

Natural Gas Always Dangerous To Someone

If you are or were an aspiring trader, chances are someone recommended reading *Reminiscences Of A Stock Operator* to you. And with good reason: Its advice is timeless.

There's a passage related by the fictional narrator Larry Livingston, a thinly veiled caricature of Jesse Livermore, about how one punter after another in the office is trying to get the market to pay for a fine fur coat. And surely enough, each gets his head handed to him in turn until the office manager begs Mr. Livingston to win the coat already to prevent further destruction.

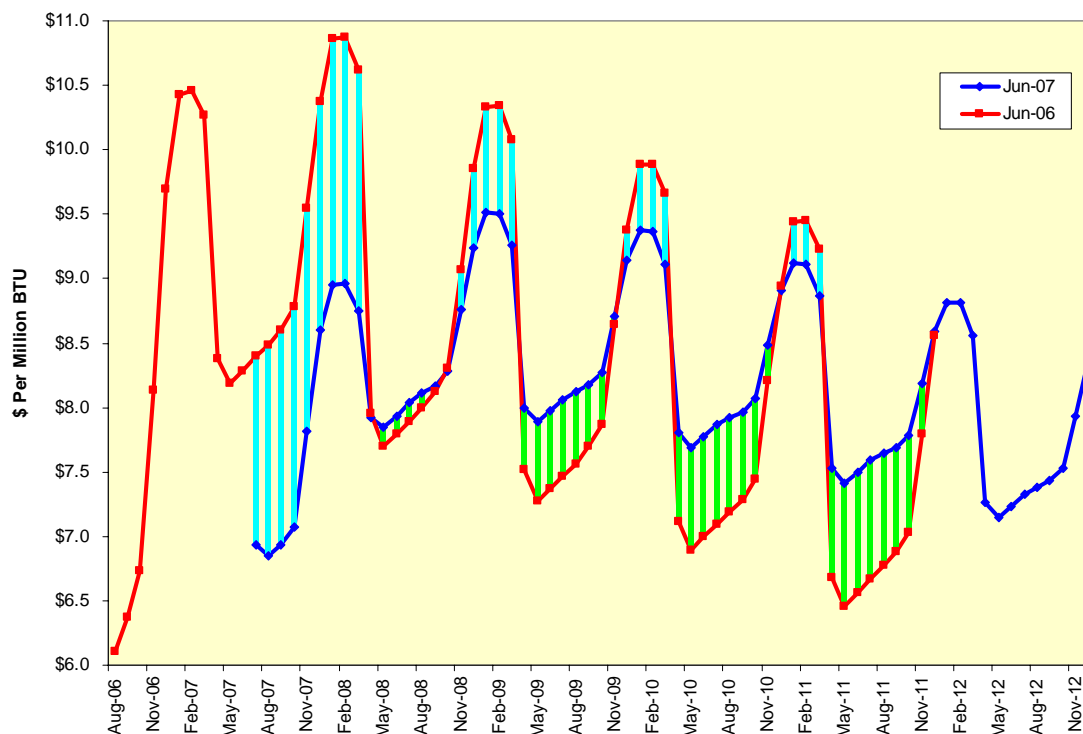
Natural gas trading provides the timeless parallel. It matters not whether the name on the door reads Enron, Ritchie Capital, MotherRock, Amaranth, Bank of Montreal or some anonymous small trader, keep trading natural gas long enough and you will be carrying your head around in a hat box. Commodities are not pretty.

Changes In The Curve

Let's update an analysis from May 2006 on natural gas, the problems it presents to commercial hedgers and its impact on the stock market in general. One of natural gas' distinguishing characteristics is the pronounced seasonality of its forward curve. This is a reflection of both the seasonal heating cycle and the seasonal injections and withdrawals from storage. If we then add the generally declining forward curve characteristic of all extractive commodities, whose place of cheapest storage is in the ground, we have plenty of opportunity for traders to lose as much money on intermonth spreads as on playing the price outright.

