

# W | C | H

## Investor Expecting the Price Differential between Heavy Crude Oil and Light Crude Oil to Widen

An investor believes that the price differential between heavy crude oil and light crude oil will widen from the current level of -US\$12.25 per barrel (as measured by the level of the NGX WCS WTI Crude Oil Index, which represents the price of one barrel of Western Canadian Select Heavy Crude Oil minus the price of one barrel of West Texas Intermediate Crude Oil). Supporting the outlook is the view that demand for asphalt and roofing tar (produced by refining heavy crude oil) will be considerably lower in the foreseeable future on slower construction activity, and demand for gasoline (produced mainly by refining light crude oil) will be higher ahead of the summer driving season. Against this backdrop, the investor expects the price of heavy crude oil to underperform relative to the price of light crude oil.

### Strategy

The investor decides to use Canadian Heavy Crude Oil Differential Price futures contracts (or WCH futures) to benefit from the expectations of a widening of the price differential between heavy crude oil and light crude oil. Specifically, the investor sells five WCH futures.

#### PRICE METHODOLOGY :

The price of the WCH futures contract is quoted based on the following methodology:  
100 + the price differential\* between one barrel of WCS and one barrel of WTI

\* as measured by the NGX WCS WTI Crude Oil Price Index

The price of the WCH futures contract is quoted at US\$87.75 (implying that the price differential between heavy crude oil and light crude oil is -US\$12.25 per barrel). The investor sells five WCH futures contracts (equivalent of 5,000 barrels of heavy crude oil).

### In Two Months

In two months, the price of the WCH futures contract drops to US\$83.50 (implying a price differential between heavy crude oil and light crude oil of -US\$16.50 per barrel), and the investor closes out the position. Consequently, the price differential between heavy crude oil and light crude oil widened from -US\$12.25 to -US\$16.50 per barrel. Thus, the investor realizes a gain of US\$4.25 per barrel for a profit of US\$4,250.00 per futures contract (calculated by multiplying US\$4.25 per barrel by the trading unit of 1,000 barrels of the futures contract), excluding commissions.

The investor's total profit on the position of five contracts is calculated as follows:  
US\$4.25 per barrel X 1,000 barrels per contract X 5 contracts = US\$21,250.00

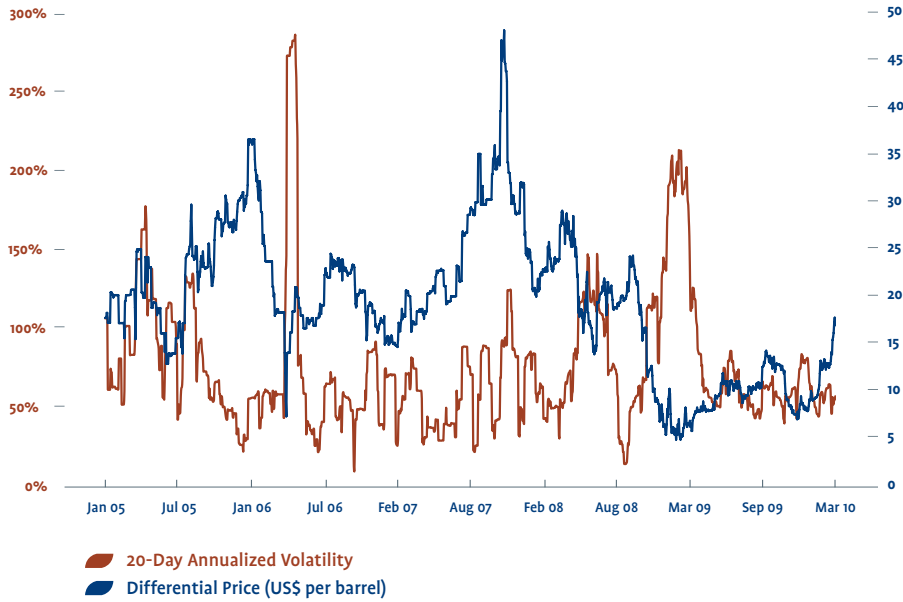
	BUY	SELL	NUMBER OF CONTRACTS	WCH FUTURES LEVEL	PROFIT/LOSS (PER CONTRACT)	PROFIT/LOSS (FOR TOTAL POSITION)
Today		●	5	87.75		
In two months	●		5	83.50	+ US\$4,250.00	+ US\$21,250.00

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Given available research or fundamental market information, investors must consider as well the historical volatility and the price evolution of the differential price between heavy crude oil and light crude oil before initiating a position in the WCH futures contract.

As shown in the following figure, the differential price between Canadian heavy crude oil (WCS) and light crude oil (WTI) is very volatile. The volatility, as measured by the standard deviation of the differential prices over a 20-day period, has ranged from a high of 270% to a low of 15%. Moreover, the differential price has ranged from a high of US\$45.00 per barrel to a low of US\$5.00 per barrel.

FIGURE 1: DIFFERENTIAL PRICE AND 20-DAY ANNUALIZED VOLATILITY (WTI LIGHT MINUS WCS HEAVY) JANUARY 2005 TO APRIL 2010



Source: Bloomberg L.P.