World oil prices have multiple effects on an energy-exporting economy

World oil price volatility affects the economies of the Organization of Petroleum Exporting Countries as well as their non-OPEC counterparts, but little attention is paid to non-OPEC economies, which don't have a formal bloc to lobby for them.

But non-OPEC energy exporters have taken a more significant role as oil demand has increased since the late 1990s. OPEC is no longer the main exporter, and the increased demand for oil, due in part to the rapid economic development of India and the People's Republic of China, has led to a greater diversification of suppliers.

Research by the Asian Development Bank Institute looks at one of the largest non-OPEC oil-exporting countries, the Russian Federation.

Energy price volatility is an important cause of macroeconomic fluctuations, but it also affects fiscal policy, meaning government budget policy, and monetary policy of different economies. When oil prices increase, an exporter enjoys larger capital inflows in the form of foreign currency, mostly US dollars, by which oil trades. This leads to the appreciation of the local currency against the dollar, which causes a decline in the price of imported goods.

In such countries, imported goods constitute a large part of consumer goods, so prices within the country decrease, and there is deflation, which spills over into interest rates.

Oil price fluctuations also have an effect through the fiscal channel through government budget policy. Export of energy resources is heavily taxed and these taxes can account for up to 45% of budget revenue. When there is an oil price increase, the energy-exporting country will have a fiscal surplus. The government can increase its spending, which eventually leads to an increase in GDP. But a drop in oil prices puts severe pressure on the government budget and has economic ramifications. Fluctuations in the highly volatile world oil market entail risks for energy-exporting countries and it is wise for policy makers to anticipate them.

In Russia, monthly economic data from January 1993 to December 2016 reveals the link between oil prices and the macroeconomic fundamentals such as GDP growth, the inflation rate, the exchange rate of the ruble against the US dollar, and the short-term interest rate.

The data analysis shows that fluctuations of the world market oil price had a strong effect on the Russian economy starting from the late 1990s. The economy started to recover from the financial crisis of 1998 and, from the early 2000s, the new government started to implement pro-growth reforms. But the main factor was the tripling of world oil prices by the end of 1999, resulting in a significant export surplus and giving a major boost to government budget revenue.

In the late 1990s, the reliance on energy export revenue increased, and with it the vulnerability to oil price changes. The beginning of 2000 marked a structural break in Russia's economic history. The analysis shows links between oil prices and economic variables were insignificant from January 1993 to December 1999. But starting from late 1999 and early 2000, the economic variables show significant responses to the oil price shock of that period.

The dependence on, as well as the vulnerability to, oil price movements appears clearly. When oil prices experience a positive shock, the budget revenue, and with it investment opportunities, increase, which stimulates output.

Data analysis shows that the inflation rate, the interest rate, and the exchange rate all dropped in the wake of the oil price shock. The exchange rate between the ruble and the US dollar is directly and immediately affected by oil prices. Foreign reserves of the oil-exporting country are boosted when prices rise, and this results in the appreciation of the domestic currency.

Russia, like most oil-exporting countries, is a large goods importer, and the exchange rate is crucial because it directly affects the economy through inflation and the interest rate channel. The exchange rate makes imported consumer goods cheaper, so domestic inflation declines.

Data analysis shows that the effects of dependence on the oil price movements are strongest on the exchange rate, then on the interest rate, then on inflation, and finally on

GDP growth. This shows the importance of the oil sector for the economy and its vulnerability to shock in oil prices on the world market. A decline in world oil prices leads to significant macroeconomic deterioration.

It is important to consider the impact of oil price movements on the monetary policy. In Russia, the main monetary policy instrument is the short-term interest rate. One of the important questions is whether the central bank adjusted the interest rates in response to movements of inflation and variations in GDP growth.

Evidence from 2008 to 2016 shows that the central bank increased the interest rate to keep inflation in check. But the appreciation of the domestic currency, consecutive to the oil price increase, had a negative effect on the interest rate.

This model focusing on Russia can be applied to other non-OPEC energy exporters—such as Azerbaijan, Kazakhstan, and former OPEC member Indonesia, for instance—if a data sample is obtained. Monetary authorities have to be aware of possible unexpected oil price movements when determining policies.

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