

# News Media and Attention Spillover across Energy Markets: A Powerful Predictor of Crude Oil Futures Prices

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Crude oil is one of the most important commodities globally as it goes into the production of gasoline, jet fuel, and many other petroleum products and chemicals. As an essential source of energy, it also plays a prominent role in the economic activities of nations worldwide. Therefore, the question about oil price driving factors has attracted considerable attention since a reliable forecast of oil prices is of great interest to various stakeholders. However, with the financialization of oil commodities since the early 2000s, the underlying forces that drive oil prices have become more complex, making the information from fundamentals insufficient. Thus, oil price forecasting is now more challenging than ever.

Within this context, our study aims to assess the role of investor attention in forecasting crude oil futures contract prices. However, unlike many other studies, we focus on not retail but institutional investor attention due to their better-informed characteristics and superior information processing skills. In doing so, we employ the news trends function of the Bloomberg terminal and collect the news counts, which may carry information about oil prices and commodity market prices in general. We then construct an oil-based and a commodity-based institutional attention index (OIAI and CMIAI, respectively) from the news counts data and utilize them for predicting oil price futures returns while controlling for several macroeconomic variables such as economic activity and global crude oil production.

The empirical evidence shows that OIAI and CMIAI can significantly predict oil futures returns, even after controlling for supply and demand conditions and common macroeconomic predictors. Their prediction success is better for short-term maturity futures contracts than long-term ones. We also obtain the best forecasting performance when using both attention indices together. Moreover, including attention indices related to OPEC news is helpful only when forecasting longer horizons such as one year. In most cases, attention indices related to green energy markets do not improve forecasting performance. Finally, our analysis on the interaction between crude oil's implied volatility and institutional attention shows that the effect of investor attention on oil futures prices is regime-dependent. In particular, the significant predictive power of our institutional attention indices comes into play when the crude oil market is in the excess volatility phase.

Our study contributes to the related literature by (i) constructing a new and direct measure of institutional investor attention using Bloomberg terminal's news search function, thus complementing the investor attention literature that only focuses on retail attention measured by Google search volume to predict oil prices and (ii) capturing the multiple dimensions of investor attention by using news counts on topics such as carbon & environmental markets and OPEC announcements, thus identifying which news content is more predictive power for oil future returns.

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