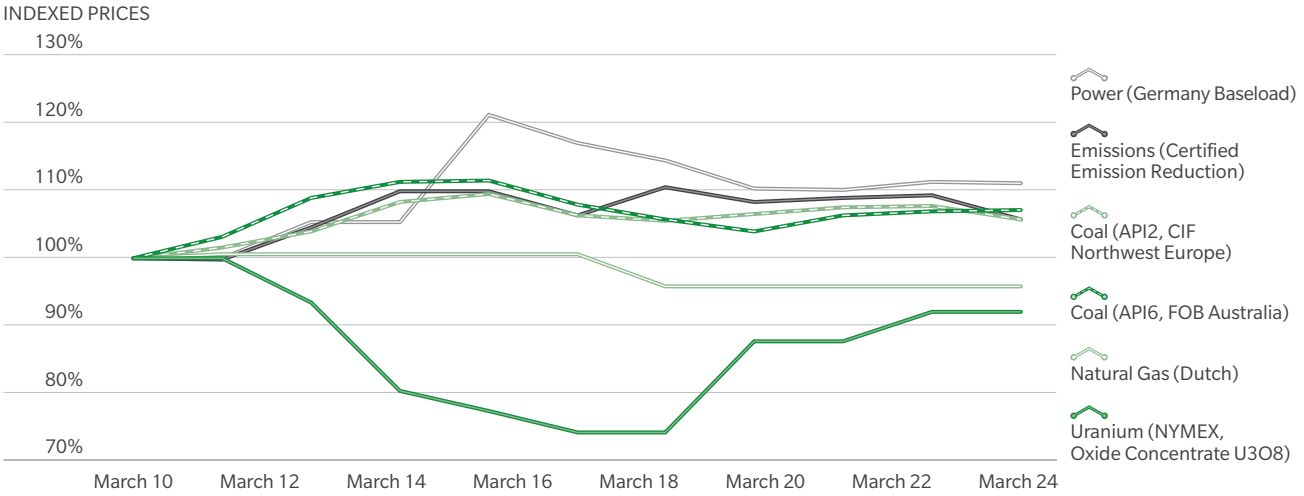
But it is becoming increasingly apparent that size matters across all physical trading markets. Whoever reacts fastest when grey swans appear has the best opportunity to capture a profit. Consequently, traders need global coverage both to see all of the options that may exist in a particular commodity stream, and to be able to react swiftly to grey swan events wherever they occur.

DEVELOPING A GLOBAL FOOTPRINT

To understand the importance of developing a global footprint, consider what happened when the earthquake and tsunami hit Japan in quick succession in 2011, causing a nuclear plant in Fukushima to fail. As soon as the nuclear plant faltered, gas prices skyrocketed. Gas-powered plants had to substitute for nuclear power generation, causing local gas shortages to drive up prices more than 30 percent within a week.

Regional traders holding limited natural gas inventories in Japan could not muster as much volume as global commodity trading giants like the Cyprus-based oil and energy trading company Gunvor Group, which had access to liquefied natural gas cargoes spread across the world. Regional traders had only one option: to buy local gas, for which the price had already increased. Gas prices stopped rising and slowly returned to a normal range of less than 110 percent of pre-Fukushima failure levels only after global commodity traders stepped in and re-routed liquefied natural gas shipments to the import-dependent island. (See Exhibit 2.)

EXHIBIT 2: SELECT COMMODITY PRICES AFTER FUKUSHIMA DISASTER (MARCH 2011)



Source: Bloomberg

Traders' reaction speeds depend on their access to readily available inventory and logistical assets. But as traders invest in new logistical assets to secure a wider range of options globally, they need to bear in mind that each of these assets has different requirements—especially in terms of the talent necessary to run them profitably.

Different types of logistical assets also provide different advantages. For example, storage capacity allows players to react to sudden shortages by quickly drawing on inventory. (See Exhibit 3.) Traders can capture extra margins from previously stored product in a rising price environment. Port terminals provide access to regional markets and allow their owners to extract value by breaking up large tanker-sized cargoes into smaller quantities fit for domestic distribution to end consumers.

Refineries offer even more optionality by allowing traders to change the production mix of different products. For example, they may switch the crude oil consumed between sources from different geographies.

Traders used to obtain access to these assets mainly through long-term agreements for a portion of the assets' available capacity. Now that many commodity traders have grown, they have ramped up their direct investments in larger existing projects or new ones such as terminals and refineries.

