



Russia invasion of Ukraine: Concussion on global economy

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Abstract

This paper concentrates on the global economic consequence of the Russian-Ukraine war, Russia invaded Ukraine on the 24th of February 2022. After the invasion, multiple international sanctions were imposed on Russia, although intended to hurt Russia, had spillover effects to the global economy mainly through global supply chain disruption. Using global data and data from the Euro Area, Ukraine and Russia, the findings show that there was an increase in the global PMI and an increase in the world price of food and food ingredients. The index of global stock markets plunged on the day of invasion. The Euro Area manufacturing purchasing managers' index (PMI) declined in the month of the invasion. Also, the transportation component of the consumer price index rose in the month of the invasion due to shortage of energy and fuel supplies which led to a rise in the price of gasoline for transportation in the Euro Area. Ukraine experienced a more devastating effect from the invasion than Russia and the entire Euro Area. Core consumer prices in Ukraine and the Euro Area were highly correlated during the invasion. Food inflation was highly correlated in the Euro Area and in Russia. Also, there is a positive and high correlation between world food price index, world oils price index, world dairy price index and world cereals price index during the month of the invasion. The conflict led to a global rise in prices leading to a rise in global inflation. Although conflict resolution between Russia and Ukraine was brokered by Israel, the economic effect of the crisis still lingered on in many parts of Europe and beyond Europe.

Keywords: War, Ukraine, Russia, conflict, sanction, SWIFT, invasion, economic consequence, NATO

Introduction

The ongoing conflict between Russia and Ukraine will reportedly have major ramifications for the global economy, which is just recovering from the stress of the coronavirus pandemic. The International Monetary Fund (IMF) had pointed out earlier that both Russia and Ukraine are major commodity producers, and disruptions there have resulted in soaring global prices, especially that of oil and natural gas. With Ukraine and Russia accounting for up to 30% of the global exports for wheat, food prices, too, have jumped. The IMF added that the entire global economy would feel the effects with slower growth and faster inflation.

The World Bank also said in its Spring 2022 Economic Update for Europe and Central Asia that the conflict delivered a second major shock to the global economy in two years and caused a humanitarian catastrophe. "Even prior to the war, the global recovery had already been decelerating alongside intensifying geopolitical tensions, continued COVID-19 flare-ups, diminishing macroeconomic support, and lingering supply bottlenecks," it noted. Global recovery from the COVID pandemic began in early 2022. Many countries announced plans to remove COVID-era restrictions due to a significant decline in the number of reported COVID infection and death cases in many countries. At the start of 2022, there was great optimism about post-COVID economic growth as many countries intensified efforts to control rising inflation and to spur growth. This led to a positive outlook for global growth which was predicted to increase to 4.4 or 4.9 percent in 2022 according to the IMF World Economic Outlook (WEO). During the same period, Russia invaded Ukraine in February of 2022. The invasion led to geopolitical tensions between the West and Russia, and it diminished global growth forecast due to uncertainty about the effect of the conflict on global supply chain. This paper explores the global economic consequence of the Russian-Ukraine war in the month of invasion. It is important to understand and identify how the invasion affected global business activities and prices and the implication for the future. I begin by providing some answers to the question: why do countries fight and go to war in the modern era? The simple answer is that countries go to war, or engage in conflict, to protect national resources, to maintain one's regional influence, to gain more or equal control over shared resources, or to preserve colonial rights, heritage or values (Averre, 2016; Malyarenko and Wolff, 2018) ^[1, 15]. In the case of Russia, the reason for going into conflict with Ukraine is to protect its border and to maintain its regional influence in the east of Europe (Mankoff, 2014) ^[16]. But how did the Ukraine-Russian crisis start? Since the 2000s, Ukraine has been wavering between the West and Russia. This means that Ukraine has not been able to fully join a Western alliance and has not accepted to be fully under Russian influence. In 2008, Ukraine planned to formally join the North Atlantic Treaty Organization (NATO), a move that was supported by the United States but was opposed

by France and Germany after Russia announced its opposition to Ukraine's membership of NATO. Subsequently, the plan to join Ukraine was postponed to a later time. In February 2010, a new Ukrainian president was elected who promised that Ukraine will be a 'neutral state' which will cooperate with Russia and Western alliances like the EU and NATO. Soon after Crimea was annexed by Russia in 2014. The annexation led to violence in Donbas and led to intense fighting and violence along the border regions that separated Russia and Ukraine to the east of Europe. Since then, Ukrainian public sentiment has been towards the West with calls for Ukraine to join NATO and the EU to reduce its dependence on Russia. But Russia's opposition of Ukraine's membership of NATO since 2010 has caused escalation between the two countries. While the full economic consequences of Russian invasion of Ukraine may not be fully known until the crisis ends, early economic data shows some significant movement in global economic data as a result of Russian invasion of Ukraine.

