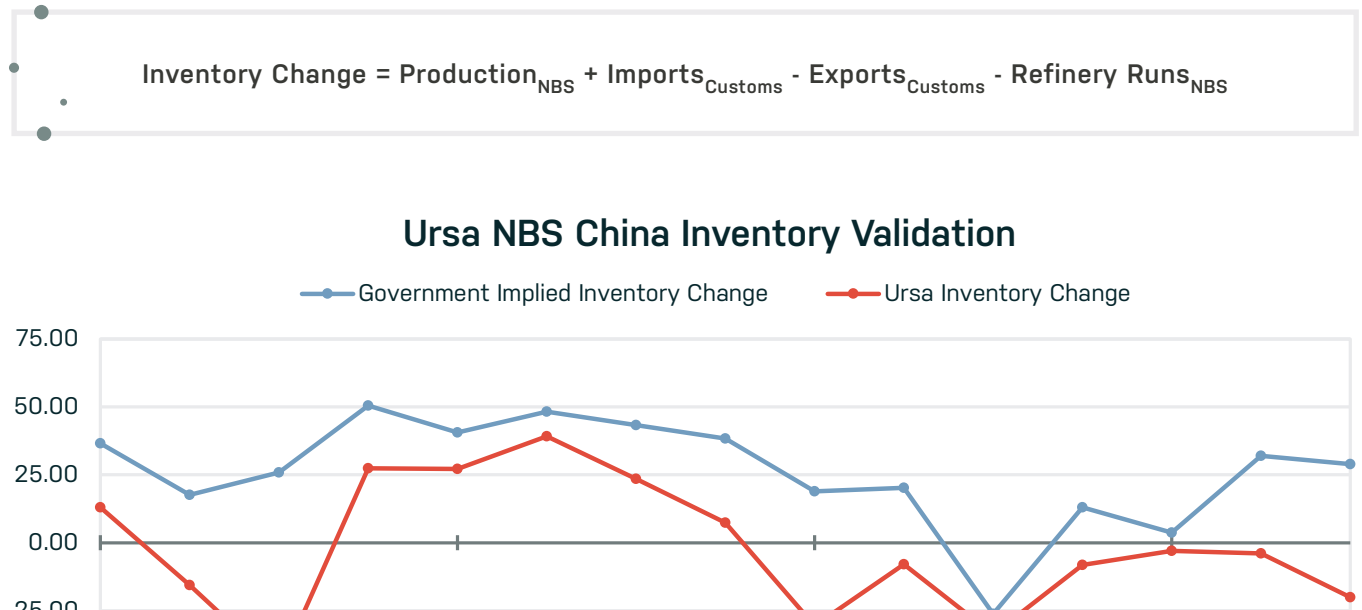
NBS Implied Storage Correlation

Friday, February 9th, 2018

Forecasting Chinese Inventory Change with Ursa's Data

Ursa currently measures 75% of floating top crude inventories in China each week. By comparing these measurements and observing their correlation with official government data (NBS/Customs), we can validate our data. We calculate implied monthly inventory change using the following equation:

$$\text{Inventory Change} = \text{Production}_{\text{NBS}} + \text{Imports}_{\text{Customs}} - \text{Exports}_{\text{Customs}} - \text{Refinery Runs}_{\text{NBS}}$$



Key Changes

In Jan/Feb '17, NBS data on Production and Runs was constant for the Chinese New Year. This causes a discrepancy in the correlation in those months.

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Since Mar '17, when Ursa's coverage surpassed 70%, the correlation between NBS and Ursa data has been 0.859.

