Creating Capital Efficiencies Through Portfolio Margining:
A Crack Spread Case Study

Financial innovations often stem from changes in either the tax or regulatory landscape, and the present era is no exception. Global policymakers have recognized what practitioners of the "Chicago model" of centralized clearing and portfolio margining on an exchange have known for years: Traders' counterparty credit risk versus the exchange clearinghouse is lower than their summed bilateral counterparty clearing risks.

As legal and regulatory mandates to increase the capitalization ratios and lower the effective leverage of major traders is central to Basel III, Dodd-Frank, EMIR and MiFID II and as all of these initiatives attempt to link capitalization and margin requirements to measures of market risk, all traders have an enormous incentive to lower their net position risk to save on capital charges.

Futures traders have been used to margin offsets on economically related spread positions held in the same clearinghouse for years. The logic is the risks of a long position in one commodity such as West Texas Intermediate (WTI) crude oil can be offset in some proportion by short positions in refined products such as ultralow sulfur diesel fuel (ULSD) or the base blending stock for gasoline (RBOB). As these spreads lower the trader's risks to the clearinghouse, a lower margin is justified.

The 3-2-1 Crack Spread Example

A commonly traded spread in the energy markets is the 3-2-1 crack spread. Let's use the case of three short Brent futures against two long RBOB and one long ULSD future. At levels prevailing in June 2013, what would the margin requirements be?

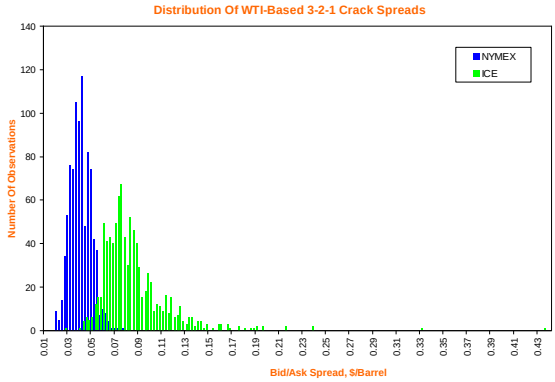
- If Brent and refined products are traded on different exchanges and margined accordingly: $27,590
- If traded and held at the CME clearinghouse: $6,256

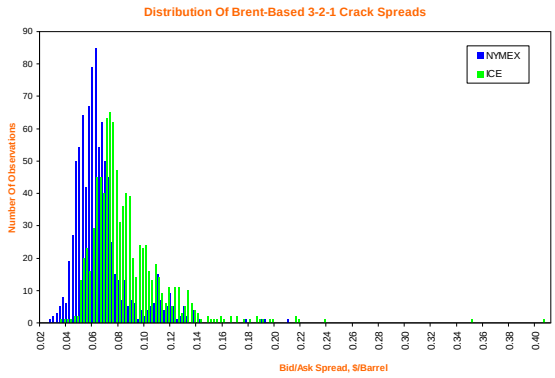
This 77.3% reduction in margin requirements is representative of capital efficiencies presented by holding positions at a single clearinghouse, as interest rate traders whose separate positions at the Chicago Board of Trade and Chicago Mercantile Exchange discovered to their delight after the exchanges merged in 2007.

Liquidity Begets Liquidity

Given the savings possible from centralized clearing, traders' focus should turn to other costs, such as the bid/ask spreads available on competing exchanges. Narrower spreads not only lower trading costs but they attract a greater share of the available order flow; this produces deeper and more liquid markets with further downward pressure on bid/ask spreads in a virtuous cycle.

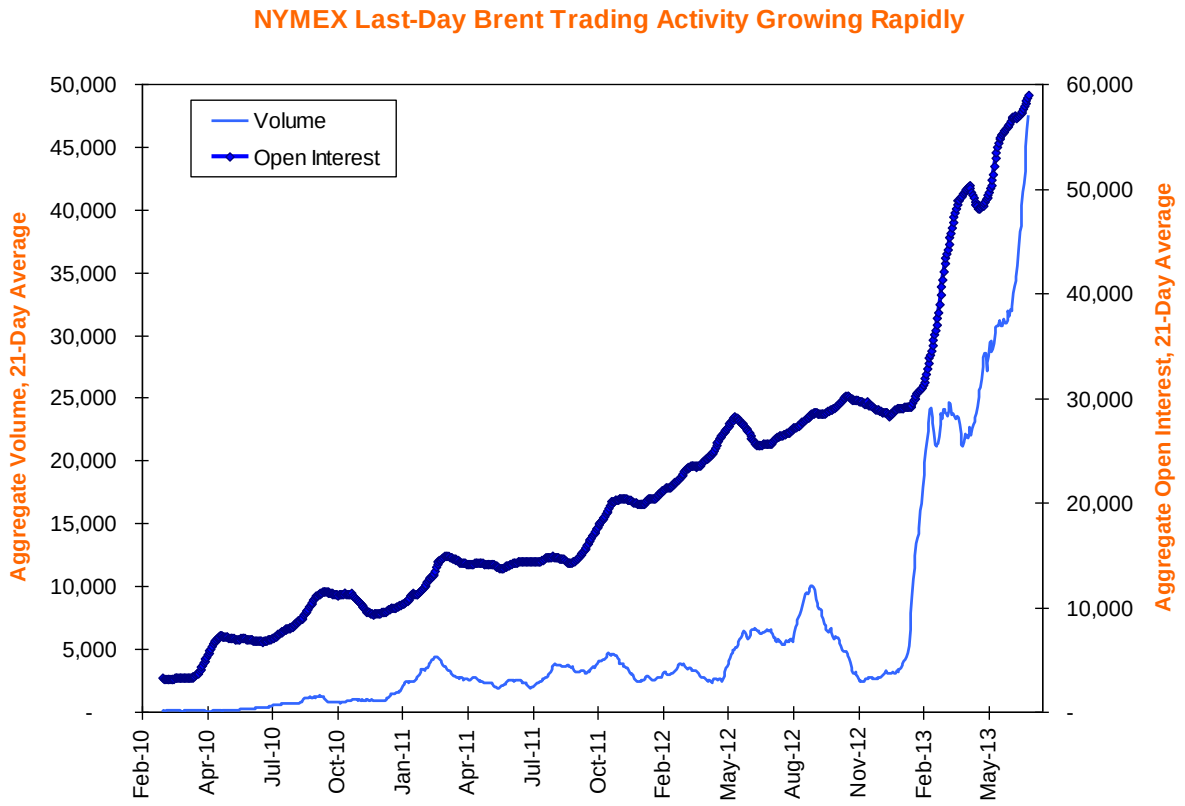
These comparative trading costs can be quantified per the case study below. The bid/ask spreads for the July 2013 contracts for both WTI and Brent-based 3-2-1 crack spreads traded on the NYMEX and on ICE between May 31 – June 13, 2013 show a very statistically significant narrower bid/ask spread for NYMEX in both cases.





The NYMEX already enjoyed significant advantages with the much greater trading volume of its physically delivered ULSD and RBOB contracts to go along with its physically delivered WTI contract. The NYMEX Last-Day Brent contract has been growing in popularity in 2013 as well. This is strong evidence traders are acting to

consolidate their crude oil trading on a single clearinghouse to take advantage of the large capital efficiencies noted above.



The virtuous circle will operate in the petroleum futures markets as it has elsewhere: Greater depth and liquidity will lower bid/ask spreads and attract still more trading volume. The massive capital efficiencies produced by portfolio margining for holding offsetting long and short positions in related products are more important than ever in the new legal and regulatory landscape.