

Russia-Ukraine Conflict: Supply Chain Impacts

ZEROFOX INTELLIGENCE BRIEF

Classification: TLP White
Criticality: High
Intelligence Requirements: Geopolitical & Physical

March 2, 2022

Scope Note

This Intelligence Brief focuses on the various supply chain impacts resulting from the current Russia-Ukraine conflict.

Executive Summary

The primary considerations for supply chains will be the valuable commodities produced by Russia and Ukraine and the impacts the Russia-Ukraine conflict will have on the already beleaguered global trade network. Russia is a major energy producer, and the conflict will worsen the energy price surge; Ukraine is an agricultural superpower, and the conflict will limit food supplies—both of which will worsen global inflation. The conflict also will exacerbate supply chain problems like shortages, high shipping costs, and backed-up ports that have plagued global trade since the start of the pandemic.

Key Findings

- Russia's invasion of Ukraine is threatening supply chains that have still not recovered from the COVID-19 pandemic.
- This conflict will likely accelerate inflation, hurt financial markets, and slow the economic recovery for consumers worldwide—first in energy-dependent Europe, then in Africa, the Middle East, and Asia, all of which depend on Russia and Ukraine for food. However, no region will be immune, as nearly every country relies on Russian or Ukrainian commodities for vital sectors.
- It will be more difficult and expensive to get vital commodities like oil, which is over USD 110 a barrel, and liquified natural gas (LNG), which increased in price by 60 percent since the conflict broke out
- Russia and Ukraine's geographic location also exacerbates global supply chain problems, as it links Europe and Asia by land and air; the crisis also exposes vital shipping routes to conflict.
- Transportation will now have new and dangerous obstacles to contend with, in addition to closed airspace—which will make trade difficult and more expensive.
- With Western sanctions more drastic than originally forecasted, anticipate additional economic drags from weaker consumer confidence that will hurt already fragile economies.
- The longer-term effects of the sanctions against Russia are already starting to become clear, and Western companies and investors are backing away from the country.

- The next few weeks will determine whether the global economy enters the worst-case scenario: a global recession with accompanying stagflation.

Disclaimer Note

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Details

Shipping

To understand how the Russia-Ukraine conflict will impact shipping, it is important to understand the state of shipping prior to the crisis. For over a year, there have been massive delays and price increases for international shipping caused by the quick restart to global trade after the first COVID-19 reopening period in the United States in May 2020. Since then, the United States and western Europe have been purchasing enormous amounts of goods from Asia, and global trade has been unable to keep up. Since the system is already overstretched, every supply chain incident since then—including the blockage of the Suez Canal, COVID-19 outbreaks at Chinese ports, weather events, and U.S. port inefficiencies—have led to record back-ups because the system is not designed to have alternatives in place.

Now there is a new layer of disruption from cutting Russia off from shipping, global trade, and international finance and the war cutting off Ukraine from the Black Sea for trade altogether. This means that ships with containers suddenly have to find new places to port, which inevitably will cause those ports to become overloaded—and many of them were already overloaded.¹ This will result in many more products being delayed, and prices for countless items will increase. Freight rates are already increasing again, with projections that individual containers will

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<https://economictimes.indiatimes.com/industry/transportation/shipping/-transport/no-containers-available-for-russian-ukrainian-ports/articleshow/89834751.cms>

increase by USD 10,000-30,000 each.² For reference, a container from Asia to Los Angeles cost around USD 1,500 to ship pre-pandemic; since the pandemic, the price has hovered between USD 10,000 and 15,000. Even without the war, experts predicted shipping price increases alone would account for a one percent increase in prices or 20 percent of U.S. inflation alone.³

Despite Ukraine and Russia accounting for less than 2 percent of global GDP combined,⁴ they are important players in global trade—not to the degree that Asia is to the United States, which has been the constant for post-COVID-19 disruptions, but large enough to damage already-vulnerable supply chains. Ukraine is the fourth-largest agricultural exporter in the world, and many developing countries are dependent on the country for grains.⁵ Further, drought in Latin America has left the major grain competitors unable to pick up the slack—both because they cannot produce enough grains and their waterways used for transportation have dried up. The United States and Canada are also major grain producers but have their own issues with inefficient shipping.

Russia is the world's 16th-largest goods exporter, with petroleum, coal, and gas being the largest categories. Items like nickel, copper, iron, platinum, palladium, oil, natural gas, neon, and agricultural products will be more expensive and difficult to source.

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<https://www.nytimes.com/2022/03/01/business/economy/russia-ukraine-sanctions-economy.html>

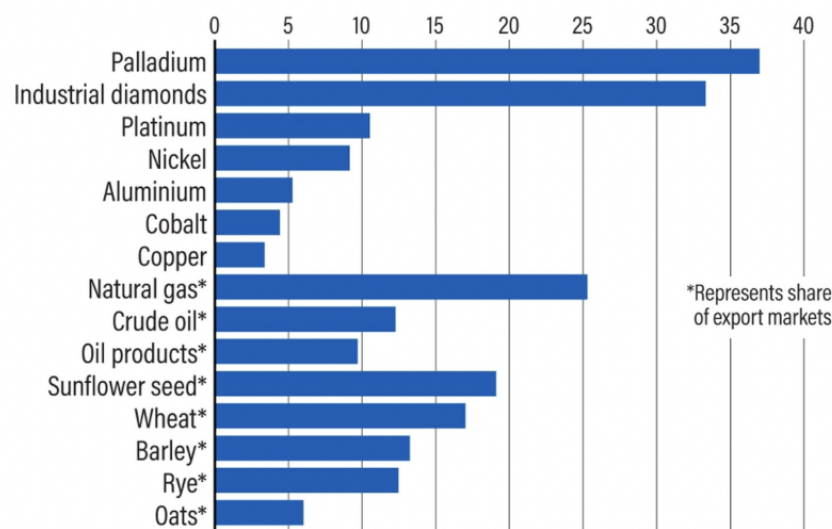
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<https://www.whitehouse.gov/briefing-room/statements-releases/2022/02/28/fact-sheet-low-ering-prices-and-leveling-the-playing-field-in-ocean-shipping/>