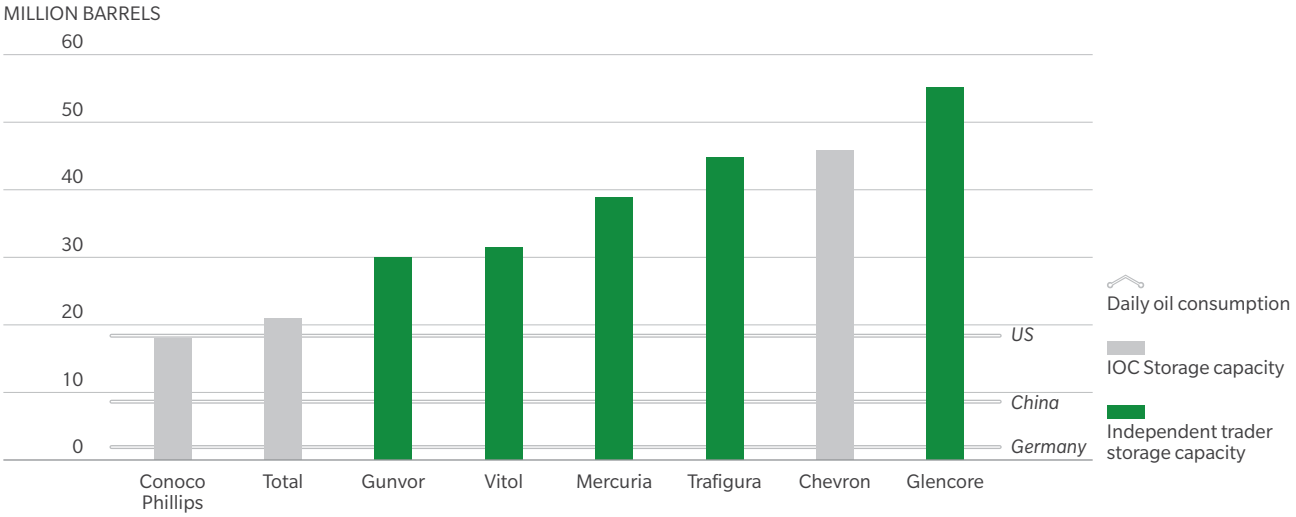
Each of these assets also comes with its own set of requirements. Refineries, for example, are an order of magnitude more expensive than storage tanks.

Recruiting and retaining talent is also critical. Managing refineries profitably requires a specific skill set. Training people to become successful traders can take more than five years as they learn the dynamics of the market and how to take advantage of the wide range of options available in their company's portfolio.

Recent and pending regulatory changes requiring lending institutions to hold higher capital reserves are causing the cost of financing for the whole industry to increase at a time when traders are making more and larger investments. As a result, several European banks active in commodity trading, such as Crédit Agricole and Santander, closed their commodity trading arms recently. Others, such as Goldman Sachs, are moving away from cash-intensive financial trading into more physical trading.

Some traders are starting to tap third-party capital through strategic partnerships to fund their investments. For example, Rotterdam-based energy trader Vitol joined funds with London-based private equity firm Helios to take over Den Haag-based energy major Shell's downstream businesses in Africa in 2011. Another investment firm, Brussels-based Atlasinvest, partnered with Vitol to buy a European refinery from the insolvent independent refiner Petroplus.

EXHIBIT 3: OIL AND PRODUCTS STORAGE CAPACITY FOR SELECTED PLAYERS



Source: Oliver **Wyman**

Commodity traders' compensation packages are typically equity-based, with senior staff building up sizeable equity stakes over time. Making traders' compensation mostly variable and based on long-term performance ensures loyalty by aligning traders' goals with their companies'. It also encourages traders to keep the long-term performance of the business in mind and not to put the entire enterprise at risk.

