

# The influence of OPEC+ on oil prices: A quantitative assessment

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The advent of US shale oil has substantially changed the structure of global oil production. The emergence of the US as a dominant market player has had profound implications for the strategic behaviour of other oil producers; in particular for those coalesced in the Organization of Petroleum Exporting Countries (OPEC). Whereas OPEC, which includes large producers like Saudi Arabia, Iraq, Iran and the United Arab Emirates, has gradually lost market shares for the past ten years, US producers have been able to double their oil market shares over the period. The US is by now not only the largest oil producer in the world, it has also become an oil exporter, after a ban that prevented US firms to sell oil abroad was lifted in December 2015. In an attempt to regain some control over crude prices, OPEC and a number of other non-US oil producers forged an alliance in 2016, known as OPEC+. Among non-OPEC members, this coalition includes large producers like Russia, Mexico and Kazakhstan. The strategy adopted by OPEC+ consists of setting explicit production targets for each member with the aim of bringing oil inventories down to their 2010-2014 average.

In March 2020, the OPEC+ agreement was shaken by the Covid-19 shock. As mobility collapsed due to containment measures adopted on a global scale, demand for oil and the price of crude tumbled. When OPEC, in particular its unofficial leader Saudi Arabia, suggested the implementation of further production cuts to lift the price of crude, Russia refused to cooperate, arguing that US producers would gain the most from new efforts to prop up prices. The standoff between Saudi Arabia and Russia lasted more than a month and contributed to exacerbating a supply glut of historical proportions. Eventually a new agreement was reached and a new round of production cuts agreed upon, but this episode showed vividly how the oil market balance is crucially intertwined with the effectiveness of the OPEC+ coalition in influencing prices.

Our paper assesses the impact of the OPEC+ coalition on the price of oil between January 2017 and January 2020, intentionally excluding the period affected by the Covid-19 shock. Understanding the impact of the OPEC+ agreement is not only relevant for the members of the alliance as even small changes in oil prices will have significant effects on revenues earned on oil exports. This matters also from a global perspective as supply-driven oil price changes affect global economic growth.

Using structural vector autoregressive (SVAR) models we construct counterfactual scenarios that allow us to quantify how oil production and the price of oil would have evolved, had the OPEC+ agreement not been in place. The empirical strategy consists of computing a counterfactual path of global oil production assuming that all the fall in the production of OPEC+ after December 2016 can be attributed to an exogenous shift in their oil supply. Our counterfactual path of oil production is then constructed assuming that OPEC+ would have kept production steady at the level recorded before OPEC+ started implementing production cuts in line with the agreed upon targets. To evaluate the effects of these production cuts on the price of crude, we use two complementary specifications in our SVAR models. The first is a small model in which we pool together OPEC+ production with that of other producers. In the second specification, we split the production of

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OPEC+ from that of the rest of the world, allowing for strategic interactions between these two large oil producing blocks.

We find that the impact of OPEC+ on the price of crude oil varied over time, together with the cohesion of the coalition, and that it was overall quantitatively modest. Averaging over the whole period under analysis, our results indicate that the price of oil would have been around 4 USD per barrel lower, had OPEC+ not cut production. It would have taken a much deeper cut in oil production and a much stronger cohesion to achieve the ambitious target that the coalition had set for itself. Nevertheless, the economic consequences of the OPEC+ agreement for its members were not negligible. Given their crude production, the gains in export revenues due to higher crude oil prices account for about 8-10 billion US dollar per year for the two largest OPEC+ members Saudi Arabia and Russia.