Let's compare the forward curve for natural gas today to the one from exactly a year ago. First, note how steep the 2006 curve was from August to January; it rose from \$6.104 to \$10.424. The parallel spread today is \$6.845 to \$8.952. Second, note how while the identical contract months from July 2007 through April 2008 are far cheaper today, highlighted with turquoise bars, the pattern switches over in the summer months of 2009-2011, highlighted with green bars. The market is pricing in lower seasonal swings in those years; whether this ever comes to pass remains to be seen. Finally, while the 2006 curve had a series of declining winter peaks over time, the 2007 curve has winter 2008-2009 prices higher than those for winter 2007-2008.

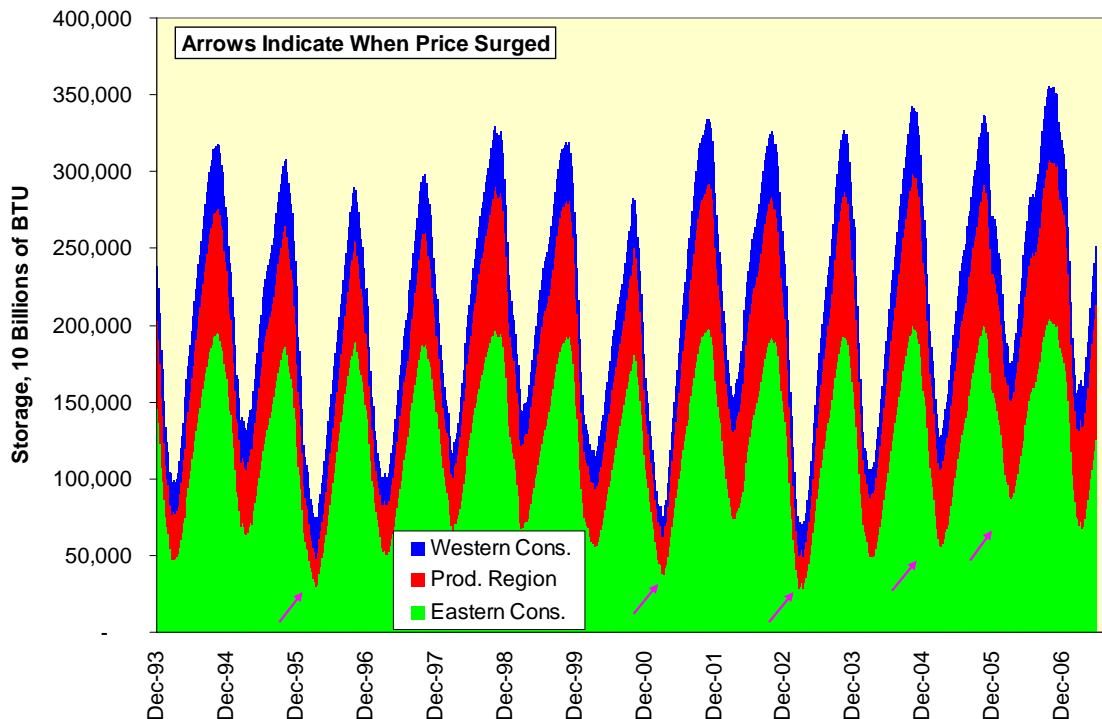
Year-Over-Year Change In The Natural Gas Forward Curve



Of course, all of this can and will change quite literally on a dime. No physical commodity is as price-inelastic as natural gas on both the supply and demand sides. Small changes in weather- or industry-related demand will produce big shifts in price, and as we saw with the 2004 and 2005 hurricane seasons, supply disruptions lead to much higher prices in a very short period of time.

My repeated admonitions to the contrary, many energy traders still focus on the weekly inventory reports. U.S. storage levels for natural gas are broken down into three regions by the Department of Energy, the Producing and both Eastern and Western Consuming regions. Taken together, current storage levels, which had fallen to 82.7% of year-ago levels by early March, have climbed back to 96.1% of year-ago levels. Barring a bad hurricane season, supplies should be adequate going into the winter.