Literature review

The study found that cross-country differences in economic growth is systematically related to the occurrence and the characteristics of war. The study observed that post-war economic performance is positively related to the severity and the duration of war. But the growth-enhancing effects vary negatively with a country's level of economic development. Kang and Meernik (2005)^[11] examined the effects of civil wars on many economies from 1960 to 2002. They find that wars have a negative effect on economic fundamentals, and that the response by the international community to civil wars exert powerful effects on economic growth. Collier (1999)^[4] developed a model to test for the economic effects of all civil wars since 1960. Collier (1999)^[4] observed that after long civil wars the economy recovers rapidly, whereas after short wars the economy continues to decline. Nordhaus (2002)^[18] showed that wars are very costly, and the estimated cost of the Iraq war to the United States over the decade ranged from \$100 billion to \$1.9 trillion. Glick and Taylor (2010)^[7] studied the effects of war on bilateral trade with available data extending back to 1870. They used the gravity model to estimate the effects of wars on international trade while controlling for other determinants of trade as well as the possible effects of reverse causality. They find a large and persistent impact of wars on trade, national income and global economic welfare. Bluszcz and Valente (2019)^[2] quantified the short-term causal effects of the Donbas war on Ukraine's GDP from 1995 to 2017. They find that Ukraine's per capita GDP declined by 15.1% as a result of the war from 2013 to 2017. Ganegodage and Rambaldi (2014)^[6] find that the war in Sri Lanka had a negative and significant effect on GDP. They also show that high returns from investment in physical capital did not translate into sizable positive externalities. Kesternich *et al* (2014)^[12] investigate the long-run effects of World War II on the socioeconomic status and health of older individuals in Europe. They analyze data from SHARELIFE, a retrospective survey conducted as part of SHARE in Europe in 2009. SHARELIFE provides detailed data on events in childhood during and after the war for over 20,000 individuals in thirteen European countries. They construct several measures of war exposure: experience of dispossession, persecution, combat in local areas, and hunger periods. They find that exposure to war and to individual-level shocks caused by the war significantly predicts economic and health outcomes at older ages.

5.2.2. Studies on the Ukraine and Russian conflict Existing studies analyse the effect of the 2014 Ukraine-Russia crisis. Shelest (2015)^[21] explained that the protests in Ukraine in winter 2014 resulted in the annexation of Crimea by Russia. Ukraine considered the conflict to be a Russian-Ukrainian conflict. Meanwhile, Russia considered the crisis to be a Russian-West confrontation, claiming that the crisis was provoked by NATO's desire to enlarge into the region where Russia has strong interests. Samokhvalov (2015)^[20] argued that the conflict in the EU-Ukraine-Russia triangle is affected by the combination of choices made by the Ukrainian political class, business elites and broader society in four major dimensions: internal political practices, economic international politics, and ideological dimension. Hoffmann and Neuenkirch (2017)^[10] analyzed the impact of the pro-Russian conflict on stock returns in Russia and Ukraine from November 21, 2013 to September 29, 2014. They find that the conflict reduced Russian and Ukrainian stock returns. Stukalo and Simakhova (2018) argued that Ukraine needs an integrated approach in order to solve all economic and social problems in the country. Wang (2015)^[23] showed that the 2014 Ukraine crisis and Russia's Crimea annexation have pushed Russian-Western relations to near the freezing point, and despite the international sanctions imposed on Russia led by the US and Europe, Russia remained politically stable, diplomatically stable, and its population is united. Liefert *et al* (2019)^[147] examined how Russia's economic crisis and ban on agricultural imports from the United States and other Western countries that began in 2014 affected its agricultural and food sector. They document that the import ban affected Russian consumers by reducing Russia's imports of agricultural and food products, substantially raising food prices, and lowering consumption. But the import ban did not affect Russia's basic food availability. Rather, the import ban stimulated agricultural production within Russia thereby ensuring food sufficiency during the ban. Dreger *et al* (2016)^[5] showed that, during the aftermath of the 2014 conflict between Russia and Ukraine, the Russian ruble lost 50% of its value against the US dollar. Havlik (2014)^[8] showed that the cost of the conflict for Russia were estimated to be in the tune of 1% of Russia's GDP from 2014 to 2016 as a result of increased investment risks.

