

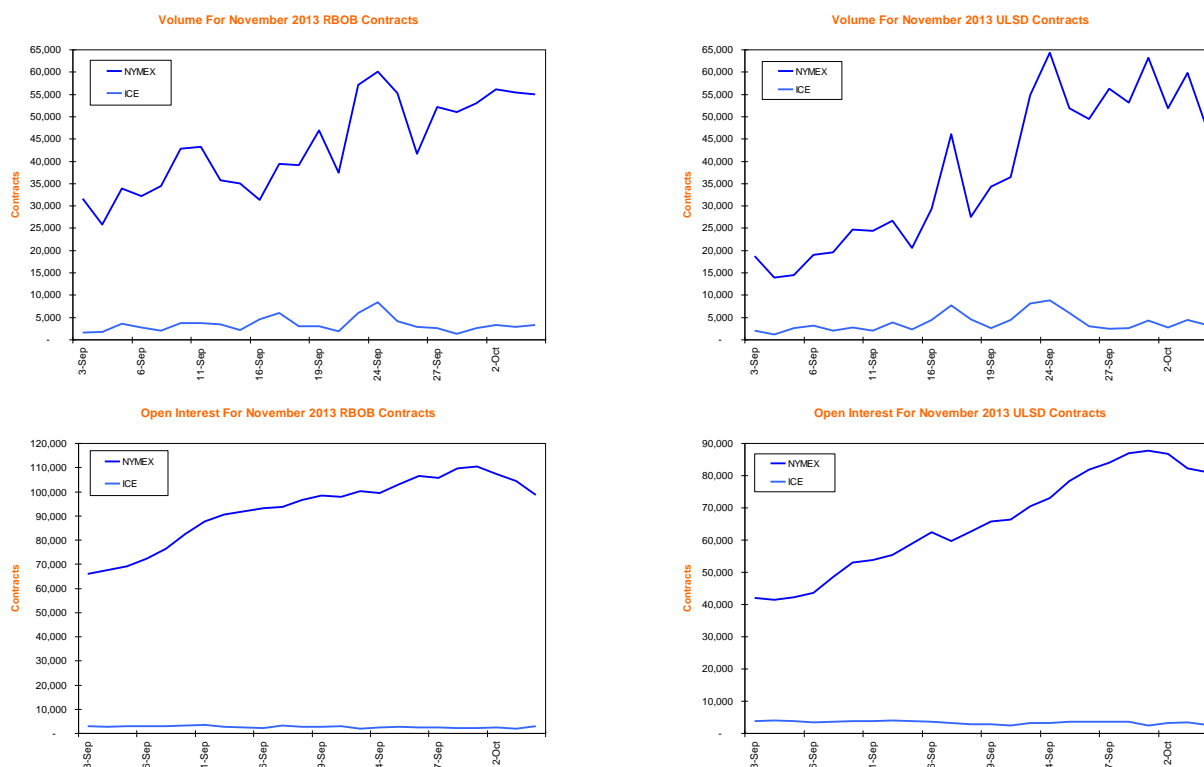
NYMEX Superior Trading Platform For Brent-Based 1:1 Crack Spreads

It goes without saying traders should seek both the deepest and most liquid market available for a given product or strategy. In today's environment a second consideration is equally important, and that is the capital efficiencies presented by margin offsets. These simply must be sought wherever and whenever available.

Brent-Based 1:1 Crack Spreads' Trading Activity

Both the NYMEX and ICE Futures Europe offer contracts on Brent Blend crude oil, ultralow sulfur diesel fuel (ULSD) and on the base blending stock for gasoline (RBOB), and both clearinghouses offer margin offsets on the ULSD and RBOB crack spreads against Brent on the order of 80% of the two contracts traded separately. Here is where the resemblance ends.

First let's compare the relative volume and open interest of the two refined products for November 2013 contracts over the September 3 – October 4, 2013 period. In the case of RBOB, daily trading volumes for the NYMEX contract range from five to 40 times as great as the ICE contract, and open interest was 20 to 60 times greater. In the case of ULSD, volumes ranged from 5 to twenty-five times as great with open interest ranging from ten to 40 times as great. If the old spread-trading adage of “do the difficult leg first” applies as it always does, then the NYMEX has a nearly insurmountable advantage in these crack spreads.