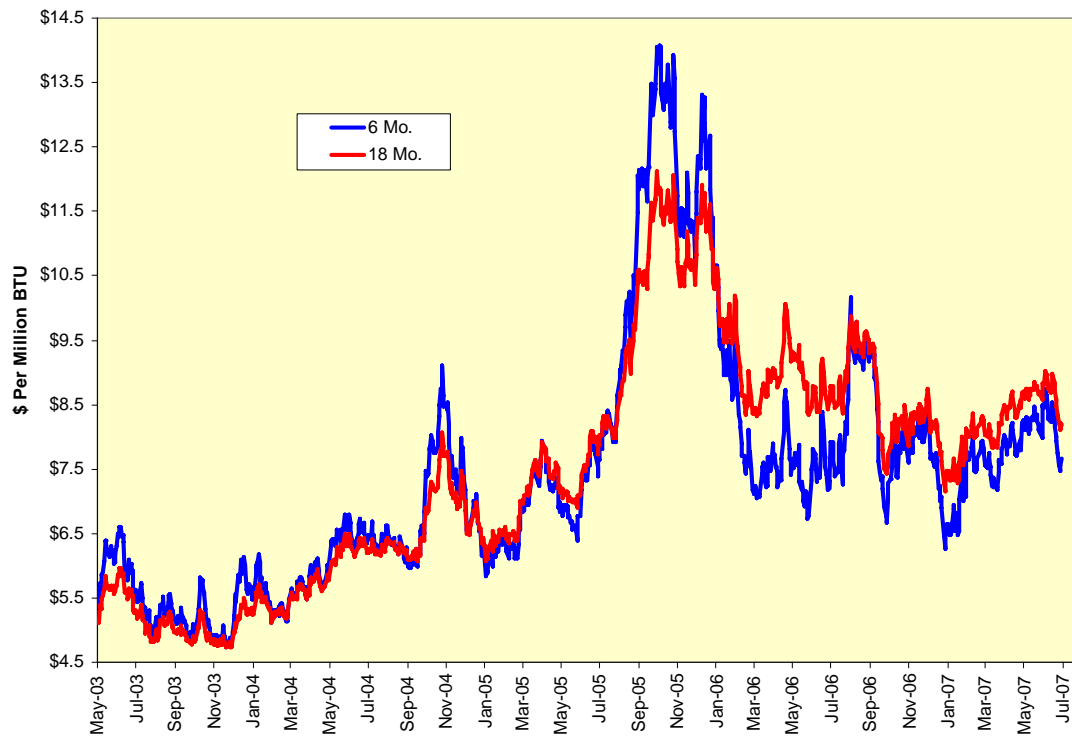
Gas Storage: Injection And Withdrawal Cycle



Strip Prices

While heating demand is very seasonal, industrial demand tends to be more constant. Industrial users focus not on the price of a single month, but on the average of a series of months. While most traders who focus on the front-month future might have thought 2007 was another bearish year for natural gas, the prices for six and eighteen-month strips of natural gas rose fairly steadily through the end of May before turning lower again in June. As natural gas supplies roughly half as much energy in the U.S. as petroleum on a BTU basis, the decline in natural gas strip prices in June represents an offset to higher petroleum prices.

Natural Gas Strip Prices



Industry Group Impact

What is the net industry group impact of natural gas? Let's return to an analysis first introduced in [February 2005](#) on assessing the impact of factor prices on S&P industry groups, and add the twist introduced in [November 2006](#) on weighting these factors by the groups' representation in the index, we can construct a table of groups both helped and hurt by lower natural gas prices at a 90% confidence interval.

