



Chinese Inventories to Equities

Friday, March 2nd, 2018

In a previous case study, we examined the relationship between Ursa China inventory data, specific to the INE published delivery locations, and Dubai crude oil price. We showed that the inverse relationship between these two data sets offers some forecasting value. Now, we will take that a step further and discuss the connection between a Chinese energy ETF, the CHIE, Dubai price and ultimately to Ursa measured inventories. The CHIE consists of a variety of energy related stocks in China, and is tradable on the NYSE.

First, we revisit the Dubai crude price and compare it to the CHIE. We see that these data sets have a correlation of 0.725:

Ursa INE Inventories (Mbbbls) vs. CHIE ETF



As a result of the high correlation between Ursa inventory data and Dubai prices as well as the correlation between Dubai prices and the CHIE, we can demonstrate a strong relationship directly between Ursa inventory data and the CHIE. The correlation between these data sets is 0.688:

Dubai Price vs. CHIE ETF





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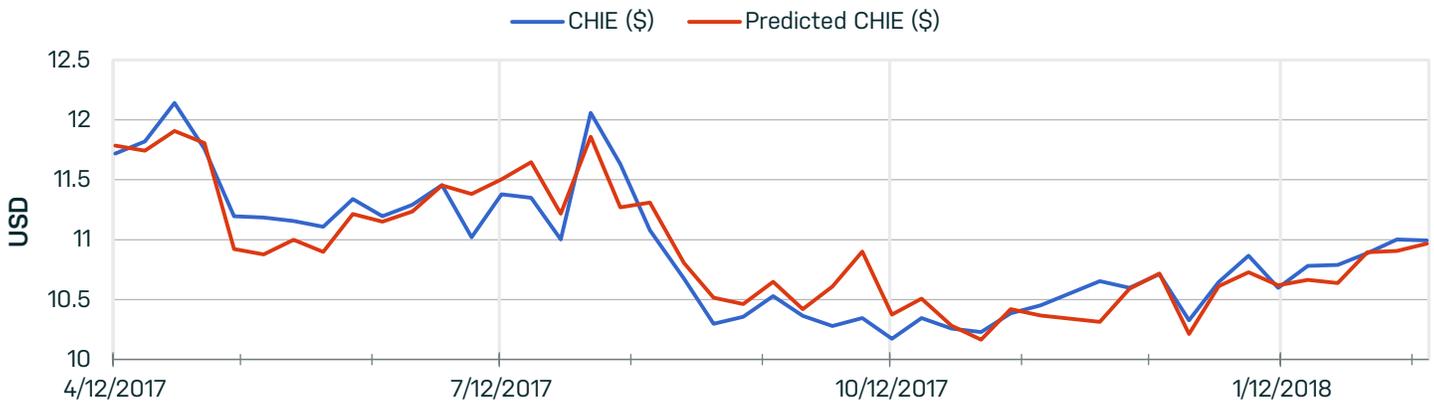
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Forecasting with Inventories & Oil Price

Putting these independent analyses together, we can create a multiple linear regression model with the dependent variable being the CHIE and the independent variables being the Ursa inventory data and Dubai oil prices. This multiple regression accounts for 86.3% of the variation in the CHIE, which clearly shows that Ursa inventory data and Dubai oil prices can be used to forecast the price of the CHIE.

The correlation between the predicted values from the regression model and the actual values is 0.929, which confirms our notion for strong predictive capabilities from the combination of Ursa data and Dubai oil prices. When using this model, we achieved a 66.6% success rate on correctly predicting the direction of price movement. The chart between the predicted and actual CHIE values from the model is shown below:

Multiple Linear Regression Forecast for CHIE (Ursa INE Inventories + Dubai Price)



To summarize, in our previous analysis we showed a strong correlation between Ursa inventory data and Dubai oil prices. In this study, we were able to look at the strong positive correlation between Dubai prices and the CHIE. This led to our expectation

that Ursa data would be strongly negatively correlated to the CHIE, which turned out to be true. As a result, we were able to combine the Ursa inventory data and Dubai prices to effectively forecast the price of the CHIE through a multiple linear regression model. This

analysis indicates the reliability and predictive capabilities of Ursa inventory data within the domain of the energy equities markets. Using Ursa inventory data, energy equities traders can stay ahead of the curve by forecasting ETF prices such as the CHIE.

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