

Does “Paper Oil” Matter?

Executive Summary

Over the course of the past decade, financial institutions have assumed an ever greater role in energy futures (or “paper”) markets. We provide novel evidence of this “financialization” and show that it helps explain an important aspect of the distribution of energy returns –how much they move in sync with the returns on equity investments.

Key to our analysis is our unique dataset. Investigating which traders contribute to cross-market linkages is empirically difficult, because doing so requires detailed information about the trading activities of *all* market participants as well as knowledge of each participant’s main motivation for trading. We overcome this traditional pitfall by drawing on a comprehensive non-public database of daily individual trader positions in U.S. energy and equity futures markets. The econometric techniques we employ tackle serial autocorrelation and endogeneity issues (due to the possibility that speculation could increase amid high volatility and correlations, rather than the other way around).

Our analysis establishes that, after controlling for macroeconomic and energy-market fundamentals, variations in the composition of the energy futures open interest help explain long-term fluctuations in the strength of energy-equity return linkages. It is not simply changes in energy speculation that help explain the observed correlation patterns. Rather, the explanatory power relates more narrowly to the activities of one type of speculators – hedge funds, especially those active in *both* equity and energy futures markets (which, we find, hold much larger positions than other hedge funds). In contrast, we find that the positions of other categories of energy traders (commodity index traders, in particular) have little explanatory power for equity-energy return correlations.

We find that financial market stress affects energy-equity linkages – in two ways. First, we document that energy-equity return comovements are positively related to our proxy for stress, the TED spread. Intuitively, hedge funds could be an important transmission channel of negative equity market shocks into the energy space. In fact, we

show that the impact of hedge fund activity is reduced during periods of elevated financial market stress.

Second, we show that energy-equity correlations soared in the Fall of 2008 after Lehman Brothers' demise and remained exceptionally high through Spring 2011. Over and above the explanatory power of the TED spread, a time dummy that captures the post-Lehman period (September 2008 to March 2010) is highly statistically significant in all of our model specifications. This finding suggests that the recent crisis is qualitatively different from previous episodes of financial market stress and that this difference is reflected, in part, by an increase in cross-market correlations.

In sum we find that, besides market fundamentals, energy-equity comovements are positively related to greater energy market participation by speculators in general and by hedge funds in particular – especially by those that trade in multiple markets. The impact of hedge fund activity, however, depends on overall market conditions. In particular, it is weaker during periods of market turmoil.