Economic Impact of Russia-Ukraine Conflict: An Indian Perspective

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ECONOMIC IMPACT OF RUSSIA-UKRAINE CONFLICT AN INDIAN PERSPECTIVE

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EXECUTIVE SUMMARY

Russia-Ukraine conflict takes its birth from the disintegration of the Soviet Union. Ukraine was a member of the erstwhile Soviet Union, becoming an independent country in 1991. The tussle between Ukraine and Russia began as an internal Ukrainian crisis in November 2013, when the then Ukrainian President rejected a deal for greater integration with the European Union and decided to join Russia-led Eurasian Economic Union, sparking mass protests across the country. The 'Euromaidan' protests toppled the government. In 2014, in an attempt to regain its lost influence in the Ukraine, Russia annexed Crimea, an important port region in Ukraine. Later, Russia and Ukraine had signed the Minsk peace Accord in 2014 to halt the armed conflict in east Ukraine.

The current crisis began in early January 2021, when Ukraine President urged the US to permit Ukraine to join the North Atlantic Treaty Organization (NATO). Ukraine and Russia are two countries that border each other in Eastern Europe, and any eastward expansion of the NATO is a direct threat to Russia's interest and border security. Subsequently, Russia demanded that the West gives a legally binding guarantee that the NATO will not expand eastward or allow former Soviet States like Ukraine to join and that the NATO will not hold any military activity in Eastern Europe. However, the US has ruled out changing NATO's 'open-door policy' which means, the NATO would continue to induct more members. Against no assurance from the US, on February 22, 2022, Russia recognised the independence of two separatist regions of Donetsk and Luhansk. The larger conflict materialized, on February 24, when Russia launched what it termed as a 'special military operation', which has invited a range of sanctions on Russia from across the world.

INTERNATIONAL TRADE OF RUSSIA AND UKRAINE

Russia: During the last decade, global trade of Russia moderated from US$ 823.1 billion in 2011 to US$ 568.8 billion in 2020. In line with global trends, total trade picked up sharply to US$ 785.8 billion in 2021. Russia's global exports recorded US$ 492.3 billion, and imports recorded US$ 293.5 billion in 2021. Russia maintains a surplus in its trade balance which recorded US$ 198.8 billion in 2021, as compared to US$ 105.4 billion recorded in 2020.

Exports: Merchandise exports of Russia continue to be highly concentrated geographically. In 2021, 38.2% of total exports were shipped to the European Union (EU-27), followed by Asia with 33.1%, and the Commonwealth of Independent States (CIS) (13.4%). In 2021, 14% of Russia's exports headed to China, which amounted to US$ 68.7 billion, making it the single largest export destination for Russia's exports. Netherlands was the second largest destination for Russian exports, with 8.6% share in total exports in 2021, followed by Germany, Turkey, Belarus, UK, Italy, and Kazakhstan, among others. In terms of products, Russia's exports have been historically dominated by mineral fuels, oil and products which accounted for 43.1% of total exports in 2021. The other major products of export are pearls and precious stones (6.4% of total exports), iron and steel (5.9%), fertilizers (2.5%), wood and articles of wood (2.4%), machinery and mechanical appliances (2.2%), and cereals (1.9%).

Imports: Asia was the source of 42.9% of total merchandise imports in 2021. The EU-27 represented 32% of Russian merchandise imports in 2021, while CIS countries accounted for 10.9% of imports. In 2021, China was the single largest source of imports for Russia. Russia's merchandise imports from China amounted to US$ 72.7 billion (24.8% of Russia's total imports in 2021). Germany followed China as the second largest source of imports for Russia in 2021, with a share of 9.3% in total imports. Other major sources of imports include the US, Belarus, South Korea, France, and Italy. In terms of products, machinery, electrical machinery, and vehicles together account for 40.2% of total imports of Russia in 2021. Other import items include pharmaceuticals, plastics, optical, photographic, cinematographic apparatus, and article of iron and steel, among others.

