Oil Market Stabilization: The Performance of OPEC and Its Allies

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The two main contributions of our analysis are (1) measuring the extent to which cooperation provided by non-OPEC oil producers (the Allies) impacted OPEC's ability to stabilize prices, and (2) assessing the extent to which OPEC+ was able to offset the unprecedented demand shocks related to COVID-19.

Both contributions are achieved via the specification and maximum-likelihood estimation of a structural model of the interaction between OPEC and its Allies — those countries who joined with OPEC at the end of 2016 in the attempt to stabilize the market. Our analysis extends from September 2001 to August 2021, which is an eventful interval that allows us to contrast the implications of cooperative and non-cooperative behavior on the part of the Allies, and to compare OPEC/OPEC+'s success in stabilizing prices before and during the pandemic.

Based on the estimated model, we construct three counterfactual scenarios that distinguish the stabilizing impact of OPEC's own production decisions from that of its Allies. Consistent with previous results, we find that OPEC substantially reduced oil price volatility during the Commodity Boom period but did not attempt to mitigate volatility during the Market Share Campaign.

We show that OPEC+'s management of spare capacity halved price volatility during both Pre-Pandemic and Pandemic periods.

We also find that, although the Allies' actions helped to decrease volatility during the Pandemic Period (albeit by a small amount, and with OPEC's own actions helping to reduce volatility by three times as much), the actions of the Allies had no discernable impact on volatility prior to the pandemic.

In addition, we find that since its inception, OPEC+'s management of spare capacity has increased the average price of oil by $8.80 per barrel (January 2017 through August 2021), but with the Allies' actions in particular responsible for no more than $1.40 of this amount.

However, the Pre-Pandemic and Pandemic Periods differ fundamentally in this regard: OPEC+'s management of spare capacity barely impacted the average price before the pandemic began, but, by countering the price collapse caused by the pandemic demand shock, lifted the average price by $35.70 from May 2020 through August 2021.

Our model embeds two different versions of OPEC's behavior (price stabilization versus defense of market share), as well as the possible cooperation of Allies, in a unified formulation. Despite these substantial extensions to the model and the addition of 7 years of monthly data, the new parameter estimates remain consistent with previous results. This stability of the estimates tends to challenge the opinion of many authors against the ability to maintain a consistent model of OPEC's behavior over extended periods of time.

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