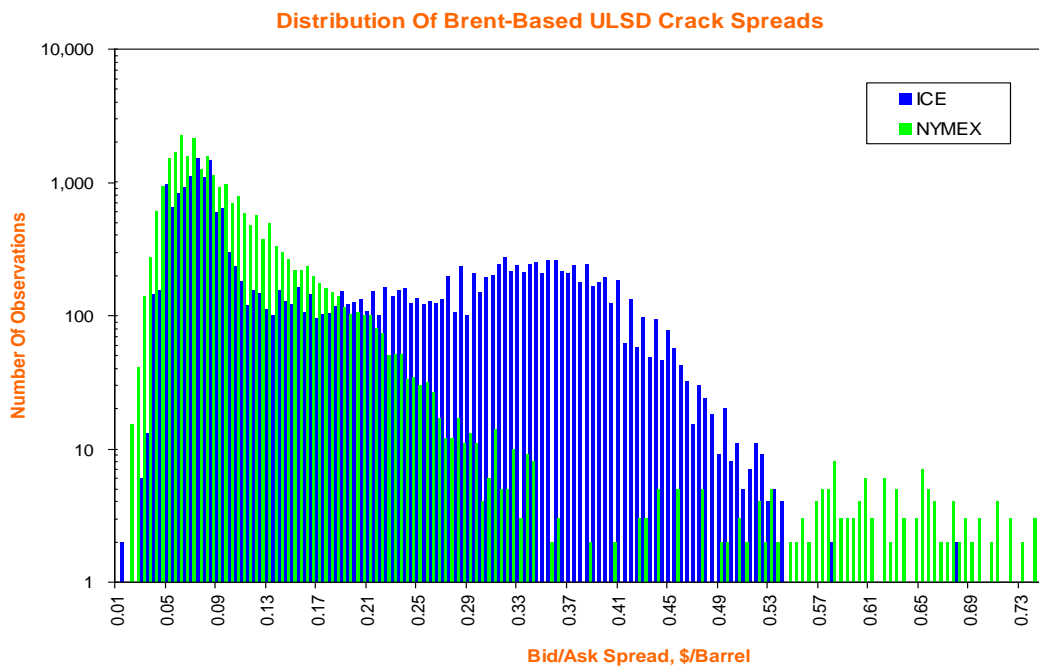
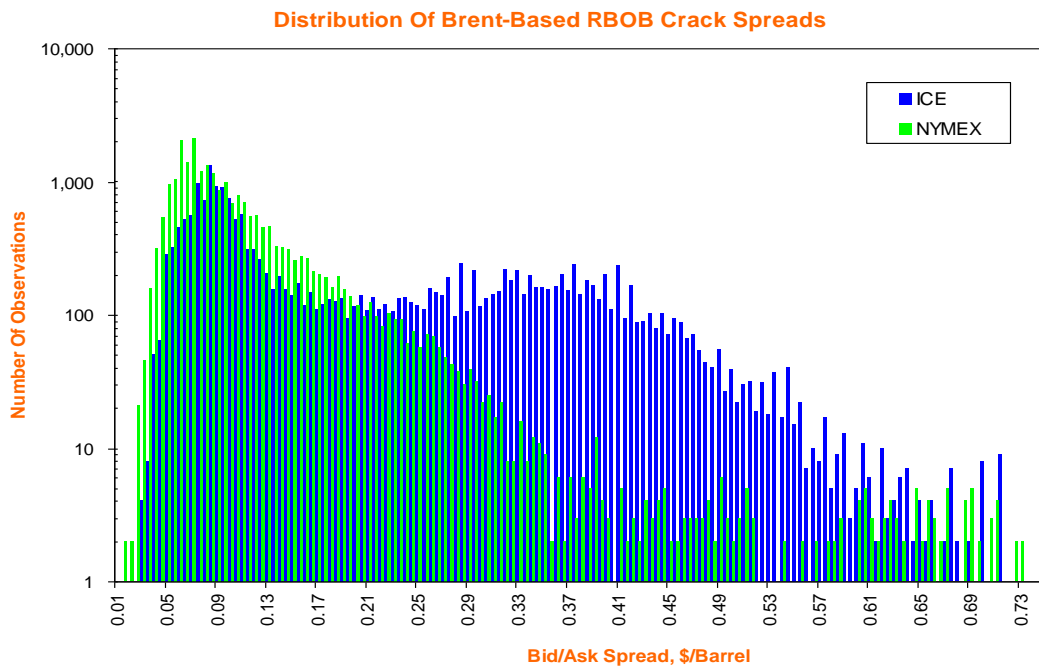
Brent-Based 1:1 Crack Spreads' Trading Envelope

Now that we have established which market has the greatest depth and liquidity for the “difficult leg”, let's construct trading envelopes for both the RBOB and ULSD 1:1 spreads to Brent to compare trading costs. These were constructed as:

$$[.42 * Prod_{ask} - Brent_{bid}] - [.42 * Prod_{bid} - Brent_{ask}]$$

Data were collected at one-minute intervals for the entire electronic trading days for both sessions. Obvious outliers and all calculated spread values over \$0.90 per barrel were excluded. In practice, this exclusion favored the less liquid ICE spreads.

Comparisons of the NYMEX and ICE distributions truncated at \$0.75 are presented below as histograms of number of observations at each \$0.005 slot. It is easy to observe in each case how the NYMEX spreads are centered at much narrower spread values than their ICE counterparts.



The summary statistics show the NYMEX bid/ask spreads were narrower at virtual 100% confidence, by \$0.097/barrel for ULSD/Brent and \$0.090/barrel for RBOB/Brent. These are per-barrel savings of \$97 and \$90, respectively, per spread even before accounting for the greater depth and liquidity available in the NYMEX refined products.

Summary Statistics For 1:1 Brent Crack Spreads

	ULSD		RBOB	
	NYMEX	ICE	NYMEX	ICE
Mean	\$ 0.104	\$ 0.201	\$ 0.092	\$ 0.182
Std. Dev.	\$ 0.076	\$ 0.140	\$ 0.066	\$ 0.130