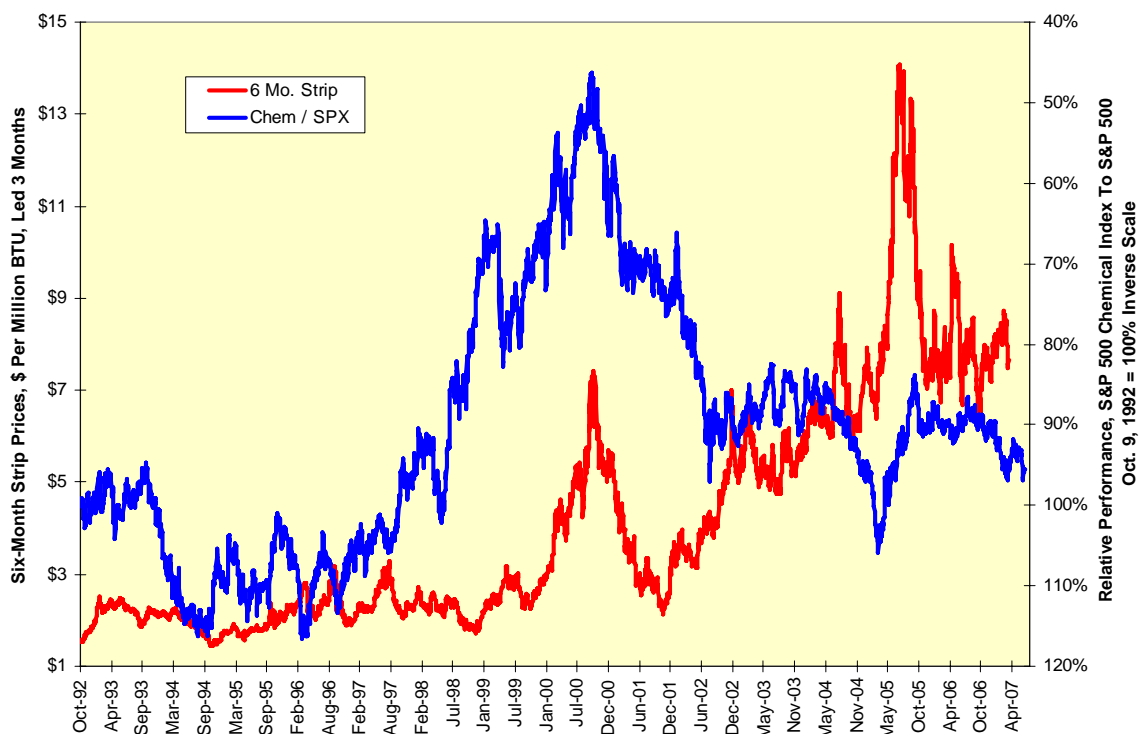
There are 44 industry groups in the S&P 500 accounting for 48.64% of the index' capitalization with a statistically significant negative beta to natural gas; these are the groups helped by lower natural gas prices. If we multiply them by their betas to spot month gas prices, we get a weighted beta of -0.96%. There are 11 groups with a statistically significant positive relationship to higher natural gas prices, accounting for 11.38% of the index' capitalization. Their betas are high, however, giving this set of industries a 1.25% weighted beta for a net weighted beta of 0.29%. On this basis, we have to conclude the partial contribution, that where all else is held equal, of lower natural gas prices is negative for the S&P 500.

