

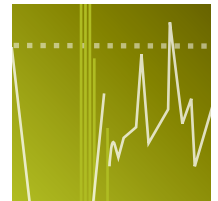
WEATHER PRODUCTS

Part One: Hurricanes and Equities – Cross Market Opportunities

Hedging Hurricane-Sensitive Stock Exposure
with CME CHI Products

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The headline read, “Tropical Storm Erika begins to impact cruise ships in the Caribbean.” (USA Today Sep 3, 2009 by Gene Sloan) Twenty-four hours later, a story entitled, “Quiet in Atlantic basin after Erika fades,” flashed on the Reuters screens.

‘Tis the season, hurricane season, in other words. There are companies who hope for fair weather, and fair weather means good fortune to the cruise ship industry. Carnival Corp. (CCL) leads the pack with 88 ships, and Royal Caribbean Cruises Ltd. (RCL) is second with its 38 ships.

The management executives of Carnival and Royal Caribbean are well aware of the risks associated with heightened storm action. It can make or break the year. Traditional insurance coverage is the primary tool to lessen the financial risks, and the more exotic derivatives offered by re-insurance companies can add incremental coverage tied to measurements such as storm surge, wave height, and satellite tracking coordinates. The hurricane futures contract is one of the newest tools for addressing how financial shocks result from major storms. The contracts have moving values, even for those storms that don’t make landfall, or for those that churn the seas for a few days before they dissipate.

Hurricane futures were born in the world of the commodity markets at CME Group (CME). The brainchild of Dr. Steve Smith, Sr. Vice President at reinsurance broker Willis Re, Inc., these contracts shift hurricane risk to the capital markets. “The key to transferring hurricane risk is finding a way of quantifying it,” says Smith, adding, “The traditional methods used by the insurance industry to transfer risk can often be too opaque for use by the capital markets so we needed a new way to bridge the gap between these two markets.”

Originally called the Carvill Hurricane Index, because Dr. Smith was an officer of Carvill America when the product was launched in 2007, the ownership of the index migrated to CME Group early in 2009 and is now the CME Hurricane Index or CHI. The active storms in 2005 were the catalyst for developing the CHI. Everyone now remembers Katrina. Many can still recall Rita and Wilma. However, if you were in the path of any of them, or if you had financial business disruptions from any of them, regardless of where you were physically located, the names are probably etched in your mind.

When it comes to the bottom line, hurricanes can cut both ways. Initially, Carnival was hit with a huge drop in revenues as the cruise line lost business. This hit turned out to be a blessing in disguise: the company landed a \$236 million government contract to provide temporary housing for Katrina evacuees on three of its ships – Holiday, Ecstasy and Sensation. The storm’s legacy includes a phrase in the boardrooms of some corporations that were either hit or blessed: The Katrina Effect. The other legacy item is the CHI. In this first of three articles, we will explore the interplay between them.

Using event assumption to examine effects of hurricanes on the market value of equity shares, we will focus on specific storms from 2002 through 2008, and the related price movement of selected stocks. During periods of heightened hurricane activity, companies whose stock prices are presented were divided into two categories of price reaction:

Negative – Companies providing insurance, those involved with energy product infrastructure in/near the Gulf of Mexico, and companies with concentrated business activity in vulnerable coastal areas.

Positive – Companies dealing in products or services that are typically in demand during the post-hurricane period related to reconstruction and recovery of physical assets, and/or rehabilitation of the social and economic base.

