

A GOLDEN PERIOD FOR ASSET-BACKED TRADING

TIME TO RECONSIDER OIL SUPPLY AND MARKETING

By Eric Boudier, Sönke Lorenz, and Iván Martén

FOR COMPANIES THAT ARE competing in an industry facing commoditization, the task is straightforward albeit sizable: determine the nature of competitive advantage in the industry and adapt the company's strategy and business model to it. (See "Escaping the Doghouse: Winning in Commoditized Markets," BCG article, April 2015.)

Oil companies and the oil industry are a case in point. The industry offers companies opportunities to create advantage through access to low-cost assets; simultaneously, players are highly exposed to price volatility and market imperfections. Some of the industry leaders, such as BP, Total, and Royal Dutch Shell, have responded to this environment by adopting an asset-backed trading model, one that marries production and arbitrage and allows these companies to capture both the structural and the dynamic advantages that the industry's characteristics afford.

Recent events in the industry highlight the relevance of this approach. While today's oil-price environment continues to pose a

significant hardship for the upstream oil sector, it has been highly beneficial for oil trading. Indeed, recent conversations we have had with leaders of major trading operations indicate that 2015 could prove to be the most profitable year for oil trading since 2008.

Driving this tailwind for trading is relatively high oil-price volatility, which has led to an increase in temporary pricing imperfections across markets and, hence, greater opportunity for arbitrage. Oil companies that recognize and exploit these opportunities stand to reap a windfall. And, in the process, they will render themselves less vulnerable to potentially sharp swings in earnings caused by turbulence in other parts of the value chain.

Trading for Diversification, Stability, and Growth

In recent years, oil trading has suffered from a bad reputation in some circles, largely stemming from a number of related financial scandals, including the Enron deba-

cle of the early years of the twenty-first century. Many executives still consider trading an unnecessary source of risk and volatility; some view it as, essentially, gambling. (It should be noted that few traders, in fact, are authorized to take sizable positions on the outright evolution of oil prices.)

We believe that this reputation significantly belies the nature of oil trading and understates its potential value. Properly executed, trading can provide a critical source of diversification and stability for integrated oil companies. This is because returns on trading are not positively correlated with returns on upstream or downstream operations. (See Exhibit 1.) Returns on trading are also not directly impacted by the level or direction of oil prices. Trading can thus play an important role in an integrated oil company's overall portfolio, a role that is particularly valuable during times of market turbulence.

Oil trading can also be a material driver of a company's absolute financial performance in its own right. Annual trading-related revenues can reach into the billions of dollars for the largest oil companies.¹

In sum, oil trading can be a powerful source of competitive advantage. This is especially true in today's oil-price environment.