MASTERING OPTIONALITY

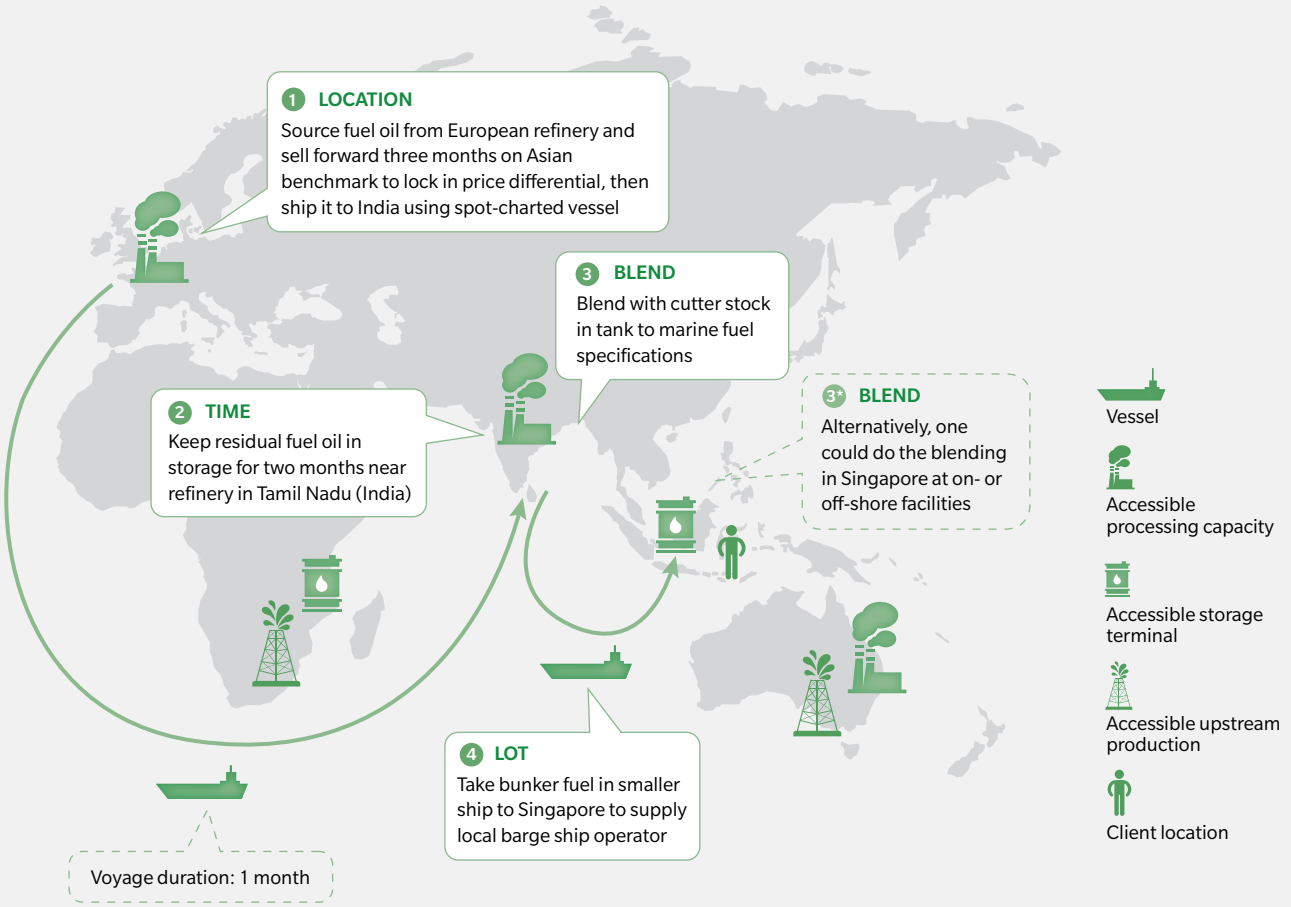
When traders move commodities between producers and end consumers, they use a complex web of logistical assets, guaranteed supply contracts, and long-term purchasing agreements. Those that make the best decisions across this system are able to provide a service to the market and generate the largest profit. To do this, traders take advantage of several options related to the time, location, quality, lot size, and logistics of sourcing or delivering their precious cargoes. Below are some examples of how this is done:

TIME Californian gasoline is a unique blend of gasoline produced only by local refineries in the geographically isolated Californian market. It typically trades at a premium to the New York gasoline contracts on NYMEX, though the size of the premium varies daily and seasonally. When current and future demand expectations are simultaneously low, which often occurs in winter, a trader may decide to buy gasoline and put it into storage in California until the summer. Simultaneously, the trader will sell the New York gasoline future contract on NYMEX to hedge against price movements in the overall price of gasoline. The trader profits when spreads between the Californian and New York variety widen.

LOT SIZE Imagine a copper smelter that requires copper in bi-weekly 42,000 ton deliveries. Its nearest and cheapest copper ore-exporting port can only supply 10,000 tons. A trader might be able to accommodate the smelter by bundling multiple small cargoes, and delivering them to the client while charging a service fee for handling the logistics.

MAP OF COMMODITY TRADING OPTIONS

THIS IS THE PATH ONE COMMODITY TRADER SELECTED FOR A TRADE AFTER CONSIDERING MANY DIFFERENT OPTIONS



LOCATION Nigerian crude oil commands a premium price above equivalent crude oil of Libyan origin. The Libyan crude is mostly delivered to Italian, Spanish, or French refineries that were designed to process it. Nigerian crude, by contrast, can be shipped to China, India, Europe, and the Americas. As a result, the market price is linked to the maximum price present across all of these markets, after accounting for the different logistical costs. Traders have more flexibility depending on where they sell and how they price the Nigerian crude oil, based on the supply-demand dynamics in the individual regions.