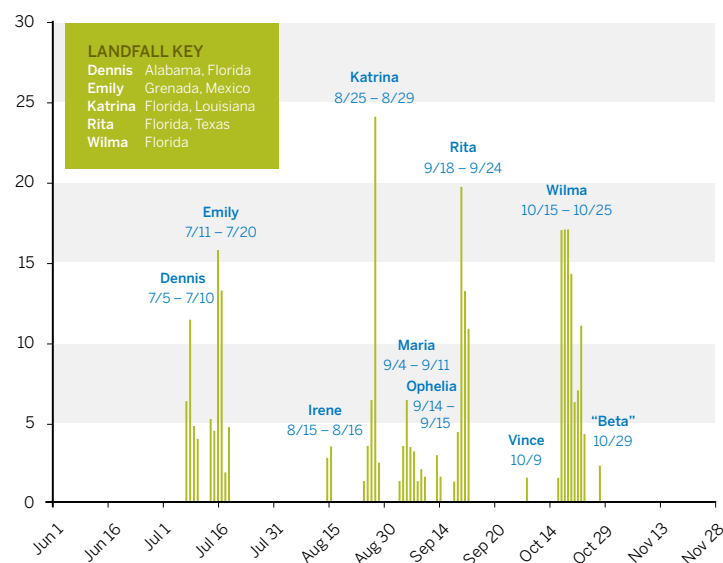
This examination intends to establish that CHI instruments, specifically long or short binary options, can perform as directional financial hedges in portfolios of equity positions in companies with either of these negative or positive attributes. The following examples cite two companies that experienced the Katrina Effect in 2005: BancorpSouth (BXS) and Trico Marine Services (TRMA). Bancorp operates in all of the Gulf Coast states and is susceptible to problems created by hurricane season. In 2005, 13 of its banking locations along the Mississippi Gulf Coast were damaged. Three branches and a loan office did not reopen until 2006. Hurricane Katrina's impact decreased Bancorp's net income by \$2.2 million in spite of a \$6.9 million gain from related insurance coverage in 2005. Expecting that Katrina would increase the amount of loans charged off, Bancorp increased provisions for credit in 2005 losses by \$7.6 million but reversed \$5.9 million of that provision during 2006.

Trico provides marine support vessels to the oil and gas industry in the Gulf of Mexico. When hurricanes destroy or damage offshore oil rigs, Trico provides drilling bits, fluids, risers, thousands of feet of seafloor cable, manifolds, pipes, pumps, engines, etc. – Trico supplies the vessels that have the infrastructure, equipment, and towing capabilities to serve these offshore facilities.

The following graphs illustrate the relationship between hurricanes and stock prices.

For the example year (2005), Figure 1 depicts the CHI of each storm's highest daily value.

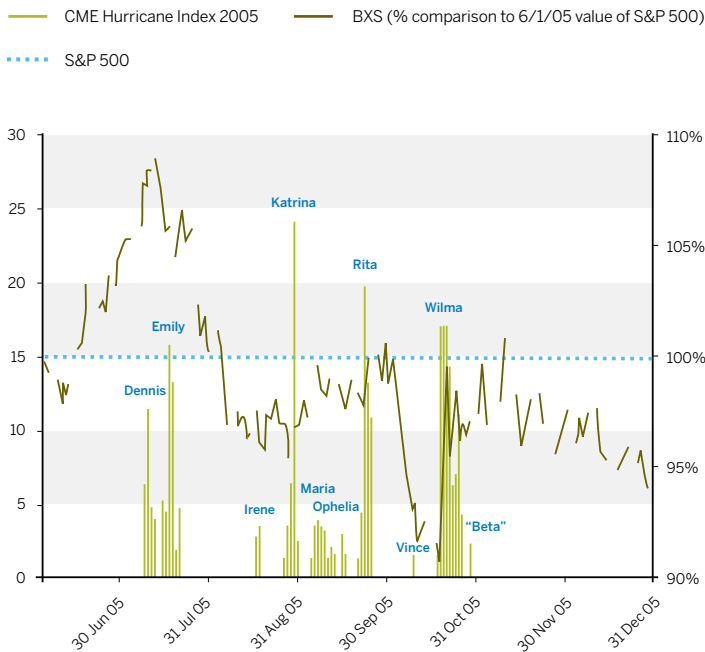
Figure 1:
CME Hurricane Index (daily values for the 2005 season)



The BXS share prices moved to a discount from the S&P displayed from the start of hurricane season (June 1, 2005) through the end of Q4 2005.