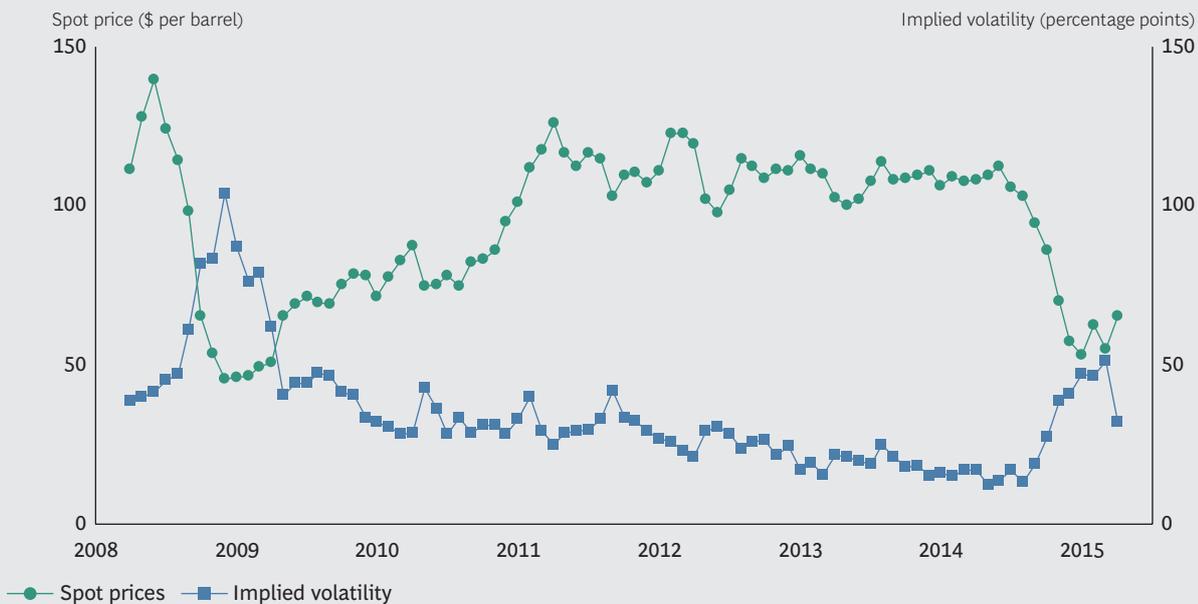
Today's Opportunities

The best traders use an agile business model that allows them to systematically identify and exploit pricing imperfections where they occur. The current market backdrop is rife with such imperfections, translating into significant arbitrage opportunities. These fall into three main categories: time, location, and quality.

- *Time.* So-called contango situations, in which prices for future delivery are higher than those for immediate delivery, have created lucrative trading opportunities, especially for companies that have significant marginal storage capacity.² In March 2015, for example, the price differential between forward and spot markets was approximately \$1 per barrel per month, translating into a risk-free margin of nearly \$3 per barrel of storage capacity over a three-month period. Today's low short-term interest rates (the U.S. federal-funds rate is cur-

EXHIBIT 1 | Oil Prices and Oil Price Volatility Have Been Negatively Correlated in Recent Years

Monthly historical spot prices and spot-price volatility for Brent crude oil



Source: BCG analysis.

rently 0.25 percent) make the economics of financing the buildup of inventories to capitalize on these opportunities particularly attractive.³

Many refiners, however, continue to manage their crude inventories as if oil were purely a manufacturing input rather than a financial commodity. They strive to carry the smallest inventory possible—in the process leaving a considerable amount of potential value, at virtually zero risk, on the table.

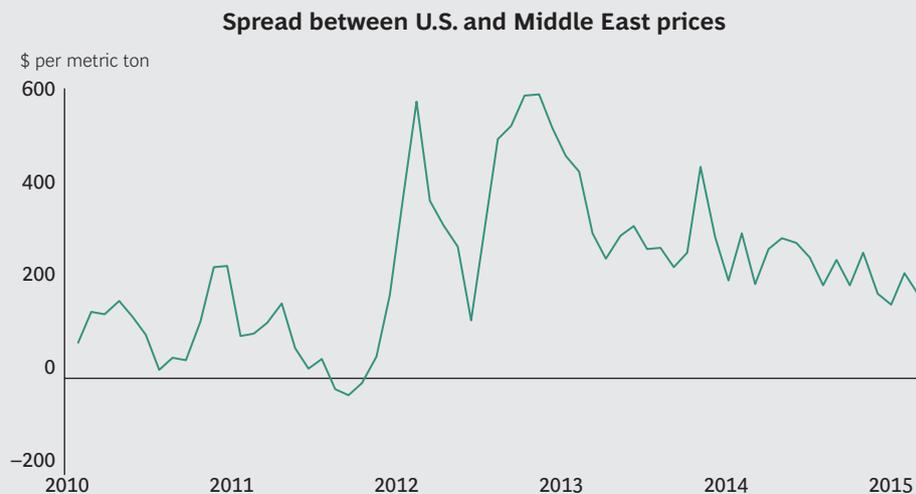
- *Location.* Price differentials between locations can create interesting opportunities for players that are able to access relevant logistics and physically reroute oil or oil products. Infrastructure bottlenecks in North America, for example, spawned by the shale revolution and U.S. regulations regarding exports, have partially disconnected U.S. prices from prices on international markets. Over the past three years, the best traders have tried to understand how this situation will evolve and where the greatest value is likely to materialize as a result. They have developed clear strategies for exploiting future regional price discrepancies and taken steps to

ensure that they will be able to control key logistical assets, such as terminals, pipelines, rail, and storage capacity.