⁴ <https://www.worldometers.info/gdp/gdp-by-country/>

⁵ <https://www.freightwaves.com/news/russia-ukraine-wrap-big-surge-in-price-of-oil>

RUSSIA'S SHARE OF SELECTED GLOBAL COMMODITY MARKETS (%)



Source:

<https://www.thenationalnews.com/business/markets/2022/02/22/oil-continues-march-toward-100-per-barrel-as-russia-ukraine-crisis-escalates/>

Ukraine ranks 48th, led by shipments of grain and iron ore.⁶ Most of this trade is done by sea. For Russia, the Black Sea accounts for 15 percent of container imports and exports; its Baltic ports account for close to 50 percent, and its far eastern ports account for 35 percent.⁷ The potential for spillover violence hitting shipments from the region is now elevated and has resulted in fewer companies willing to take the risk and higher insurance premiums for those remaining. Tokio Marine Holdings Inc., Sumitomo Mitsui Marine, and Sompo Japan Insurance Inc. have stated that the Black Sea will be classified as a higher-risk area starting in March 2022, increasing insurance premiums for shipping goods or transiting through those waters. Ukrainian and Russian waters in the Black Sea and the Sea of Azov have since been added to a list of enhanced-risk zones by the Joint War Committee.⁸ At least three cargo ships have been targeted since the conflict began, and insurers are either refusing to cover vessels sailing in the Black Sea or demanding insurance premiums increases to do so.⁹ Other ocean carriers have suspended orders for

⁶ <https://worldpopulationreview.com/country-rankings/exports-by-country>

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<https://www.bloomberg.com/news/articles/2022-03-01/russia-gets-cut-off-from-world-trade-as-shippers-halt-cargoes>

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<https://fortune.com/2022/02/25/beer-cars-candy-bars-cigarettes-supply-chain-riskss-companies-shut-ukraine-plants-russia-invasion/>

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<https://www.marineinsight.com/shipping-news/cargo-vessels-become-victims-of-russia-ukraine-war/>

Ukrainian shipments and avoided the nation's main ports by diverting cargo to other destinations.

Sanctions also accentuate the issues because—in addition to the increased physical dangers of operating in a war zone—shippers must be cognizant of breaching sanctions. This has likely contributed to the mass exodus from the market. Ocean Network Express of Singapore, Asia's second-largest container carrier known as ONE, suspended bookings of cargo to and from ports in Russia and Ukraine. The world's most historic and arguably largest shipping line Maersk, as well as MSCk, suspended bookings to and from Russia. Germany's Hapag-Lloyd did the same at the onset of the crisis. Combined, those four carriers control about 47 percent of global container shipping.¹⁰

While less popular and more expensive than seaborne shipping, air cargo has become more popular since COVID-19—and Russia is a big player. An Antonov-225, the world's largest cargo plane, was damaged at an airfield near Kyiv.¹¹ FedEx and UPS then suspended international operations in both Russia and Ukraine.¹² Rail service does not fare much better, with most rail traffic from Ukraine into Europe suspended; this is problematic for the German auto industry, which has also reduced service due to its reliance on Ukrainian parts.¹³ Domestically, Ukraine is allowing military-age men who work in the rail sector to continue doing so in order to provide for domestic supply lines. The decision by many European nations to close their airspace to Russia, followed by Russia's reciprocal retaliation, will increase the cost of flying cargo from Europe to Asia—potentially making some routes commercially unviable.

Sanctions

Financial Sanctions

The initial sanctions on Russia targeted its economy, and that has down-the-line impacts on supply chains. Sanctions targeting Russia's central bank substantially reduced access to its USD 630 billion of foreign cash reserves,¹⁴ which triggered a collapse in the ruble and will likely lead to high Russian inflation. Targeting a nation's central bank is impactful, because it can be a sole contributor to a

¹⁰ <https://qz.com/2136317/maersk-hapag-lloyd-suspend-shipping-service-to-russia/>

¹¹ <https://www.cbsnews.com/news/russia-ukraine-news-worlds-largest-plane-destroyed/>

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<https://thehill.com/business-a-lobbying/business-a-lobbying/596149-ups-fedex-halt-inbound-shipments-to-russia>

¹³ <https://www.ft.com/content/f0f6c336-529f-4f39-9f07-fb0369cef792>

¹⁴

<https://rollcall.com/2022/02/28/new-sanctions-cut-russia-off-from-its-foreign-currency-reserves/>

recession and will likely trigger bank runs. Hitting the Russian banking sector is likely to damage firms that do business in Russia or have assets in its banks.

The United States, the European Union (EU), the United Kingdom (UK), and other nations then agreed to remove seven Russian banks from the Society for Worldwide Interbank Financial Telecommunication (SWIFT) messaging system to cut Russia off from the international financial system, limiting its ability to operate internationally. A ban from SWIFT will delay the payments Russia gets for exports of oil and gas. However, Russia could get paid through other systems, like China's Cross-Border Interbank Payment System. Russia's largest bank, Sberbank, and a bank partly-owned by Russian gas giant Gazprom have both been excluded from the list and can still use SWIFT.¹⁵

In response to the initial Western sanctions, Russian President Vladimir Putin introduced a measure banning residents and legal entities operating in Russia from transferring cash to foreign bank accounts and transferring currency using electronic payment services operated by foreign suppliers. The ban also prevents the payment of hard currency abroad in connection with loan agreements, but the Russian Central Bank later clarified that this does not cover the servicing of existing debt, consistent with a default. Western sanctions on the Central Bank prevent it from selling foreign currency to stabilize the ruble, so the measure will also require exporting companies to sell 80 percent of their foreign exchange revenues received since the start of 2022. In addition, the Central Bank increased interest rates to 20 percent on February 28, 2022, in an attempt to stabilize Russian financial markets. The move did not prevent the value of the ruble from falling dramatically against the dollar. Nonetheless, Russia's ban on foreigners selling local equities will push back possible bank runs for a few days at least.¹⁶