Ukraine: During the last decade, merchandise trade of Ukraine moderated from US$ 151 billion in 2011 to US$ 103.4 billion in 2020. In line with global trends, Ukraine's trade increased in 2021 to US$ 135.8 billion, with exports of US$ 65.9 billion and imports of US$ 70 billion. Historically, Ukraine's imports are larger than its exports, resulting in a negative trade balance, with the trade deficit recording US$ 4.1 billion in 2021.

Exports: In 2021, 9.4% of Ukraine's exports headed to China, making it the single largest export destination for Ukraine's exports. Poland was the second largest destination for Ukrainian exports (5.9% of total exports), followed by Turkey, Russia, Italy, Germany, and India, among others. In terms of products, Ukraine's major exports include iron and steel which accounted for 19.9% of total exports in 2021. The other major products of export are cereals (18% of total exports), ores, slag, and ash (10.7%), animal or vegetable fats and oils (10.5%), and electrical machinery (4.8%).

Imports: In 2021, China was the single largest source of imports for Ukraine. Ukraine's merchandise imports from China accounted for 15.2% of Ukraine's total imports in 2021. Germany followed China as the second largest source of imports for the Ukraine in 2021, with a share of 8.7% in total imports in 2021. Other major sources of imports include Russia, Poland, Belarus, and the US, among others. In terms of products, mineral fuels, and oils account for around 17.8% of total imports of Ukraine in 2021. Other import items include machinery, vehicles, electrical machinery, plastics, and pharmaceuticals, among others.

SANCTIONS ON RUSSIA

The impact of financial sanctions imposed on Russia during 2014-2021 had been limited on Russian economy. However, their impact on specific firms and sectors had been more significant. According to the Congressional Research

Service report of the US Government dated January 18, 2022, sanctioned firms lost on average about 25% of their operating revenues, equating to over 50% of their asset values, and about 33% of their employees relative to their non-sanctioned peers over a period from 2012-2016. Additionally, the limited design of the sectoral sanctions did not necessarily result in a rapid disruption in business operations, particularly as oil prices rose.

The current Russia-Ukraine conflict has resulted in several newly announced sanctions by the Office of Foreign Assets Control (OFAC), and several other countries since February 21, 2022, on major Russian financial institutions, Russian firms, corporates, and family members of these businesses spread across various countries. The new sanctions imposed by the United States, the European Union (EU), the United Kingdom (UK), Canada, Australia, Japan, and others are unprecedented in terms of scope -both in terms of the type of sanctions and the entities targeted; coordination, and speed. These include asset freezing, blocking access to new funding, restrictions on certain types of transactions, and exclusion of Russian banks from the SWIFT payments system. In addition to financial sanctions, several trade sanctions have also been imposed including suspension of export licenses for dual-use items which can be used for military purposes, banning exports of high-tech items and oil-refinery equipment, sale of aircraft and equipment to Russian airlines, etc.

Impact of Sanctions on Russia

The freezing of the Bank of Russia's assets and prohibition of transactions with the Central Bank would significantly impair the central bank's ability to supply US dollar liquidity to the economy. The impact of the SWIFT related sanctions is likely to lead to destabilization of Russian financial system. This could profoundly impact banks' and corporates' ability to transfer money across borders. This would also affect their ability to receive and make payments for exports and imports of goods and services as well as debt repayments and foreign investments. Sanctions on the secondary local currency-denominated debt market would directly impact the fiscal health of the economy. These sanctions will lead to higher costs of funding to Russia and impact its fiscal policies which further will require either spending cuts or higher taxes.

Sanctions on key Russian exports such as oil and natural gas would have a strong impact on Russia both in terms of the country's external balance as well as the government's fiscal accounts. Revenues from oil and gas play a major role in Russia's budget. With significantly lower revenues from these sources, Russia would have to make meaningful adjustments to government spending to avoid large deficits. This would also pose serious challenges to countries that are reliant on Russia's hydrocarbon exports, especially the EU. Additionally, export controls have limited Russia's ability to import advanced technologies in Russian defence, aviation, and maritime sectors.