One company, for example, invested in new terminals and liquid-petroleum-gas carrier capacity to capitalize on surplus propane in the U.S. market (driven by the surge in shale oil production), which had led to significant differentials between domestic prices and international seaborne quotations. (See Exhibit 2.) By recognizing and acting on the opportunity early, the company achieved a margin of approximately \$200 per metric ton, or 40 percent on U.S. domestic prices.⁴

- *Quality.* Global and regional supply-and-demand balances for key oil grades have changed significantly in recent years. North Sea sweet-oil production has been significantly reduced, for example, while new light qualities are being produced from synthetic Canadian oil and U.S. shale oil. The traditional balance of flow in the Atlantic has also been reversed: Europe, which used to export to the U.S., is now becoming the marginal importer from all large producing

EXHIBIT 2 | Propane Is Priced Significantly Differently in the U.S. than on the International Market



Source: Bloomberg.

Note: Monthly averages are used. U.S. prices are spot prices on the Mont Belvieu exchange; Middle Eastern prices are Arab Gulf monthly posted prices. The conversion rate is 52 gallons per metric ton.

regions: Russia, North America, Africa, and the Middle East.

These changes in flows are affecting the price differentials between sweet and sour grades and heavy and light grades, influencing refining netback margins. Refineries closely linked to traders that can react rapidly to these changes have been able to create superior returns thus far in 2015. (Refiners' netback margins have also been affected by changes in the marginal configuration driven by fluctuations in oil demand.)

Many refiners, however, do not take advantage of these opportunities, refusing to adapt their crude supplies in response to price optimization opportunities and the evolution of netbacks. Instead, they focus primarily on technical KPIs. Some technical teams from these companies will even block the linear programming that most refiners use to determine optimal crude supply, aiming to ensure that there is little chance the program will recommend the use of a different, less familiar (but more economically advantageous) grade. (Such constraint of the supply selection program can also happen involuntarily: a company's staff will make a series of relatively small adjustments to the program's criteria over a long period of time, with the cumulative effect becoming essentially invisible to the company.) The net effect is that the linear program is no longer doing the job it was intended to do, and the natural tension that should exist between refiners and suppliers is greatly reduced. This can ultimately impair refiners' efforts to maximize value.

The high degree of oil price volatility that has prevailed in the market since the summer of 2014 has increased both the number and the magnitude of market pricing imperfections, thereby increasing companies' scope for engaging in all three types of arbitrage. It has also increased the size of the potential prize attached to successful execution.

High market volatility has also created an additional type of opportunity—one that is not pure arbitrage—that traders can capitalize on. Oil price gyrations have spawned strong demand for risk management instruments that offer downside protection. Demand has been particularly strong from companies that are highly vulnerable to further decreases in oil prices and for which maintaining a sustainable cash-flow profile is critical to their business. The demand has led to a general overpricing of these instruments, one that sophisticated traders can take advantage of, particularly now that investment banks, the traditional providers of such instruments, have withdrawn from the market, widening the opportunity for trading organizations.

Seizing the Moment

A greater focus on trading can be extremely beneficial to a broad range of companies in today's environment.

Among the businesses that would particularly benefit are complex refineries operating in Asia. These companies can process many types of crude oil and should be quick to take advantage of significant price differentials between sweet and sour and heavy and light grades. Few of these refineries are doing so, however. Instead, most maintain a highly conservative approach, with far greater emphasis on security of supply than on optimization of sourcing. We consider this stance suboptimal, given the oil market's relatively high liquidity and the potential economic cost of this policy to these companies' bottom lines. Indeed, our studies indicate that such conservative oil-supply policies can cost refiners' margins as much as \$1 to \$2 per barrel.