Technology Sanctions

Western sanctions have also targeted products that can be sent to Russia. These include dual-use goods, which are items that could have both a civilian and military use— like high-tech items, chemicals, or lasers. The aim is to make it difficult for Russia to upgrade its oil refineries with an export ban on certain materials. The EU is also banning the sale of aircraft and equipment to Russian airlines in an attempt to damage its economy and global connectivity.¹⁷ The export

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<https://www.argusmedia.com/en/news/2307230-eu-says-no-swift-exclusion-for-gazprombank-sberbank>

¹⁶

<https://thebell.io/putin-zapretit-rossiyanam-perevody-valyuty-na-svoi-scheta-v-zarubezhnykh-bankakh>

¹⁷ <https://www.bbc.com/news/world-europe-60125659>

ban on high-tech goods will affect many Western manufacturers that rely on purchases from Russia.

Sanctions Targeting Individuals

Western governments have also imposed sanctions on some powerful individuals and oligarchs. Among those targeted are Russian President Vladimir Putin and his Foreign Minister, Sergei Lavrov, whose assets in the West will be frozen. Many European nations are limiting the sale of citizenship via golden passports, which allow wealthy individuals—including Russians—to become citizens.¹⁸

Flight Ban

The EU has announced a blanket ban on Russian flights. Russian aircraft are unable to land in, take off from, or fly over any EU nation, resulting in longer journey times. Russia has also been barred from UK airspace. Russia responded in kind by barring airlines from other countries from its airspace. The move effectively put a wide swath of Russia—a key route for travel between Europe and Asia—off-limits for major carriers. Given Russia's location, flights to East Asia have been most impacted by the current restrictions.

The alternative is Kazakhstan's airspace, with flights tripling. Airlines are flying through the continent and out over the Caspian Sea before entering Kazakh and Mongolian airspace. The number of flights overflying the country has risen from 150 to over 450 daily in the last few days alone.¹⁹

Other Sanctions

The EU also banned Russia's state-owned news outlets, Sputnik and Russia Today (RT). Germany has put on hold permission for the opening of the Nord Stream 2 gas pipeline from Russia to Germany.

Divestments

Divestments of Russian assets announced by Norges, Shell, Exxon²⁰, and BP could see more ethics-based capital flight by investors. This is different from imposed sanctions that have largely not been placed on Russia's energy sector. However, despite the lack of sanctions, many companies and traders are refusing to deal with Russian oil or LNG, which will worsen the supply problem that is contributing to the high price. An estimated 70 percent of Russian oil is struggling to find buyers.²¹

¹⁸

<https://www.internationalinvestment.net/news/4045634/eu-uk-canada-us-curb-golden-passports-portugal-halts-visas-russians>

¹⁹ <https://simpleflying.com/kazakhstan-flights-triple/>

²⁰

https://corporate.exxonmobil.com/News/Newsroom/News-releases/2022/0301_ExxonMobil-to-discontinue-operations-at-Sakhalin-1_make-no-new-investments-in-Russia

²¹ <https://www.ft.com/content/dc93a656-5305-4642-9bc5-6922e33faa06>

This could be problematic if those in the Western energy sector decide to self-sanction permanently—which would effectively create a worst-case economic scenario in which Russian energy supplies are cut off, leading to a global recession.

The key indicator for the global economy will be if energy from Russia continues to reach Western countries. If it does, Russia will continue to see its ruble devalue but will likely avoid a deeper economic crisis that turns the country into a pariah state like North Korea, Cuba, or Sudan. For the European Union, higher energy prices and negative impacts on growth are almost certain, and, if energy is disrupted, the economic impacts will drag well into 2023 and likely trigger a recession. The United States will also see energy prices and the prospect of stagflation increase if Russian energy supplies are severely disrupted.

Russian Exclusion From SWIFT Banking System

SWIFT was created in the early 1970s to allow the smooth transfer of money across borders. SWIFT was created by American and European banks, which did not want a single institution developing their own system and having a monopoly. The network is now jointly-owned by more than 2,000 banks and financial institutions. It is overseen by the National Bank of Belgium, in partnership with major central banks around the world, and led by the U.S. Federal Reserve. SWIFT serves as the intermediary and executor of financial transactions between banks worldwide. On the back-end of banks, a SWIFT message MT103 is filled out to get funds moved from one bank to another in the world. SWIFT is a legally-binding and secure messaging platform that allows participants to exchange financial messages based on a common standard.

It is not a payment network, but SWIFT allows payments to be instructed. No money flows over SWIFT itself; it is more of an instant messaging system that informs users when payments have been sent and arrived. The money actually flows in domestic payment networks, and these are domestic facilities in which only domestic banks can participate.

Being banned from SWIFT would prevent a bank from receiving or sending funds to other banks, resulting in customers of those banks not being able to move their money or do business across borders. The merit of banning an entity from SWIFT introduces that institution to serious administration overhead. Banks now have to deal directly with one another, adding delays and extra costs and ultimately cutting off revenues for the Russian government. However, these banks can still interact with correspondent banks via fax, as all banks utilize fax as a disaster recovery plan in case there is a SWIFT outage. A country that is shut out of the system could still arrange for settlements of payments or transfers on a case-by-case basis.

The aim is for Russian companies to lose access to the normal smooth and instant transactions provided by SWIFT. Payments for its valuable energy and agricultural products are the most obvious ones that will be disrupted, denying Russia access to much-needed cash.

The bigger picture is that Russia is effectively banned from the USD payment network, which excludes an entity from conducting trade in that currency. For a big bank that participates in international trade, being banned from the USD payment network means that USD Correspondent Banks are no longer allowed to service them. That is a huge blow for the international part of their business. This SWIFT ban is even more consequential because it also involves other major currencies, like the euro and the British pound.

