Commodity Price Dynamics and Geopolitical Tensions: Further Evidence of Multiple Shocks

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Abstract

This note analyses the dynamics of the commodities market in the context of high inflation and the Russia-Ukraine war. To this end, we first analyze the dynamics of the commodities market in the aftermath of COVID-19 in relation to two types of shocks: a demand-side sock and a policy shock. Second, we discuss the impact of the Russia-Ukraine war on commodities with reference to a supply-side shock. Third, we comment on the consequences of the present geopolitical instability on the real economy. We then analyse the challenges associated with the ongoing sanctions imposed on Russia by the US and the EU. Finally, we discuss current central bank policies and put forward some projections.

1. Commodity Price Dynamics in the Context of COVID-19: A dual shock

The coronavirus pandemic had a significant impact on several developed and emerging economies and led to a number of commodity disruptions, resulting in a serious economic contraction in 2020. Even some oil exporting developing countries were impacted by the downturn in oil prices. The benchmark price for US crude oil, the West Texas Intermediate, for instance, briefly turned negative for the first time in history in April 2020. The impact of COVID-19 on commodity markets was exacerbated by two shocks. On the one hand, there was a demand shock as the pandemic led to a fall in international demand for oil, which was magnified in 2020 with the decline in demand for oil by China, resulting in a massive fall of around 85% of oil consumption. Indeed, most people travelled less often and used their cars less, while energy intensive industries cut production, etc. On the other hand, there was also a political shock triggered by at least two factors; first, the failure of the meeting between Russia and Saudi Arabia to unanimously cut oil production, pushing both countries to increase their output and to flood the international crude oil market. Second, the imposition of multiple lockdowns, restrictions, and secure distancing measures reduced demand for oil, again causing oil prices to drop and collapse.

2. The Russia-Ukraine War and Commodity Prices: A Supply Shock

In February 2022, Vladimir Poutine decided to invade Ukraine, triggering a war between the two countries that has been headline news for nearly eight months now. The ongoing war has led to considerable geopolitical instability and significant market instability, with serious consequences for commodity prices, like metals and foodstuffs. Indeed, while Russia is not only a major gas producer, but also one of the top three crude oil producers in the world, competing with Saudi Arabia and the United States, Ukraine is a leading producer of wheat. Accordingly, the war in Ukraine has profoundly disrupted grain deliveries, energy sectors, and even metals such as palladium or nickel (https://www.oecd.org/ukraine-hub/policy-responses/the-supply-of-critical-raw-materials-endangered-by-russia-s-war-on-ukraine-e01ac7be/).

In this case, it has prompted a supply shock, leading to massive energy inflation (in March 2022, the two main oil benchmarks, WTI and Brent, rose above $110), although this remains dependent on the commodity under consideration. In effect, the oil market is more of a global market that can absorb such a supply shock (Hamilton, 2022). For instance, even if Russia decided to reduce its oil production, it might not seriously impact oil price as such a cutback could be absorbed if Saudi Arabia decided to increase its output.

However, the gas market is more of a local market; it differs from the oil market, not only because its transportation is a delicate operation, but also because Russia is the world's second largest producer of natural gas, just behind the United States, and it has the largest gas reserves in the world. Indeed, according to the latest data available in 2021, Russia produced 762 billion m3 of natural gas and exported about 210 billion m3 via various pipelines. Accordingly, the supply shock caused by the reduction in Russian gas led to excessive volatility in gas prices in Europe. Indeed, in September 2022, following the Russian company Gazprom's decision to cut gas deliveries to European countries via the Nord Stream 1[1] pipeline, gas prices abruptly rose exponentially, reaching 140€/MWh against 20€/MWh before the war. As a result, natural gas prices in Europe have risen by about 127.6% in the six months since the start of the Russia-Ukraine war.[2] Interestingly, the reduction in Russian gas might have serious consequences on countries such as Moldova, Finland, and Estonia which get 100% of their gas supplies from Russia, not to mention Germany whose dependence on Russian gas is around 54%. Indirectly, as we saw recently with the incidents on the North-Stream undersea facilities, geopolitical threats can occur very quickly and cause serious disruptions to infrastructures (https://www.washingtonpost.com/world/2022/09/28/nord-stream-russia-methane-leak-baltic-sea/). Indeed, if Russia totally cut off its gas supply, it could lead to a rapid and serious economic recession for Germany among other countries.

3. The Impact of the Russia-Ukraine War on European Economies

It is important to remember that most European economies had just begun to recover from a serious economic contraction caused by COVID-19. Their public finances are highly vulnerable, with moderate economic growth expected, high public deficits, and an extremely high level of public debt. The unexpected war in Ukraine has affected European economies on several levels. First, it led to a severe global problem of shortages of various commodities and metals and a rapid rise in commodity prices, especially gas, resulting in a sharp drop in purchasing power for householders and significant treasury problems for small and middle-sized businesses due to the increase in production costs and real supply shortages. Consequently, by December 2021, the rate of inflation had jumped to different levels in many European countries: Poland (+8%), Ireland (+6%), Estonia (+12%), Spain (+6%), France (+4%), and Germany (+6%). These inflation rates have continued to increase rapidly in 2022, largely driven by the energy sector. Indeed, according to the European Commission, energy inflation contributed negatively to around 42% of the headline inflation. Europe is also particularly vulnerable with respect to its mechanization infrastructures (https://www.consilium.europa.eu/en/infographics/lng-infrastructure-in-the-eu/).

