

Natural gas storage forecasts: Is the crowd wiser?

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Executive summary

Inventory information is critical for natural gas market participants because it measures directly the supply and demand fundamentals. The more accurate this information is, the more investors can either hedge the price movements triggered by news releases or speculate on it. In this regard, professional analyst forecasts (e.g. Reuters, Bloomberg, etc.) play a key role in helping market participants predict the weekly U.S. Energy Information Administration's (EIA) natural gas storage changes.

A recent development in the market is the emergence of crowdsourced forecasts that intend to compete with those of professionals. Online platforms such as *Estimize* aggregate forecasts for economic indicators and earnings estimates across developed and major emerging markets. While Estimize has been providing crowdsourced forecasts for the EIA Natural Gas Storage report since the first quarter of 2014, it is unclear whether natural gas market stakeholders can benefit from considering such information on top of forecasts provided by professional analysts.

We examine the usefulness of crowdsourced relative to professional forecasts for natural gas storage changes. We employ several measures of forecast accuracy and find that, on average, crowdsourced forecasts are less accurate than those of professionals. Investigating market reactions (price, volume and volatility) to the accuracy of consensus forecasts, we document an absence of market reaction to the Estimize consensus forecast when controlling for Reuters. Our findings therefore indicate that crowdsourced forecasts do not add information to natural gas stakeholders beyond what is already contained in professional analyst forecasts.

We offer three factors for the above findings: (1) greater divergence of opinions among crowd analysts, (2) lower incorporation of publicly available information in crowdsourced relative to professional forecasts, and (3) a greater need for social-recognition that leads crowd analysts issue more extreme forecasts. These factors point toward anti-herding behavior which we found more apparent among crowd analysts than professionals and help explain the accuracy gap between crowdsourced and professional forecasts.

For practitioners, our results suggest that crowdsourced forecasts are unlikely to help them better predict the EIA's natural gas storage announcements. However, since we find that the gap in forecast accuracy between Reuters and Estimize forecasts narrows over time, we do not rule out the possibility that, once crowd platforms have become more mature, crowdsourced forecasts may offer a useful incremental source of information and even outperform professional forecasts. Yet, this is not what we observe over our sample period.

Keywords: Analyst; Forecast; Crowdsourcing; Natural Gas Inventory; EIA.

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