The reason certain entities in Europe were so opposed to banning Russia from SWIFT is the amount of business ties they have with entities in Russia. Not being able to utilize SWIFT would open them up to operational risk. While Russian SWIFT transactions make up about one percent of daily SWIFT transfers, companies owed money by Russia would have to find alternative ways to get paid—which is problematic because much of EU energy purchases from Russia are done using SWIFT. Being cut off from SWIFT could shrink Russia's economy by five percent, which is why the United States was pushing for it but could also cause economic contraction in European countries, albeit smaller ones.

There are other alternatives to limit the economic damage for Russia. Russian banks might route payments via countries that have not imposed sanctions, such as China, which has its own payments system.²² Many analysts also believe Putin has created an alternative to SWIFT. The Russian System for Transfer of Financial Messages, if operational, connects 400 Russian banks.²³ This could also see Russia move to crypto. According to Russia's Central Bank, there are about 12 million cryptocurrency accounts in the country worth an aggregate USD 27 billion. Russia already ranks third in terms of crypto value sent to international addresses, indicating that individuals and businesses are using crypto for international remittances, trade, and capital withdrawals. The ability to use cryptocurrency to mitigate the impact of measures such as this could have played a role in Russia's shift in stance on crypto assets a few weeks ago, choosing to regulate rather than ban them. Russia's move to ban FX loans and transfers by Russian residents to outside the country will provide a significant boost to crypto activity in Russia, given that individuals are now facing sanctions. This has led to increased calls from the West for a regulatory crackdown on crypto due to its threat to the dollar as a reserve currency.²⁴

²² <https://www.bbc.com/news/business-60521822>

²³ <https://www.rfi.fr/en/not-so-swift-eu-energy-concerns-spark-russia-sanctions-rift>

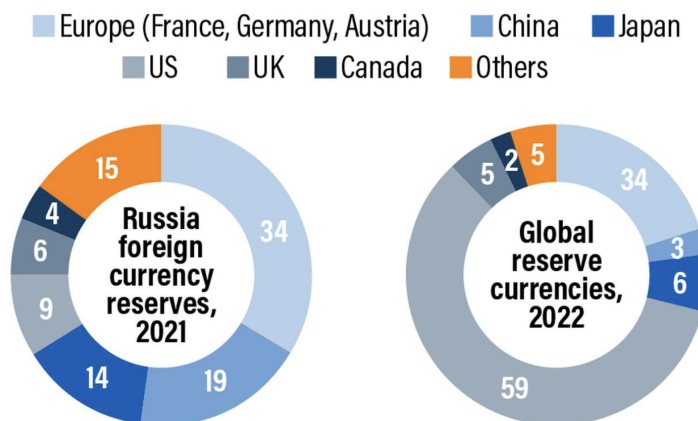
²⁴ <https://www.youtube.com/watch?v=CpryzusXnHM>

Russia's Response to Economic Sanctions

Russia's Central Bank more than doubled interest rates on February 1, 2022, in an attempt to steady the country's financial markets after Western sanctions saw the ruble lose as much as 30 percent. The Central Bank boosted its main interest rate to 20 percent from 9.5 percent in an emergency decision.²⁵ This had a negative effect on European banks with links to Russia. Austria's Raiffeisen Bank International led declines with a drop of as much as 19 percent, while France's Societe Generale and Italy's UniCredit each fell more than 10 percent.²⁶

The currency's devaluation is likely not complete after the sanctioning of the Central Bank, although the worst drops may be over. This is because U.S. and EU sanctions on Russia's Central Bank will make it more difficult for the Bank of Russia to use its foreign currency reserves to soften the blow to the country's financial system.²⁷

SANCTIONS ON RUSSIA'S CENTRAL BANK PROHIBIT ACCESS TO ITS LIQUID FOREIGN RESERVES, RENDERING THE ROUBLE INDEFENSIBLE (%)



Source:

<https://www.thenationalnews.com/business/2022/03/01/russian-roubles-freefall-comes-to-a-halt-after-central-bank-intervention/>

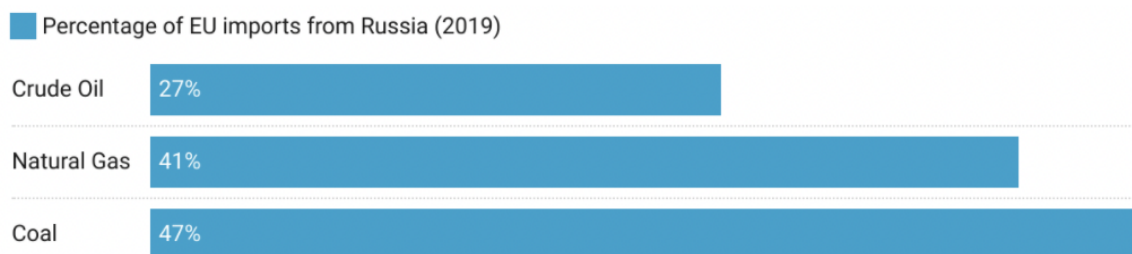
²⁵ <https://www.ft.com/content/f7148532-36cd-4683-8f1b-ea79428488c4>

²⁶ <https://www.bloomberg.com/news/articles/2022-02-28/european-banks-with-russia-links-get-pummeled-as-sanctions-hit>

²⁷ <https://www.thenationalnews.com/business/2022/03/01/russian-roubles-freefall-comes-to-a-halt-after-central-bank-intervention/>

European Union Dependence on Russian Fuel Sources

Europe has not been as eager as the United States to impose damaging sanctions on Russia, especially when it comes to Russia's energy sector. The EU is reliant on Russia for over 25 percent of its oil imports, 40 percent of its natural gas, and nearly 50 percent of its coal. Securing alternative suppliers will take time, but the EU agreeing to hard economic choices—like cutting Russian sales off entirely—may be the only way to threaten Russia, because so far Russia likely views the initial sanctions as acceptable. Russia likely factored in targeting of its financial elites and banks ahead of escalating the conflict and had been preparing alternative financial arrangements ahead of time. However, Russia went into the conflict aware of the political pressure on European leaders from high energy prices, and likely predicted they would avoid worsening the problem.



