

The U.S. Oil Supply Revolution and the Global Economy

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This paper investigates the global macroeconomic consequences of the U.S. oil revolution in terms of its effects on real output, oil prices and financial markets. We integrate an oil price equation, which takes account of developments in the world economy as well as the prevailing oil supply conditions, within a compact model of the global economy (first advanced by Pesaran et al. (2004), known as the Global VAR) to study the global macroeconomic implications of the U.S. oil revolution. This approach enables one to analyze the international macroeconomic transmission of shocks, accounting not only for the direct exposure of countries to the shocks but also the indirect effects through secondary or tertiary channels. To distinguish the U.S. oil revolution from other supply shocks, such as disruptions caused by geopolitical tensions in the Middle-East, and oil-demand shocks in general, we employ a set of sign restrictions on the impulse responses of our model.

The results indicate that oil importers typically face a long-lived rise in economic activity (ranging between 0.04% and 0.95%) in response to a U.S. supply-driven fall in oil prices, however, the impact is negative for energy-exporters (being on average -2.14% for the GCC, -1.32% for other Middle East and North Africa (MENA) oil exporters, and -0.41% for Latin America), mainly because lower oil prices weakens domestic demand as well as external and fiscal balances in these countries. Furthermore, our results suggest that oil revenue shocks (such as those from the low oil price environment we are currently experiencing) have a large, long-lasting and significant impact on these economies' growth paths operating through the capital accumulation channel.

Negative growth effects (albeit smaller) are also observed for energy-importers which have strong economic ties with oil exporters, through spillover effects. In particular, for most oil-importers in the MENA region, gains

from lower oil prices are offset by a decline in external demand/financing by MENA oil-exporters given strong linkages between the two groups through trade, remittances, tourism, foreign direct investment and grants. These economies on average experience a fall in real output of about 0.28%. For this group, low pass-through from global oil prices to domestic fuel prices limits the impact on disposable incomes of consumers and profit-margins of firms, and thereby contains the positive effect on economic growth in these countries.

Moreover, in response to a positive U.S. oil-supply disturbance, almost all countries in our sample experience long-run disinflation pressures and an increase in equity prices (apart from commodity-exporting nations). Overall, our results suggest that following the U.S. oil revolution, with oil prices falling by 51% in the first year and rebounding somewhat to 45% in year two below the pre-shock levels, global growth increases by 0.16 - 0.37 percentage points. This is mainly due to an increase in spending by oil importers which exceeds the decline in expenditure by oil exporters.

The sensitivity of MENA countries (both oil exporters and importers) to oil market developments raises the question of which policies and institutions are needed in response to such shocks. While countercyclical fiscal policies (using existing buffers) are key to insulate the exporters from commodity price fluctuations, the other priority for commodity exporters should be to enhance their macroeconomic policy frameworks and institutions (such as more autonomy in conducting the monetary and exchange rate policies). Oil importers in the region should not overestimate the positive impact of the decline in oil prices on their economies given considerable uncertainty about the persistence of lower oil prices and the availability of external financing and weak demand growth in oil-exporting trade partners. For the MENA countries the current low oil-price environment provides an opportunity for further subsidy and structural reforms.

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