Impact on the global economy

Russia is the world's 3rd oil producer, the 2nd natural gas producer and among the top 5 producers of steel, nickel and aluminum. It is also the largest wheat exporter in the world (almost 20% of global trade). On its side, Ukraine is a key producer of corn (6th largest), wheat (7th), sunflowers (1st), and is amongst the top ten producers for sugar beet, barley, soya and rapeseed. Beyond the suffering and humanitarian crisis from Russia's invasion of Ukraine, the entire global economy will feel the effects of slower growth and faster inflation.

Impacts will flow through three main channels. One, higher prices for commodities like food and energy will push up inflation further, in turn eroding the value of incomes and weighing on demand. Two, neighboring economies in particular will grapple with disrupted trade, supply chains, and remittances as well as an historic surge in refugee flows. And three, reduced business confidence and higher investor uncertainty will weigh on asset prices, tightening financial conditions and potentially spurring capital outflows from emerging markets. Russia and Ukraine are major commodities producers, and disruptions have caused global prices to soar, especially for oil and natural gas. Food costs have jumped, with wheat, for which Ukraine and Russia make up 30 percent of global exports, reaching a record.

Global supply chain disruption

In the rest of the world, the economic consequences will be felt mainly through the rise in commodity prices, which will fuel already existing inflationary pressures. As always when commodity prices soar, net importers of energy & food products will be particularly affected, with the spectre of major supply disruptions in the event of an even greater escalation of the conflict. The drop in demand from Europe will also hamper global trade.

In Asia-Pacific, the impact will be felt almost immediately through higher import prices, particularly in energy prices, with many economies in the region being net energy importers, led by China, Japan, India, South Korea, Taiwan and Thailand.

As North American trade and financial links with Russia and Ukraine are fairly limited, the impact of the conflict will mainly be felt through the price channel and through the slowdown of the European growth. Despite the prospect of slower economic growth and higher inflation, the recent geopolitical events are not expected to derail monetary policy in North America at this stage.

Furthermore, restrictions to commercial flights around the Ukraine-Russian border as well as increased security checks at refugee camps in neighbouring countries means that there will be a disruption in cargo flow and border operations as cross-border goods and supplies may be halted or delayed due to border officials processing refugees before attending to cross-border goods. This will further worsen the disruption in global supply chain and increase the price of imports.

Rising oil and gas prices

Prior to Russian invasion of Ukraine, energy prices have been rising due to multiple factors such as the COVID pandemic, limited energy supplies and growing tensions between Russia and Ukraine. During this time, oil prices were stable within the price band of US\$80 to US\$95 before the invasion. After the invasion, oil prices exceeded USD\$100 a barrel. A potential consequence of the invasion is that European oil marketers and oil companies will experience difficulty in receiving energy supplies from Russia, as Russia is the world's second-largest oil producer and sells most of its crude to European refineries. Russia is also the largest supplier of natural gas to Europe, providing about two-fifths of its supply. Due to Russia's large share of oil export, the Russian invasion of Ukraine is likely to lead to energy supply shocks and a sustained rise in energy prices. This effect may worsen if Russia places a retaliatory export ban on energy supplies to Europe and the rest of the world. A retaliatory energy export ban by Russia will lead to a major disruption in global energy supply, thereby increasing energy prices. The Russia-Ukraine war could make oil price exceed \$140 a barrel and can significantly reduce global economic growth forecast, and plunge some European and non-European countries into a recession. Gas prices for 10 household use may also increase due to fears of a disruption to global energy supplies. Although the United States can release its energy reserves to meet energy shortages in World energy markets, it will take a long time to meet growing energy demand due to energy trade negotiations as global energy prices continue to rise.