Source: <https://tellimer.com/article/russia-escalates-in-ukraine-boosts-all-em-com>

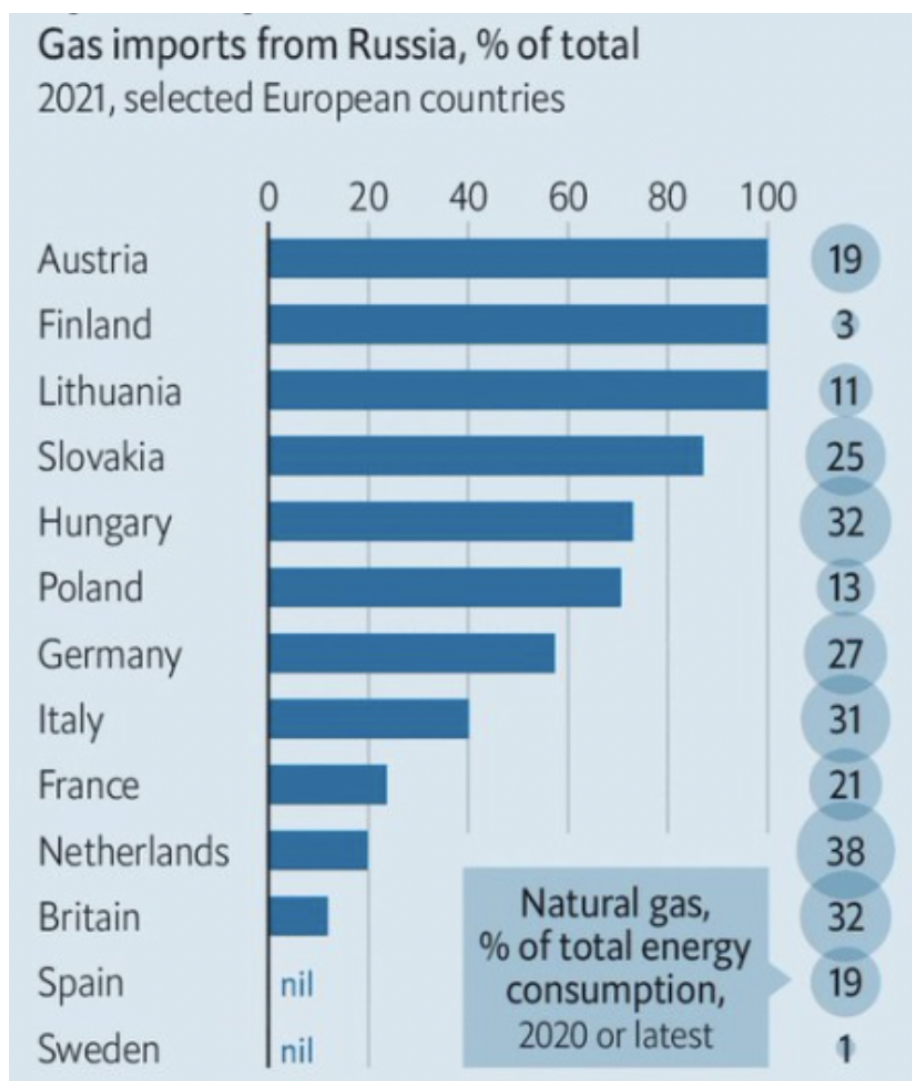
Even if Europe takes no action, energy prices will still rise. Europe's gas markets are linked by a network of pipelines; the invasion of Ukraine increases the risk of damage to vital pipelines that bring much of Russia's fuel imports to Europe. The pipelines running through are TurkStream, Nord Stream 1, and Yamal-Europe. Ukraine remains a transit corridor for Russian gas going into Slovakia, and from there to Austria and Italy. Oil prices could hit USD 130 a barrel by June 2022 if the Ukrainian conflict disrupts Russian deliveries²⁸

Aware of instability between Russia and Ukraine, most countries have cut reliance on Russian gas over the years, and there are also more supply routes that bypass Ukraine. Some countries have other options. For example, Germany, the biggest consumer of Russian gas, can also import from Norway, the Netherlands, Britain, and Denmark through pipelines. But Norway, Europe's second-largest supplier, is delivering gas at maximum capacity and cannot replace any more supplies from Russia. Southern Europe can receive gas from Azerbaijan via the Trans Adriatic Pipeline to Italy and the Trans-Anatolian Natural Gas Pipeline (TANAP) through Turkey. Neighboring countries can transfer gas via interconnectors, but, given the

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<https://www.thenationalnews.com/business/2022/02/25/markets-rebound-but-prolonged-ukraine-russia-crisis-could-push-oil-above-130/>

sparsity of supply, many are unwilling to share. Fully replacing the 150 billion-190 billion cubic meters a year of Russian gas to the EU is not achievable in the short term.²⁹



Source:

<https://www.economist.com/the-economist-explains/2022/02/26/if-the-supply-of-russian-gas-to-europe-were-cut-off-could-lng-plug-the-gap>

United States to Increase LNG Exports to Europe

The United States announced plans to increase its LNG production capacity by 20 percent before the end of 2022, bringing total capacity to 100 million tons this year. In the weeks preceding Russia's invasion of Ukraine, the United States had

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<https://www.euronews.com/green/2022/02/24/what-happens-if-russia-shuts-off-gas-supplies-to-europe>

been leading efforts to increase LNG exports to Europe and calling for all producers to do so. For its part, in January 2022, the United States exported about 4.3 million tons of LNG to Europe, which was about 60 percent of total exports. A year earlier, it was only 10 percent. At the same time, Russian LNG imports into Europe were down 40 percent from the same month a year earlier to 5.8 million tons.