Large oil-producing companies and countries, including those operating in the Middle East, could also benefit significantly by reconsidering the role that trading plays in their business. Many of these players have shunned or underemphasized trading, believing that it runs counter to their goal of becoming respected, reliable suppliers of crude.

We have a somewhat different view. In our opinion, being a reliable, predictable producer is largely a function of being transparent with regard to production and its evolution. An increased focus on trading is not inconsistent with this, nor does greater emphasis on trading preclude honoring politically driven volume regulation, such as OPEC targets. Trading could thus be highly advantageous to these businesses. Indeed, by placing greater emphasis on it, and increasing their focus on spot trading versus long-term contracts, these players could boost their returns significantly. We have determined, for example, that SOCAR, the State Oil Company of Azerbaijan Republic, increased its revenues by \$1.70 per barrel by shifting its emphasis from marketing to trading.⁵

All companies, however, should consider the potential gains to be obtained by increasing their emphasis on trading, given the potential upside. Many European and U.S. oil majors are thinking along these lines and have already invested to increase the professionalism of their trading divisions. Some players in Asia are now in the process of doing so as well (China National Petroleum, for example, created a trading arm in recent years), as are some national oil companies (including those of Azerbaijan and Oman) in various regions.

ADMITTEDLY, THE BUSINESS model required for success in asset-backed trading is significantly different from the model necessary for success in exploration and production, refining, and marketing and is therefore not suited to all companies. But trading's benefits can be material and, for

many players, will more than compensate for the challenges of implementation. Not only can trading expand companies' margins, it can stabilize portfolio returns and make a company more responsive to market opportunities. Oil companies that view trading solely as a source of supply for refineries could be leaving an important source of value creation idle.

NOTES

1. It can be hard to know precisely how much revenue companies derive from their trading activities. Independent traders, such as Vitol, Trafigura, and Gunvor, are usually private companies that keep a low profile on their financials, while large integrated oil companies that have trading divisions (for example, Shell's Stasco, BP's IST, and Total's Totsa) often consolidate the results generated by those divisions with the results of other business units.
2. Contango situations are affected by imbalances in oil production. Excess production must be stored; this pushes down spot prices, which remain low until storage economics become positive. Forward prices, meanwhile, tend to remain stable, because they reflect the cost levels necessary to justify bringing new projects on stream. Hence, today's contango situations are not a consequence of low oil prices; rather, they are a direct consequence of the financial incentives required to induce traders to store excess oil. Refiners' marginal cost of storage is often negligible, because these businesses do not use their full storage capacity for normal operations. In effect, the cost of the cash-and-carry strategy for these players is the cost of financing, which is currently very low.
3. Traders typically fund inventory buildup with short-term financing from banks, which is generally much cheaper than the companies' long-term weighted-average cost of capital.
4. The total value of the arbitrage must be reduced by the difference in freight costs between the U.S.-to-Asia and Middle East-to-Asia routes. This type of arbitrage is also contingent on companies having access to very large gas-carrier freight vessels, which are currently in short supply.
5. See *SOCAR Trading Performance Review*, BCG report, May 2014, on SOCAR's website (<http://www.socartrading.com/news/publications>).

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This is the fifth in a series of articles exploring issues associated with changing oil prices. The previous articles are “Lower, And More Volatile, Oil Prices: What They Mean and How to Respond” (January 2015), “Killing the Complexity Monster in E&P: Eight Critical Actions for Upstream Oil and Gas Companies” (January 2015), “Low Oil Prices Are Challenging Natural-Gas Markets” (March 2015), and “Two Sides of the Coin: The Impact of Low Oil Prices on Downstream Oil” (June 2015).

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