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The J.P. Morgan Center for Commodities is the sponsor of Global Commodity Issues eJournal. The Center was set up at the University of Colorado Denver in 2012 with large sponsorship gifts from J.P. Morgan, CoBank and other major commodities firms in agriculture, minerals/metals and energy. It is the first academic center of its kind in the world focused on issues of academic and professional interest in commodities, with the creation and dissemination of relevant knowledge having broad implications across the entire range of commodities. The Center sponsors academic programs with commodities specialization for students, allocates research grants, and invites speakers from amongst eminent academics and commodity professionals through its various sponsored speaker series.
We examine the information content of the CBOE Crude Oil Volatility Index (OVX) when forecasting realized volatility in the WTI futures market. Additionally, we study whether other market variables, such as volume, open interest, daily returns, bid-ask spread and the slope of the futures curve, contains predictive power beyond what is embedded in the implied volatility. In out-of-sample forecasting we find that econometric models based on realized volatility can be improved by including implied volatility and other variables. Our results show that including implied volatility significantly improves daily and weekly volatility forecasts, while including other market variables significantly improves daily, weekly and monthly volatility forecasts.

"Price and Volatility Transmissions between Natural Gas, Fertilizer, and Corn Markets":

We investigate the price and volatility transmission between natural gas, fertilizer (ammonia), and corn markets, an issue that has been traditionally ignored in the literature despite its significant importance. Using a Vector Error Correction Model for the conditional mean equation and a Multivariate Generalized Autoregressive Heteroskedasticity model for the conditional volatility equation, we find significant interplay between fertilizer and corn markets, while only a mild
linkage in prices and volatility exist between those markets and natural gas during the period 1994-2014. There is not only a positive relationship between corn and ammonia prices in the short-run, but both prices react to deviation from the long-run parity. Furthermore, the lagged conditional volatility of ammonia prices positively affects conditional volatility in the corn market and vice versa. This result is robust to a specification using crude oil price as an alternative to natural gas price to account for the large transportation cost built into ammonia prices. Results for the period of 2006-2014 indicate virtually no linkage between natural gas prices and those of fertilizer and corn during that period, while linkages in price level and volatility between the latter remain strong. This article is the first in the literature to comprehensively examine the role of fertilizer on corn prices and volatility, and its relation to natural gas prices.

"Commodity Prices, Growth, and Civil War Revisited"

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Brückner and Ciccone (2010) find that there is a higher probability of the outbreak of civil war in Sub-Saharan Africa following downturns in the international commodity prices of the countries’ main traded commodities. I use R to replicate their results which yields identical estimates but slight discrepancies in the standard errors due to a small sample adjustment, although this doesn’t affect the level of statistical significance. Re-estimating the model using the latest data for 1981-2013 I am unable to find a strong link between commodity price shocks and civil war but do find that economic growth in OECD export countries negatively affects civil war onset.

"Identifying Uncertainty Shocks Using the Price of Gold"

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We propose a new strategy to identify the economic impact of uncertainty shocks in a SVAR. We identify the model using an external instrument, constructed by exploiting variations in the price of gold around selected events. The events capture periods of changes in uncertainty unrelated to other macroeconomic shocks. The variations in the gold price around such events proxy for the magnitude of the uncertainty shocks, due to the perception of gold as a safe haven asset. The proposed approach improves upon the recursive identification of uncertainty shocks as widely used in the literature by allowing for contemporaneous responses of all the variables included in the model. Replicating Bloom (2009), we find stronger effects of uncertainty shocks on the real economy and on the monetary policy rate.

"Forecasting Commodity Currencies: The Role of Fundamentals with Short-Lived Predictive Content"


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Recent evidence highlights that commodity price changes exhibit a short-lived, yet robust contemporaneous effect on commodity currencies, which is mainly detectable in daily-frequency data. We use MIDAS models in a Bayesian setting to include mixed-frequency dynamics while
accounting for time-variation in predictive ability. Using the random walk Metropolis-Hastings technique as a new tool to estimate our class of MIDAS regressions, we find that for most of the commodity currencies in our sample exploiting this short-lived relationship yields to statistically more precise out-of-sample exchange rate point and density forecasts relative to the no-change benchmark. Further, the usual low-frequency predictors, such as money supplies and interest rates differentials, typically receive little support from the data at monthly forecasting horizons. In contrast, models featuring daily commodity prices are highly likely.

"On the Economic Sources of Commodity Market Volatility"

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We analyze the effect of macroeconomic and financial uncertainty on the volatility of the aggregate commodity market and of major commodity groups. We find that inflation uncertainty bears some predictive power for commodity market volatility. Moreover, financial variables associated with credit risk and equity market stress are important determinants of commodity market volatility especially after the financialization of commodity markets. Finally, we document for the first time that the equity variance risk premium is a particularly strong predictor of commodity futures volatility.

"Non-Convergence in Domestic Commodity Futures Markets: Causes, Consequences, and Remedies"

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During most of 2005-10, the price of expiring U.S. corn, soybeans, and wheat futures contracts settled much higher than corresponding delivery market cash prices. Because futures contracts at expiration are commonly thought to be equivalent to cash grain, this commodity price non-convergence appeared inconsistent with the law of one price. In addition, sustained non-convergence concerns market participants, exchanges, and policymakers because it can make hedging less effective, send confusing signals to the market, threaten the viability of a contract, and ultimately lead to a misallocation of agricultural resources. This report summarizes prominent theories that have been offered to explain non-convergence, including a new model that explains how the structure of a competitive delivery market can generate a positive expiring basis. The data support this delivery market theory over alternative explanations. Finally, we discuss various policy levers that have been offered to address non-convergence, as well as their likely impacts.