The United States is also working to add additional LNG capacity, but that will take several years to come online. When it does, the United States could in theory replace 70-80 percent of Russian deliveries but for now can only replace about 40 percent.³⁰

OPEC+ Ability to Increase Production Limited

The OPEC+ cartel of top oil producers is unlikely to increase production to counteract a possible cutoff from Russia. This is for both geopolitical reasons and capacity issues. Only Saudi Arabia and the UAE—and possibly their gulf ally Kuwait—have the capacity to increase production, but they largely do not want to do so. OPEC+ is still impacted by the COVID-19 drop in demand; despite demand being very high at the moment, OPEC+ still predicts a drop in demand soon and is hesitant to increase production only to have demand drop again, leading to a profit-boosting surplus. Also, Saudi Arabia is rumored to be angry about U.S. foreign policy and is using high gas prices to target the U.S. government.

The other major oil-producing nations, like Nigeria, do not have the capacity to increase. OPEC+ has been announcing modest production hikes of about 400,000 barrels a day per month for the last six months. However, those hikes have produced less than 300,000 additional barrels because only Saudi Arabia and sometimes Russia are actually increasing production to meet those commitments. For example, between December 2021 and January 2022, OPEC+ members boosted their production by 64,000 barrels per day, despite promising 400,000.³¹

The International Energy Agency has agreed to release 60 million barrels of reserve oil to offset any shortage caused by Russia's invasion of Ukraine. This is over two months of global supply, and other nations could agree to release from the strategic reserves as well.³² The United States will contribute half this amount. As of March 2, 2022, oil is USD 110 a barrel.

³⁰

<https://en.mercopress.com/2022/02/26/us-lng-production-forecasted-to-increase-20-and-replace-much-of-russia-s-supply-to-europe>

³¹ <https://www.rfi.fr/en/opec-powerless-as-ukraine-conflict-pushes-up-prices>

³²

<https://www.wsj.com/articles/u-s-iea-agree-to-release-60-million-barrels-from-oil-stockpiles-amid-ukraine-turmoil-11646151424>.

Algeria and Italy Discuss Increased Gas Exports to Europe

Italy's foreign minister visited Algeria this week to discuss an increase in Algeria's natural gas contribution to Europe. Russia's invasion of Ukraine has led many European countries to look elsewhere for their natural gas supply, fearing that the flow from Russia could be interrupted. While additional gas from Algeria could lessen the impact of a Russian stoppage, it could not wholly replace Russian gas.³³ Algeria is one of several African countries that could provide additional gas supplies in the event of a Russian stoppage. Nigeria and Tanzania, among others, are also looking for markets for their burgeoning gas developments. Additional infrastructure, including pipelines, would need to be constructed in order for African gas to reach Europe in significant quantities. Additionally, Algeria shares a close relationship with Russia, which often backs Algeria in its ongoing dispute with neighboring Morocco. While Algeria has much to gain from increased trade with Europe, it is not immune to Russian influence.

Companies Fleeing Russia and Ukraine

The list of companies leaving Russia is growing. The first were the oil companies Shell and BP, whose exit will see a writeoff of assets valued at USD 25 billion. BP is the largest foreign investor in Russia, with a 19.75 percent stake in the country's national oil company, Rosneft. It also holds stakes in several other oil and gas projects in Russia. The Dutch oil company Shell owns 27.5 percent of the Sakhalin-2 LNG project, which has an annual capacity of 10.9 million tons and is operated by Gazprom. It is also one of the five co-financiers of Nord Stream 2.³⁴

Norway's largest energy company, Equinor ASA, also said it would pull out of Russia. Norway's sovereign wealth fund, the world's largest, has started the process to remove Russian assets from its holdings.³⁵

General Motors (GM) and Harley-Davidson are halting shipments to Russia. GM exports about 3,000 vehicles a year to Russia from the United States. Apple has stopped selling all equipment on its official online store in Russia.³⁶ Nike has also announced on its Russian website that "merchandise purchases on Nike.com and

³³

<https://www.euronews.com/green/2022/02/28/italy-considers-gas-from-algeria-as-europe-moves-away-from-russian-fossil-fuels>

³⁴ <https://www.barrons.com/articles/bp-stock-price-oil-output-russia-rosneft-51646089863>

³⁵

<https://www.wsj.com/livecoverage/russia-ukraine-latest-news-2022-02-26/card/norway-s-massive-sovereign-wealth-fund-to-exit-russian-holdings-WjZEyWVHvGe6XhwOLGCr>

³⁶

<https://www.bloomberg.com/news/articles/2022-03-01/gm-harley-davidson-halt-shipment-s-to-russia-as-sanctions-pinch>

the Nike app are temporarily unavailable,” joining a growing list of Western companies no longer servicing Russia.³⁷

U.S. payment card firms Visa and Mastercard have blocked multiple Russian financial institutions from their network, complying with government sanctions imposed over Moscow's invasion of Ukraine.³⁸

Japan Tobacco Inc. said it halted operations at a plant in Kremenchuk in central Ukraine, where it employs 900 people. The company employs about 4,000 people at its Russian plants, and its tax payments in 2020 accounted for 1.4 percent of the Russian Federation state budget.

Coca-Cola HBC shut down operations in Ukraine and sent staff home. The company bottles Coca-Cola for Russia, Ukraine, and much of central and eastern Europe. Russia is its largest market, and Coca-Cola employs 7,000 people there.³⁹ Danish beermaker Carlsberg, which has 1,300 workers in Ukraine, halted operations at two of its three breweries and sent workers home. Nestlé, the world's largest food company, is temporarily closing three factories and stated, “Ensuring the safety and protection of our employees is our number one priority. For this reason, we have temporarily closed our factories, warehouses and supply chain in Ukraine and we have recommended to our employees to stay at home.” Nestlé has 5,000 workers in the country.⁴⁰ Nestlé had six factories in Russia as of 2020, including plants making confectionery and drinks.