Natural Gas Beta-Weighted Impact On S&P 500							
	SPX	NG	Weighted		SPX	NG	Weighted
	Weight	Beta	Beta		Weight	Beta	Beta
Industrial Conglomerates	4.03%	0.027	-0.11%	Integrated Oil & Gas	6.73%	0.089	0.60%
Pharmaceuticals	6.28%	0.015	-0.10%	Oil & Gas Equipment	1.62%	0.156	0.25%
Integrated Telecommunications	3.12%	0.021	-0.06%	Oil & Gas Exploration	1.06%	0.179	0.19%
Diversified Banks	2.11%	0.026	-0.05%	Oil & Gas Drilling	0.50%	0.169	0.08%
Other Diversified Financial Services	4.76%	0.009	-0.04%	Oil & Gas Refining	0.38%	0.154	0.06%
Thrifits & Mortgages	1.36%	0.031	-0.04%	Diversified Metals & Mining	0.23%	0.087	0.02%
Regional Banks	1.66%	0.024	-0.04%	Steel	0.31%	0.065	0.02%
Household Products	1.99%	0.017	-0.03%	Gold	0.13%	0.077	0.01%
Multiline Insurers	1.92%	0.017	-0.03%	Aluminum	0.26%	0.029	0.01%
Hypercenters & Superstores	1.07%	0.030	-0.03%	Construction & Engineering	0.07%	0.029	0.00%
Broadcast & Cable TV	1.14%	0.024	-0.03%	Gas Utilities	0.08%	0.019	0.00%
Drug Retailers	0.75%	0.034	-0.03%				
Soft Drinks	1.66%	0.015	-0.03%				
Tobacco	1.25%	0.020	-0.02%				
Packaged Foods	1.32%	0.019	-0.02%				
General Merchandise Retailers	0.52%	0.047	-0.02%				
Movies & Entertainment	1.69%	0.014	-0.02%				
Home Improvement Retailers	0.98%	0.022	-0.02%				
Air Freight & Logistics	0.90%	0.021	-0.02%				
Property & Casualty Insurers	1.35%	0.014	-0.02%				
Data Processing & Outsourcing	1.00%	0.018	-0.02%				
Consumer Finance	0.96%	0.018	-0.02%				
Department Stores	0.64%	0.026	-0.02%				
Restaurants	0.80%	0.020	-0.02%				
Diversified Chemicals	0.85%	0.016	-0.01%				
Asset Management & Custodial Banks	1.17%	0.012	-0.01%				
Hotels	0.52%	0.023	-0.01%				
Automobile Manufacturers	0.29%	0.039	-0.01%				
Healthcare Distributors	0.45%	0.023	-0.01%				
Internet Retailers	0.22%	0.037	-0.01%				
Computers & Electronics Retailers	0.19%	0.027	-0.01%				
Auto Parts & Equipment	0.17%	0.030	-0.01%				
Publishing & Printing	0.37%	0.012	0.00%				
Environmental Services	0.18%	0.024	0.00%				
Airlines	0.09%	0.037	0.00%				
Personal Products	0.16%	0.020	0.00%				
Leisure Products	0.13%	0.020	0.00%				
Household Appliances	0.17%	0.015	0.00%				
Diversified Commercial Services	0.09%	0.025	0.00%				
Distributors	0.06%	0.030	0.00%				
Photo Products	0.06%	0.028	0.00%				
Commercial Printers	0.07%	0.023	0.00%				
Office Services & Supplies	0.12%	0.011	0.00%				
Healthcare Suppliers	0.03%	0.028	0.00%				
				Subtotal:	11.38%		1.25%
Subtotal:	48.64%		-0.96%	Total:	60.02%		0.29%

The Chemical Connection

Finally, let's update the relative performance of the S&P chemical index to the S&P 500 as an indicator of future natural gas prices. This relative performance measure has a weak three-month inverse leading relationship to natural gas prices; restated, chemical stocks rise or fall in anticipation of weaker or stronger natural gas strip prices. As the chemical sector has been underperforming of late, at least one industry is signaling the price decline in natural gas may be about to end.

Chemical Stocks Not That Sensitive To Natural Gas Prices



I always have, dare I say, speculated how Jesse Livermore would have traded natural gas. This was a man willing to take risk, and he made and lost several fortunes before he blew his brains out in the Sherry-Netherland Hotel in November 1940. But he emphasized the virtues of homework and finding the winning side of a trade. My guess, and that's all it is, is he might have traded the front-month futures outright on a technical basis but left the back months and the intermonth spreads alone.