QUALITY Around the world, there are different standardized contracts for grain. Detailed ranges of characteristics such as hardness and protein content determine which grain can be sold under which contract. These contracts trade at different prices. By blending small amounts of high-quality grain with grain of lesser quality, traders can increase the percentage of the harvest that meets the contract trading currently at a premium and make a profit.

FINDING A NEW APPROACH TO FUNDING

As their operations and balance sheets grow, traders need a new approach to funding. Since large investments tie up precious capital for a long period of time, commodity traders' growing financing requirements are increasingly at odds with both their ownership structures and the high-volume turnover nature of their business. Trading is a low-margin activity. Consequently, traders need large amounts of financing to turn over as much volume as possible to fund inventories and to invest in logistical networks.

The trouble is that traders' financing costs are steep. With large amounts of debt and relatively small asset bases, traders cannot rely on a credit rating to secure financing in the capital markets directly. Instead, they often use their inventory as collateral for financing agreements or rely on short-term transaction-based financing tools to grow their turnover. This short-term financing structure makes investing in essential logistical assets very expensive.

Employee-owned traders are opening up to attract new sources of capital by going public, issuing bonds, and selling minority stakes in their assets to logistical companies and sovereign wealth funds. Amsterdam-based independent commodity trader Trafigura sold a 20 percent stake in its downstream business to the sole concessionaire for oil and gas exploration in Angola, Sonangol, in 2011. A year earlier, Vitol sold a 50 percent stake in its terminal business to a Malaysian shipping conglomerate. Energy trader Mercuria Energy Group is currently in talks to sell a 20 percent stake of its company and expects to reach an agreement similar to the one struck by Vitol by the end of the year for its processing and terminal assets. Similarly, we have seen sovereign wealth funds, such as Singapore's Temasek and GIC, investing in grain traders like Singapore-based Olam and New York-based Bunge.

While going public can provide an alternative source of financing, it is sometimes difficult for traders to reconcile shareholders' expectations with the inherently volatile nature of trading. For example, shareholder expectations of steady quarterly earnings and tight management of debt can limit the flexibility required for a trading organization. Glencore's management of this delicate balance will be essential to its future success.

> When traders move commodities between producers and end consumers, they use a complex web of logistical assets, guaranteed supply contracts, and long-term purchasing agreements

The short-term focus of a shareholder can also hamper the long-term view often required in trading. A good example of this is the crisis in the metal markets during the late 1990's and early 2000's. Low demand, low prices, low volatility, and huge competition among traders during this period resulted in shrinking margins and losses. Yet players that built up relationships to access assets nimbly during this time reaped rewards later, when Chinese growth increased demand, prices, and price volatility in a market with relatively little competition remaining.

PREPARING FOR NEW ENTRANTS

Despite the difficulties described above, we believe recent asset sales and the changing funding model will lure new players into the market, who will be seeking to secure supplies or a higher premium for their products.

Recent banking regulatory changes and the industry's shake-up provide new entrants with access to talent and logistical assets.

EXHIBIT 4: TRADERS HAVE BEEN MAKING LARGER INVESTMENTS IN LOGISTICAL ASSETS TO CAPTURE ADDITIONAL "OPTIONALITY"

$ — *Increasing optionality* → $$$

	STORAGE	PORT TERMINAL/ OIL JETTY	REFINERY
OPTIONALITY			
QUALITY	(✓)	✗	✓
LOCATION	✗	✓*	✗
TIME	✓	✗	✗
LOT SIZE	✓	✓	✓
MINIMUM INVESTMENT	**~$20 million** (for ~400,000 barrels capacity)	**$50 million-200 million** (for ~150,000 barrels per day)	**~$500+ million** (for ~100,000 barrels per day)
REQUIREMENTS	**Operations** • Understand commodity price movements over time • Ability to optimize logistics to and from storage sites • Understand blending economics	**Capital** • Invest a medium amount of capital **Operations** • Understand logistical pathways and demand for re-handling	**Capital** • Secure a large amount of long-term capital **Operations** • Ability to manage technically complex facility • Manage price differentials between input and output product mix

Source: Oliver Wyman
* Port terminals provide access to regional markets which can yield different prices

We expect fierce competition among traders vying to pick up new assets that provide the most optionality. Large commodity consumers may see these asset sales as an opportunity to secure supplies and to manage commodity price volatility. That's why, for example, Atlanta-based Delta Airlines recently purchased an oil refinery.