Effect on the global banking system

The direct effect of Russia's invasion of Ukraine on the global banking system is minimal. The only banking segments that have been severely affected by the invasion are foreign banks with large operations in Russia. These foreign banks were affected after several countries imposed financial sanctions on Russian banks and Russian wealthy individuals. The most affected banks are Austria's Raiffeisenbank, Italy's Unicredit and France's Société Générale. However, the global banking system may suffer from the indirect consequence of the war if pro-Russian groups retaliate against Western financial sanctions by launching a significant cyber-attack on the global payment system. The potential global losses that could arise from an attack on the global payment system could amount to a daily loss of US\$1.8bn daily.

Decline in economic output and growth

Western interference into Russia's struggle for regional control could pressure Russia to place a ban on oil export as a retaliatory measure to the sanctions imposed on Russia by the West. This could lead to higher oil prices and could affect economic growth. This is because businesses will have to spend more to import raw materials and also spend more to produce goods and services. This will lead to higher input and output prices, and people may not be able to pay for goods and services at a high price. This will lead to fewer purchases by consumers, and could lead to a reduction in the supply of goods and services, thereby leading to a fall in economic output. Consumption expenditure will also be affected as households will spend more on oil and gas for cooking and to heat up their homes. This will lead to a fall in household's disposable income after tax, thereby dampening consumer spending. This will affect the consumption expenditure component of GDP.

Effect on global stock markets

Share prices plunged in value across global stock markets after Russian invasion of Ukraine. Investors fled for safety upon announcement of the invasion of Russia into Ukraine. Table 1 shows 11 the lowest price at which stock were traded in major stock exchanges during the invasion window. It shows that the lowest drop in share prices within a 5-day period (from February 18 to February 25) was on the day of the invasion on 24th February 2022. The Dow-Jones industrial average fell by more than 100 points. The S&P500 index fell by more than 250 points. The EuropeNext 100 index fell by more than 400 points. However, stocks rebounded the day after the invasion following the announcement of severe sanctions on Russia by multiple countries.

Debt reseriving and finance

In March, World Bank pointed to the existence of high debt among emerging markets and developing economies. As per its estimates, these economies account for about 40% of the global GDP. The dilemma for policymakers was to trade between containing inflation and preserving economic recovery post pandemic. It added the geopolitical tensions "darkened the outlook" for developing countries that are major commodity importers or dependent on tourism or remittances. Citing the situation across Africa, it elaborated, external borrowing costs are rising with bond spreads up by an average of 20 basis points. Further, the calculus has suddenly changed for countries with high debt, limited reserves and payments due in the near-term, example being Sri Lanka which was considering an IMF funding to service its debt burden. Financial spill-overs are most likely to be felt in advanced economies with exposure to Russian financial assets, including some Italian, French and Austrian banks, according to World Bank. Their exposure to the sanctioned country's economy is through business ties and local presence. "As a result, European bank stocks lost more than a fifth of their value since the onset of the war, but high capital adequacy and liquidity ratios have cushioned the impact," the same report noted.

Rising global inflation and cost of living

If the invasion persists, most European countries including, Germany and the United Kingdom, will face rising cost of living. In the UK, for instance, inflation is already high at 5.5%.⁴ This means that consumers are already spending more money on fewer goods. The conflict will lead to a further hike in the price of oil, gas, food and food ingredients. This will increase the cost of living as the cost of mortgage deductibles, cars and lighting may increase significantly. There will be spillover effects to developing countries that rely on energy import. Developing countries will pay a higher price for energy imports which could translate to a rise in the local pump price of fuel, a rise in food prices and a general rise in merchandise imports despite income levels remaining unchanged. This will lead to an increase inflation and a rise in the cost of living in developing countries. The combined effect for developed countries and developing countries is that it can lead to a rise in global inflation and high cost of living.

The war in Ukraine represents a challenge for the global economy harming growth and putting upward pressure on inflation when inflation is already at high levels. Ukraine is not a significant trading partner for any major economy, but countries such as China, US, Germany, France, and Italy represent some of the major import partners for Russia.