GLOBAL IMPACT OF RUSSIA-UKRAINE CONFLICT

The current conflict is affecting global economies through following channels:

a) Commodity Price Channel

Rising Price of Crude Oil and Natural Gas: Since Russia is one of the biggest oil exporters in the world, the conflict has caused an instantaneous global supply shock. The conflict has resulted in crude oil and natural gas prices shooting up on expectations that sanctions against Russia would cripple energy exports. International natural gas prices have also been rising amid increased uncertainty in European natural gas markets. The conflict would disrupt supplies from the Nord Stream pipelines to the EU, leading to further energy shortages and inflation. The concerns over tightening supplies and further sanction on oil and gas supplies have added to the uncertainty in the market.

Rising Prices of Food: Russia and Ukraine are among the important producers of agricultural commodities in the world. The disruptions caused by sanctions and the related uncertainty would directly impact the availability of food in the global market. Reduced availability of food and critical agriculture-related goods have bid up the prices, thus leading to higher food costs. This would contribute to the rise in the global inflation level.

Edible Oil: With Ukraine and Russia being the largest exporters of edible oil, essentially sunflower oil, the ongoing conflict between the two nations have further created a supply crunch in the market, thus leading to higher prices.

Metals: Russia and Ukraine are major producers of metals and steel. Uncertainty over the supply of metals and sanctions on Russia, have led to sharp rise in the prices of these products.

Chip Shortage Widens: Russia and Ukraine control a significant share of global palladium and neon supplies. These are the key raw materials that go into making of semiconductors. The global chip shortage is likely to worsen if the conflict continues. It is through this shortage of semiconductors that industries such as automobile, mobile phones, and consumer electronics industry are impacted, which are directly dependent on these chips for their production.

b) Financial Market Channels

Sanctions have proved to be disruptive to businesses as it impinged on the profits of companies in Russia and raised questions on capability and willingness of Russia to repay its debts. It has also resulted in severe depreciation of Russia’s currency and raising key interest rates to 20% from 9.5% by Russian Central Bank. The global credit rating agencies withdrew ratings for Russia's Sovereign and Russian entities.

c) Trade and Supply Chain Channels

With Russia and Ukraine being major suppliers of several commodities, there would be supply chain disruptions in these sectors in the global commodity market. The conflict has disrupted shipping and air logistics networks, causing freight rates rising across the board. The disruptions in the Black Sea are already impacting the prices of several agricultural products using Black Sea trade routes for transit. Russian airlines, specifically, have been banned from EU airspace - including Aeroflot and AirBridgeCargo. Since the latter is a top-20 global provider, with 18 widebody freighters, its ban is further reducing the already tight capacity on Asia-Europe lanes.

d) Confidence Channel

The uncertainties surrounding the current conflict is eroding the global market/business confidence, leading to increased volatility, higher investor uncertainty and risk premia in global financial markets. Further disruptions in financial sector would affect various asset categories severely, which in turn would further depress risky asset prices, tighten financial conditions and increase volatility. The conflict has already resulted in general increase in risk premia, leading to higher external financing costs for companies and weighing on investment.

INDIA'S TRADE WITH RUSSIA AND UKRAINE

Russia: India enjoys a privileged strategic partnership with Russia. India's exports to Russia increased from US$ 1.8 billion in 2011-12 to US$ 3.3 billion in 2021-22, recording an average annual growth rate (AAGR) of 7.7%. During the same time, the imports have recorded an AAGR of 12%, growing from US$ 4.8 billion in 2011-12 to US$ 9.9 billion in 2021-22. India has been maintaining a trade deficit with respect to Russia, with the deficit widening from US$ 3 billion in 2011-12 to US$ 6.6 billion in 2021-22. Trade with Russia in terms of both exports and imports recorded the highest levels in 2021-22.

Exports: As part of the Eurasian Economic Union (EAEU), Russia provides GSP benefits to exports from India. With respect to commodities traded, around 16% of India's exports to Russia during 2021-22 were electrical machinery and equipment. This was followed by pharmaceutical products (14.7%), machinery and mechanical appliances (9.3%), iron and steel (7.4%), and organic chemicals (7.1%).

Imports: With respect to India's imports from Russia, over 53% of India's imports are mineral fuels and oils, followed by pearls, precious and semi-precious and stones (12.7%), fertilizers (7.8%), project goods (5.3%), animal or vegetable fats and oils (5%), and paper and paperboard (1.5%) during 2021-22.

