

Referee report on MS 1717

What drives long-term oil market volatility? Fundamentals versus speculation

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Summary: The paper employs the GARCH-MIDAS methodology to analyze the effects of oil price shocks on long-term oil market volatility. In a first step, oil supply, aggregate demand, oil specific and speculative demand shocks are identified using sign restrictions. In a second step, GARCH-MIDAS models are estimated for each type of shock and the full as well as two subsamples. A major finding is that aggregate demand shocks have a positive and significant effect on long-term volatility.

General comments: Although the paper addresses an interesting topic, I do not think that it meets the criteria for being publishable in a refereed journal at the current stage.

1. The paper still contains many typos and is overall not well written.
2. The interpretation that λ measures the effect of the various oil price shocks on short-term volatility is not meaningful. The term $\alpha + \gamma 1_{\{r_{t-1}-u < 0\}}$ simply represents the potentially asymmetric effect on short-term volatility of positive and negative “shocks” given by $g_{i-1,t} \varepsilon_{i-1,t}^2$. However, these shocks have no structural interpretation and are unrelated to the structural shocks X_t that enter into the long-term component. Also note that the short-term volatility is driven by daily $g_{i-1,t} \varepsilon_{i-1,t}^2$ “shocks”, while long-term volatility is due to monthly structural shocks. This observation questions all findings related to the effects of the various oil price shocks on *short-term* volatility provided in Section 4.
3. The statement on P.5 that “the larger w_1, w_2 , the faster the decay” is not correct. The Beta weighting scheme allows for hump-shaped weights.
4. The actual estimation of the structural shocks is not properly explained.
5. Instead of estimating a GARCH-MIDAS model for each typ of oil price shock separately, it would be more intuitive to estimate a single model including all types of shocks at the same time. This is would also greatly simplify the interpretation and comparison of the results regarding each typ of shock.