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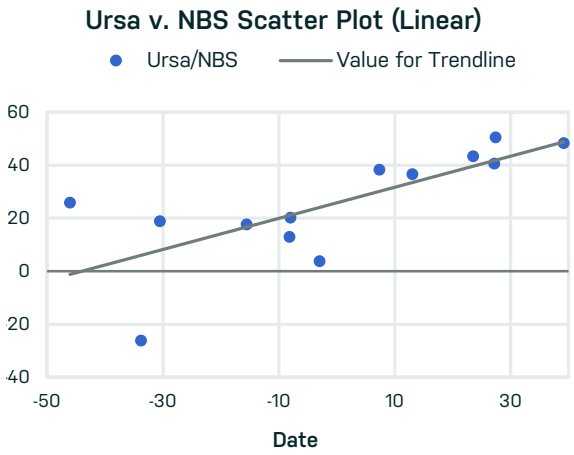
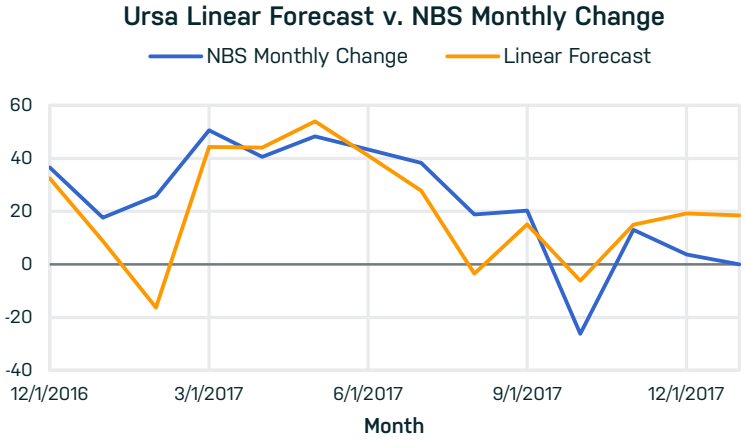
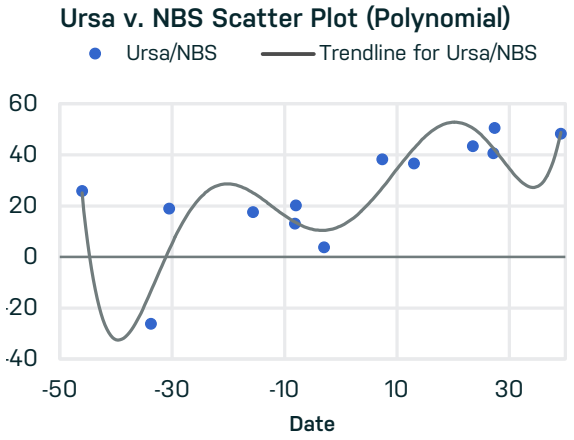
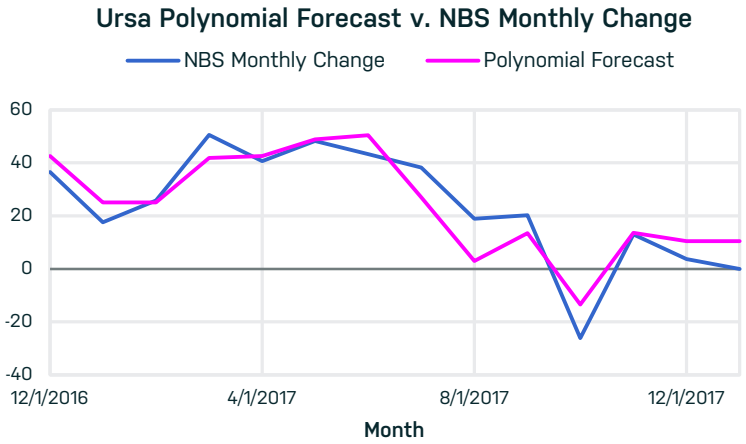
Given the strong relationship between Ursa data and NBS data, our customers can confidently build a forecasting model to predict future NBS inventory change. By Utilizing a linear regression forecast model based on the scatter plot (left), we demonstrated its results in the comparison graph (right). This model correctly predicted the direction of NBS monthly inventory change in 10 of 12 months and has a correlation of 0.729.





The following model correctly predicted the direction of NBS monthly inventory change in 12 out of 12 months.





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