A good example of a new consumer entrant is German Rohstoffallianz. Recently, the union of large industrials, all large commodity consumers like Essen-based steel conglomerate ThyssenKrupp and petrochemical concern BASF, have been bundling their asset and procurement contract portfolios, and using their political clout to create long-term partnerships with commodity-rich countries such as Mongolia and Kazakhstan.

At the same time, formerly regional oil players are becoming more global. For example, Hong Kong-based BrightOil and Baku-based SOCAR are investing in production assets and setting up trading operations all over the world to improve the marketing of their products.

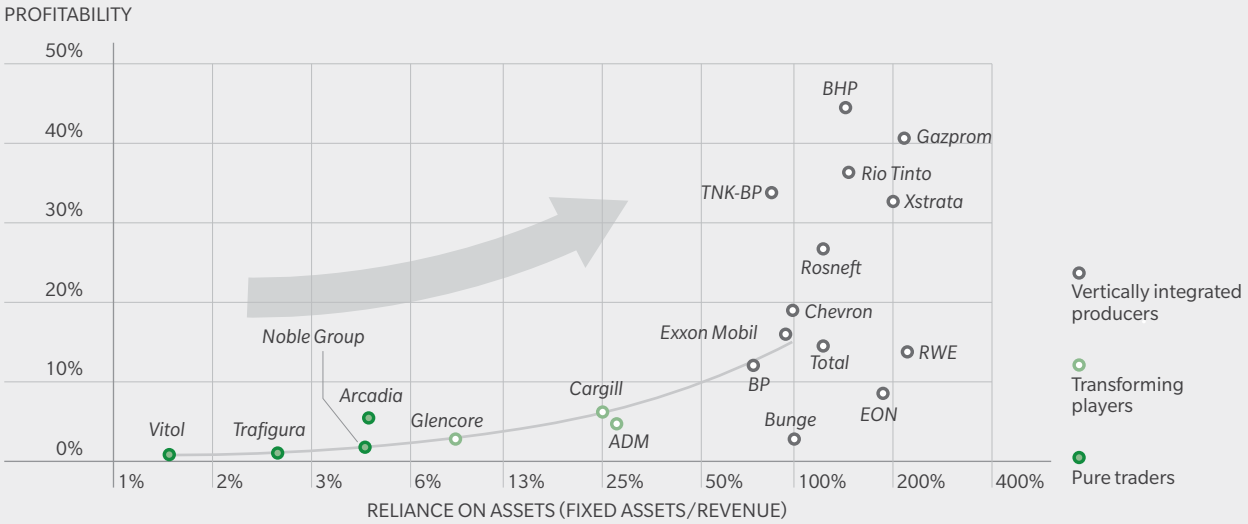
Higher commodity prices and growing costs of funding will make it considerably harder for new entrants to reach the required scale to survive. Having access to working capital support is essential in the start-up stage. This means they must either have full backing from a cash-rich parent or attract private capital.

Although a parent can provide the initial capital support, we often see new entrants face steep competition with existing divisions for cash. In the case of commodity producers, they need to ask themselves whether they should invest in a new trading venture or in a high-margin upstream project. Short-term trade finance tools used by traders also often conflict with a publicly-traded parent company's leverage constraints.

THE COMING SHAKE-OUT

Glencore International has started to diverge from the independent trader profile to resemble more closely integrated players. Other traders will likely follow. This graph shows the differences in the business model of an integrated player, such as Exxon Mobil, and an independent trader, such as Trafigura, by comparing the profitability and the reliance on physical assets of a wide range of players across commodity markets.

PROFITABILITY AND RELIANCE ON ASSETS FOR SELECT COMMODITY TRADERS
AVERAGE 2008-2011



Source: Oliver Wyman analysis, Orbis, Datastream, and company financials

The breaking up of formerly integrated players and the growing presence of new players will increase the number of middlemen in the market and lead to further commoditization of commodity trading. Already, a global gas market is developing as the industry moves away from oil-indexed contracts. At the same time, larger volumes of coal are becoming available on the spot market, providing additional opportunities for existing and new traders.

THE TIME TO EVOLVE IS NOW

Add it all up, and it's clear that the commodity trading industry is set for a major shake-out. The players who will benefit the most from these developments will be those who can build global logistical networks at the lowest cost and attract the talent to optimize them. Business that have not yet become masters of optionality will need to reconsider whether they can continue to afford not to.

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