There are several channels through which the conflict impacts on the world economy. The Ukrainian and Russian economies are key suppliers of commodities, including titanium, palladium, wheat, and corn. Disruptions to the supply chain of these commodities would keep prices high, intensifying for users of such commodities (including car, smartphone, and aircraft makers). Secondly, significant escalation on energy prices due to Russia being one of the world's largest oil producers and energy exporters, will lead into higher inflation. Strong international economic sanctions on trade to Russia, which are more severe than the ones imposed in 2014, are another channel through which the global economy is hampered. We assume that the oil price jumps by \$40 per barrel in our simulation. Another channel is the large-scale emigration from Ukraine; the UNHCR says there could be 4 million refugees as the crisis unfolds, and it will depend on border controls, length of the conflict, and how the economy settles down after the war. We have assumed a net outflow of two million a year in 2022 and 2023. Finally, political risk and uncertainty may drive up savings ratios and make firms more reluctant to invest.

Growing pressures

Prices for energy, grains, and metals soared since the invasion of Ukraine, signaling that inflation rates are poised to accelerate.

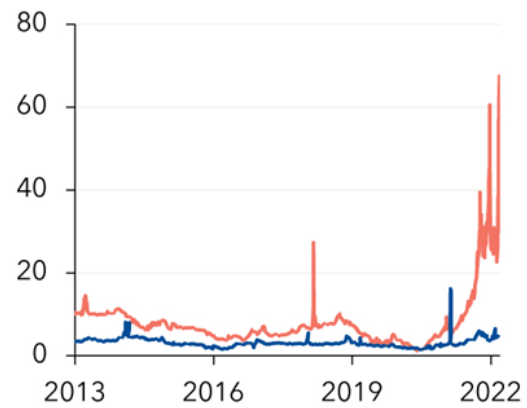
Brent Crude Oil

(\$US/barrel)



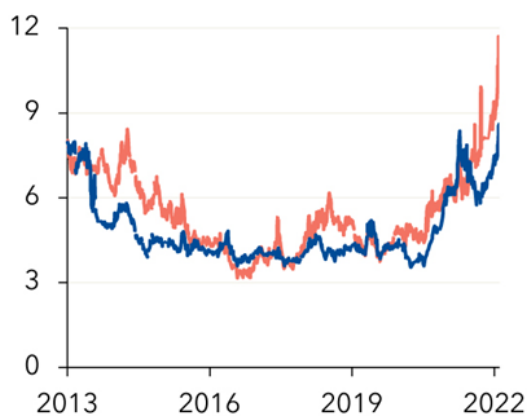
European & US Natural Gas*

(\$US/MMBtu)



Corn, Wheat

(\$US/bushel)



Metals Index**

(2016=100)



Source: Bloomberg, USDA, Datastream, and IMF staff calculations.

Note: *European & US natural gas prices use the Dutch TTF and Henry Hub as proxies, respectively. **Base Metals Price Index includes aluminum, cobalt, copper, iron ore, lead, molybdenum, nickel, tin, uranium, and zinc.

IMF

Fig 1

Conclusion

The consequences of Russia's war on Ukraine have already shaken not just those nations but also the region and the world, and point to the importance of a global safety net and regional arrangements in place to buffer economies.

"We live in a more shock-prone world," IMF Managing Director Kristalina Georgieva recently told reporters at a briefing in Washington. "And we need the strength of the collective to deal with shocks to come."

While some effects may not fully come into focus for many years, there are already clear signs that the war and resulting jump in costs for essential commodities will make it harder for policymakers in some countries to strike the delicate balance between containing inflation and supporting the economic recovery from the pandemic. The paper found that the global economic consequence of the invasion was a global supply chain disruption. This manifested through energy supply shocks, and trade supply shocks. It led to rising energy prices, rising commodity prices, and a rise in food prices, thereby leading to a rise in global inflation in many countries. The implication is that geopolitical conflicts tend to have spillover economic effects to other countries and that such

conflicts do not have isolated effects on the sanctioned country. The Russian-Ukraine conflict has shown that sanctions against a warring country is not an optimal solution because it has spillover effects into other countries who are not part of the conflict, especially when the warring countries are trade partners of other countries who are not involved in the war. Political leaders should put in effort to discourage conflicts like the UkraineRussia conflict, and should use negotiation as a conflict resolution tool. Future studies can assess whether conflict resolution through negotiations are very effective in pacifying countries that go to war to protect their regional influence.

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