Invasion Impact on Food Prices

Even before the conflict, global food prices were already at their highest point since 2011 and about 50 percent higher than mid 2020, because cargo capacity is tight, freight rates are still high, labor is expensive, and energy prices are boosting costs of fertilizers key to growing crops. This could become significantly worse, as Ukraine is a major producer of valuable food commodities that pass through seas that are no longer safe—possibly increasing delays and insurance premiums. With the Sea of Azov and Black Sea shipping routes at risk and trading sanctions, further disruption of those commodities seems certain.

Ukraine is the world's second-biggest grains shipper, and Russia often tops the ranking for wheat exports worldwide. Together they also account for about 80

³⁷ <https://www.bbc.com/news/technology-60579641>

³⁸

<https://www.reuters.com/business/mastercard-blocks-multiple-russian-financial-institution-s-network-2022-03-01/>

³⁹ <https://edition.cnn.com/2022/02/25/investing/business-russia-sanctions/index.html>

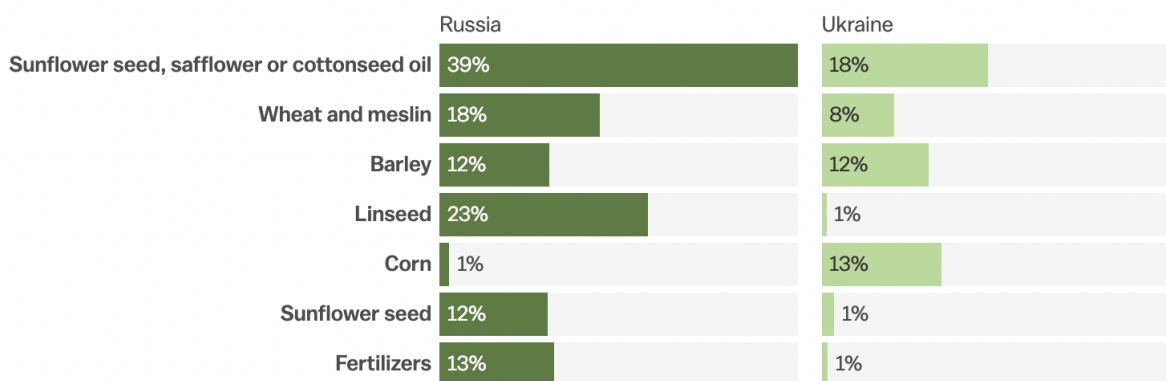
⁴⁰ <https://www.taipeitimes.com/News/biz/archives/2022/02/26/2003773783>

percent of sunflower oil trade. Combined, Ukraine and Russia were responsible for about 26 percent of global wheat exports in 2020.

Ukraine is a major seller of corn to China, and Russia sends wheat all around the world. Ukraine has ports all along the Sea of Azov; they are connected to the Black Sea by a strait that runs between Russia and Crimea, which Russia annexed in 2014, and on the Black Sea coast further west. The southwestern Ukrainian ports of Odesa, Pivdennyi, Mykolayiv, and Chornomorsk handle almost 80 percent of Ukraine's grain exports, and Russia is close to capturing all of Ukraine's southern frontier from Romania in the west to Crimea in the east.

Russia and Ukraine are major food exporters

Share of total global exports in 2020



Source:

<https://www.vox.com/future-perfect/2022/2/27/22950805/russia-ukraine-food-prices-hunger-invasion-war>

Any disruptions to flows would first hit buyers in Asia, Africa, and the Middle East—increasing costs for bread and meat (because corn is important for animal feed) and potentially increasing demand for supplies from the Americas or Europe. Egypt and Turkey rely on combined Russian/Ukrainian imports for 70 percent of their wheat supply, while 95 percent of Ukraine's wheat exports went to Asia, the Middle East, or Africa in 2020. In the Middle East and North Africa region, Yemen, Libya, and Lebanon rely on Ukraine for a high percentage of their wheat supply, while Egypt imports more than half its wheat from either Russia or Ukraine. Countries in south and southeast Asia, such as Indonesia and Bangladesh, are also heavily reliant on wheat from the region.

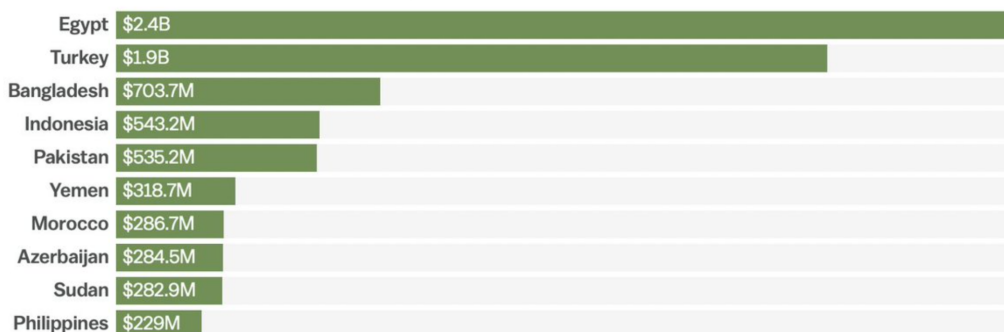
Disruptions in these exports will likely only increase the food insecurity already experienced by these countries, where millions of people and significant portions of the population—around 30 percent in some cases—suffer food insecurity. For many of these countries, alternative supplies are not an option.

Russia is also the largest fertilizer exporter in the world; like food commodities, fertilizer prices were already high before the invasion. They were so high that many fertilizer producers decided to close shop and wait out the energy price surge, as fertilizer is a key by-product of energy production. This further limits supply and drives up prices. Farmers are then given the choice of either making the same decision and deciding to hold off planting until fertilizer prices go down (causing the same supply and price issues), raising prices, or using less fertilizer and thus producing less product. All of these issues will be exacerbated by this conflict and will result in other agricultural producing regions across the world having trouble producing affordable food.