Second, this high inflation, especially if it lasts, could lead to a reduction in consumption and investment, which would negatively impact economic growth, as the European commissioner for the Economy Paolo Gentiloni and Hamilton (2022) recently noted.

Third, the euro has not been spared by this war and the resulting geopolitical tension. Indeed, the euro has lost much of its value against the US dollar, recently reaching parity with the US dollar, which was its exchange value twenty years ago. Consequently, the ECB needs to take effective action now more than ever, as is expected by some analysts.

4. The Challenge of Sanctions on Russia and the ongoing Central Bank policies

In order to fight against commodity price volatility, various actions have first been implemented with various social measures being introduced by the different governments. For example, from mid-October, France will export gas to Germany and import electricity to help both countries avoid a hard winter. The European Commission has also negotiated alternative plans with other gas producing countries to limit dependency on Russian gas. On March 1, 2022, IEA member countries committed to releasing 62.7 million barrels of emergency oil stocks. Shortly thereafter, on April 1, they agreed to make an additional 120 million barrels available from emergency reserves. Accordingly, diversifying supply sources has become a key strategic issue; even it is not always easy.

Second, to force Russia to stop the war, various economic sanctions have been levied by the US and the European Union. For example, the European Commission published its plan to cut Russian gas imports by about two-thirds by the end of the year. While these sanctions might be helpful, there is still much uncertainty and ambiguity about their real impact. Indeed, following the embargo on Russian fossil fuels imposed by the US and European countries, uncertainty surrounding Russian oil production (and with it, whether or not the OPEC+ group will increase its output) have caused oil prices to rise by an average of $45 per barrel over the past six months. Brent crude hit its highest level since July 2008 on March 3, reaching $139.13 before falling back to $91.50 on August 17. WTI crude oil was trading at $130.50 on March 7, although it had fallen to $85.75 on August 16. This is particularly relevant taking into the recent decision of Saudi Arabia and its allies on Wednesday 05th October 2022 to cut its oil production.

However, it is important to note that sanctions might not be enough and may even be risky. For example, Russia might increase its business with China and India, cancelling out the impact of the economic sanctions. Further, if the European Union fails to find substitutes for Russian gas, it would result in serious provision issues. Further, economic sanctions can only work if they are unanimously accepted by all European countries, and this is still an ongoing struggle. In fact, while EU states agreed to ban the transport of oil by sea, they had to partially exempt oil by pipeline from the embargo. Some member states, including Hungary, were particularly opposed to the ban on importing oil via the Druzhba pipeline which carries Russian oil to refineries in Poland, Germany, Hungary, Slovakia, and the Czech Republic.

Third, following Fed policy, the ECB decided to introduce an aggressive policy to fight inflation, reducing its financial asset purchasing programme and increasing interest rates several times, a policy that it is widely expected to pursue. While this policy should help the monetary authorities to reduce the rate of inflation and meet inflation targets in the coming years, it is important to note that this same monetary policy could provoke an economic recession and increase unemployment, capital costs, etc. Further, when looking at the inflation decomposition, the causes of inflation in Europe and the US do not seem to be similar, therefore it less obvious to expect that the same rate policy would provide the same result in the US and Europe.

5. Which Projections for the Future?

The future is particularly difficult to predict given the high level of uncertainty about the war in Ukraine, the effectiveness of the rate policy in fighting inflation and, above all, its economic and social cost. Further, the position of China with regard to Russia will be a crucial factor in this context. It is also important to note that while European countries have tried to identify relative solutions in the short term to attenuate the impact of gas and oil price volatility (in Italy, the government has reduced fuel taxes, in France, the government has temporarily implemented a 30 cent per litre rebate on gasoline and diesel, etc.), one solution would be to make a deal with the US to become the main provider of gas for European countries in the long term and thus to reduce dependence on Russia.

References

Hamilton, J. (2022), "Energy Prices and the World Economy", Webinaire of the International Association for Energy Economics, October 3, 2022, https://www.iaee.org/en/webinars/webinar_hamilton.aspx.

Footnotes

[1] One of the most dramatic Russian decisions was the announcement by the Russian energy company Gazprom on June 14, 2022, that gas deliveries to Europe through the Nord Stream pipeline would be cut from 167 million cubic meters to 100 million cubic meters. On June 16, 2022, the company announced that only 67 million cubic meters of natural gas would be supplied daily through the pipeline. In a statement on July 27, the company said it would reduce the daily delivery of natural gas to Europe via the Nord Stream pipeline by 20 percent. As a final blow, on August 19, Gazprom confirmed that natural gas deliveries through the said line would be under maintenance and would not operate between August 31 and September 2.

[2] The phenomenon is also reflected in coal. Before the war, Russia's share of EU coal imports was about 45%. The price of coal has also risen on the futures markets, The price of the March API2 contract traded in Rotterdam on February 24 was $192.35, but it reached $376.95 on Wednesday, an increase of 96% in six months.