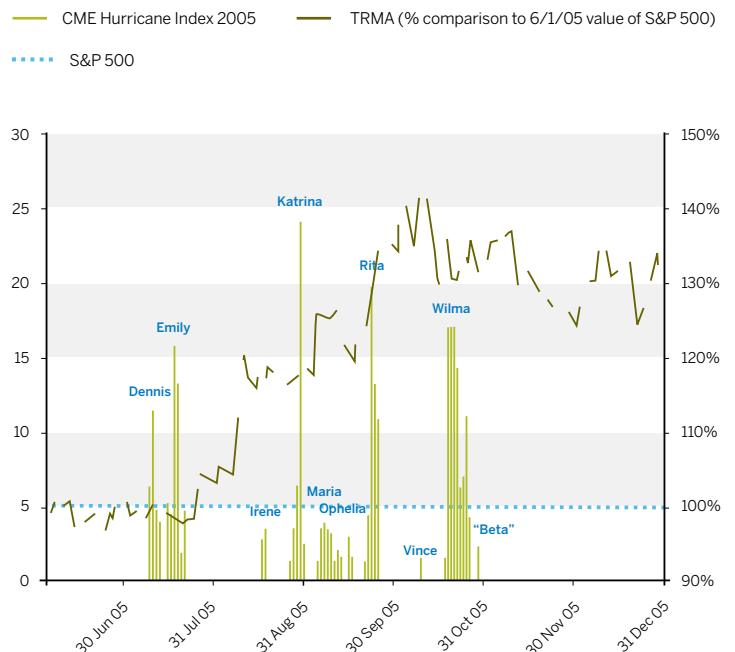
TRMA shares ended the year with a premium over the S&P 500 when compared with their relative values on the first of June.

Figure 2:
BSX Share Price Movement vs. S&P 500 during Q3 and Q4 2005



	June 1	Dec. 30	Change	Change (%)
S&P 500	1,202.22	1,248.29	+46.07	+3.38%
BSX	22.63	22.07	(0.56)	(2.47%)

Figure 3:
TRMA Share Price Movement vs. S&P 500 during Q3 and Q4 2005

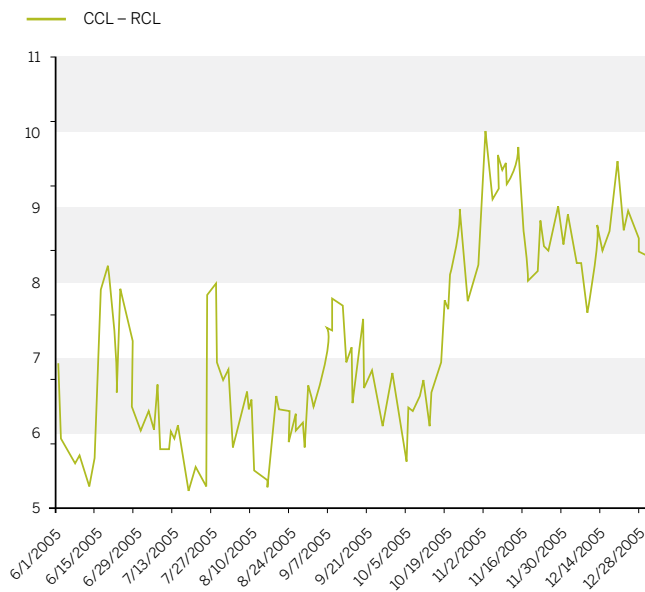


	June 1	Dec. 30	Change	Change (%)
S&P 500	1,202.22	1,248.29	+46.07	+3.38%
TRMA	19.00	26.00	+7.00	+36.84%

The gaps in the price graphs denote weekends, as the hurricane index is calculated on each calendar day, including non-business days when equities do not trade.

How did shares of Carnival and Royal Caribbean behave in 2005? Both lost ground during the active storm season.

Figure 4:
Spread between Carnival Cruise Lines and Royal Caribbean Cruise Lines



This graph depicts the spread between the stock prices of the two luxury cruise lines, Carnival started the season (June 1) at \$53.11 and ended the year at \$53.47 (Dec 31). The competition, Royal Caribbean, moved from \$46.16 to \$45.06 during the same time period.

Arbitrageurs who trade pairs of stocks whose companies are in the same industry might enter a long vs short position in this pair of cruise lines. Often this is done on a “dollar neutral” basis meaning that the position on the higher priced stock of the pair will have fewer shares than in the position of the lower priced company. This arbitrage position, as with pair positions in other hurricane sensitive industries, could have attributes whose intrinsic risk might be hedged with CHI futures or options.

In the next installment, we will explore the hurricane season of 2008. We will compare the financial impacts of Hurricane Ike on specific share prices and examine how the CHI contract values could have been used to hedge the risk held by shareholders of several companies.

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