Ukraine's ability to export may be close to zero, as Russia will control all of their southern ports—where most exports are shipped from—and farmers will have difficulty doing their job. Russian farmers will largely be able to perform as normal, but the ability to export is greatly diminished. Russia may even choose to stop exports altogether to ensure low domestic prices. Russia had already placed limitations on wheat exports in 2020 and 2021 to ensure there was adequate supply domestically. Russia may choose not to export to hostile countries and focus on domestic consumption or supply to friendly nations like China.⁴¹

Top importers of wheat from Russia and Ukraine

Imported value in 2020



Source:

<https://www.vox.com/future-perfect/2022/2/27/22950805/russia-ukraine-food-prices-hunger-invasion-war>

Russia and China Bilateral Trade in Yuan to Replace U.S. Dollar

Russia has become increasingly reliant on trade with China to offset potential sanctions and loss of business in Europe. Trade between the two sides is

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<https://www.aljazeera.com/economy/2020/4/26/exports-of-russian-wheat-dry-up-stoking-food-security-concerns>

increasingly being done in yuan, the Chinese currency. China's goods trade with Russia increased almost 36 percent to nearly USD 147 billion in 2021, a record.⁴² Energy imports from Russia to China increased 47.4 percent to nearly USD 53 billion last year, accounting for 65 percent of China's total Russian imports. The yuan accounts for over 17 percent of financial transactions between China and Russia and over 12 percent of Russia's central bank international reserves. Gazprom Neft, the oil unit of Russian gas Gazprom, said it has become the first Russian company to entirely shift to yuan settlements for fueling planes within China. This could limit the impact of a rapidly-devaluing Russian ruble and other U.S. sanctions in the years to come.

Pakistan to Increase Wheat Shipments from Russia

Pakistani Prime Minister Imran Khan announced on February 28, 2022, that his country will import about 2 million tons of wheat from Russia and buy natural gas after Khan was surprisingly in Russia on the day of the invasion. Khan also announced a cut in fuel and electricity prices to help offset a steep rise in the global oil market because of the Russia-Ukraine conflict.⁴³

The latter action may be part of an agreement; Pakistan is one the most vulnerable countries to high inflation. Like many emerging economies, its economy has not recovered in the way most Western nations have, with low unemployment and high inflation; rather, Pakistan has high unemployment and even higher inflation. Unlike other emerging markets, Pakistan has no silver lining from high commodity prices, because it is a food and energy importer—making the country incredibly vulnerable to inflation. Pakistan may have negotiated a deal with Russia in exchange for diplomatic support, or it may have gotten a deal for maintaining trade ties with Russia. While prices for wheat and energy are high, Russia may be offering discounts because it is having trouble getting rid of the product or in exchange for geopolitical support. Countries in Pakistan's economic situation may choose to appease Russia in exchange for lessening the impact of inflation.

Egypt Priced Out of Wheat Purchases

Egypt's General Authority For Supply Commodities (GASC) decided against purchasing wheat for shipment in mid-April after the only offer it received was at

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<https://en.mercopress.com/2022/02/26/russia-and-china-bilateral-trade-moving-to-the-yuan-gradually-replacing-the-us-dollar>

⁴³

<https://www.voanews.com/a/khan-after-putin-visit-pakistan-to-import-wheat-gas-from-russia-/6463734.html>

USD 429.22 a ton from France. This compares with its last wheat purchase in mid-February, when GASC bought 180,000 tons at USD 338.55 a ton.⁴⁴

Egypt is one of the largest wheat importers in the world and relied on Russia and Ukraine for 80 percent of its wheat supply in 2021. Egypt has stated it has four months of wheat supply—in contrast to Lebanon, which has only one month of wheat stockpiled. Under normal circumstances Egypt, with its supply from Russia and Ukraine gone, would be able to rely on other producers. There are alternative providers in South America, Australia, and North America, but Egypt's latest rejection of purchasing any wheat was based on price. Wheat prices will be worse if there is no resolution to the crisis by June. The Maghreb countries (Egypt, Tunisia, Morocco, Libya, Mauritania, and Algeria)—which rely heavily on wheat—could be worst-affected by the tightening of supplies and an increase in prices.

Libyan Flour Prices Rise as Result of Russia-Ukraine Conflict

The price of a quintal of flour in Libya has increased from LYD 210 to LYD 275 following the Russian invasion of Ukraine, a 31 percent increase. Libya imports roughly 20 percent of its wheat from Ukraine. Libya has sufficient wheat reserves to last up to a year. The Ministry of Economy has submitted a proposal to establish a grain bureau that could strategically manage grain supplies.⁴⁵

Africa's Dependence on Russia

The rise in the price of oil will provide economic benefits to the major oil-producing economies of Nigeria and Angola; however, residents could still be hit by higher food and transportation costs, which could lead to social unrest.

Africa is still vulnerable to increases in prices of food, as most African nations—barring South Africa—are major food importers. Food prices, particularly bread, led to some of the biggest political changes in the region. The 2011 Arab Spring was in part over the rising cost of bread, while Sudan experienced a coup that ousted longtime dictator Omar al-Bashir over the cost of bread in 2019. Mozambique has also seen countless deaths in bread price protests in the last decade. Kenya has a large tea industry, and Russia is among the top five buyers.

Please note that this information is current as of the ZeroFox Intelligence collection conclusion at 10:00 AM (EST) on March 2, 2022.

⁴⁴

<https://www.reuters.com/article/us-commodities-egypt-wheat/egypts-gasc-issues-wheat-tender-amid-supply-disruption-worries-idUSKBN2KV0BL>

⁴⁵ <https://www.libyaobserver.ly/economy/ukrainian-crisis-pushes-flour-prices-libya>