Ukraine: The total trade between India and Ukraine increased from US$ 3 billion in 2011-12 to US$ 3.4 billion in 2021-22. India's exports to the country remain relatively stable throughout the last decade. During 2021-22, India's exports to Ukraine was US$ 472.7 million, lower than US$ 491.2 million recorded in 2011-12. On the other hand, India's imports from Ukraine witnessed an increase from US$ 2.5 billion in 2011-12 to US$ 2.9 billion in 2021-22, increasing by an AAGR of 4.2%. As is the case with Russia, India has been recording a trade deficit with the country which stood at US$ 2.4 billion in 2021-22, increasing from US$ 2 billion recorded in 2011-12.

> ***Exports:*** Pharmaceutical products remain the major exported commodities from India to Ukraine, accounting for over 30% of India's exports to the country in 2021-22. It was followed by plastics and articles (5.5%), machinery and appliances (5.3%), iron and steel (5.1%), miscellaneous chemical products (4.9%), and electrical machinery and equipment (4.2%).
>
> ***Imports:*** Animal or vegetable fats and oils (sunflower seed oil in particular) accounted for almost 3/4th of India's imports from Ukraine in 2021-22. This was followed by fertilizers (12.7% of imports), inorganic chemicals (7.6%), project goods (1.2%), and wood and articles (1.1%).

IMPACT OF RUSSIA-UKRAINE CONFLICT ON THE INDIAN ECONOMY

Russia's special operations in Ukraine and the set of punitive sanctions imposed on Russia by the US and its allies, especially European Union countries, have the potential to impact India through multiple channels.

Surge in Input Costs and Impact on Macroeconomic Variables

An expected resultant commodity price surge could lead to a severe increase in input costs, leading to increase in the product prices for exports and goods for domestic consumption. The impact of higher crude oil prices for a prolonged period on India's macroeconomic fundamentals could be severe, affecting through various channels such as GDP growth, inflation, savings, exchange rate of rupee, interest rates, trade, current account and finally on India's fiscal deficit.

Exchange Rate: High oil prices and volatility prevailing in global markets have resulted in Rupee coming under significant pressure. Higher oil prices would result in higher trade deficits and leading to sharp Rupee depreciation. Exchange rate is likely to remain volatile due to the uncertainties related to the conflict, risk aversion tendencies, the spike in Brent crude oil prices and policy tightening by the Federal Reserve.

Inflation: A rise in global crude prices and heightened uncertainties would increase the domestic price of crude products and increase domestic inflation. The continuous hardening in crude oil prices exacerbated by the Russia-Ukraine conflict, other geo-political concerns, and its impact on the Indian Rupee pose the biggest risk to the WPI as well as the CPI inflation. The impact of rising crude oil prices on WPI and CPI inflation would be influenced by the extent of pass through to domestic retail prices of fuels.

Financial Services: Flight to safety has resulted in capital outflows from emerging economies, including India. Foreign Portfolio Investment (FPI) flows are expected to remain volatile in the coming months due to Russia-Ukraine conflict and its fallout in the form of sanctions, high inflation and expected increase in interest rate by the Federal Reserve. Continuous FPI outflows and heavy selling in domestic equities could weigh on the equity markets and India's market valuations. Indian companies having exposure to Russia, Ukraine and other European companies would come under the scanner, with chances of stress in their financial conditions.

Public Services: The impact of higher oil prices would affect India's expenditure budget, leading to fiscal targets going awry. Impact of high crude oil prices on Government finances could lead to Government of India cutting back on capital outlays.

Trade Channel and Impact on Current Account

On the export front, since pharmaceutical products, being necessary goods, are currently exempted from sanctions, India's pharmaceutical exports which are the largest exports from India to both Russia and Ukraine are expected to witness only a marginal impact. Russia and Ukraine are also major destinations of Indian tea exports, and the crisis is expected to create an over-supply of tea in the domestic market, leading to falling tea prices. At the same, a depreciating Indian Rupee is expected to benefit India's export-oriented sectors by making exports competitive. Disruptions in supply chains, along with rise in export insurance costs and shipping freights are also expected to raise the trading costs of Indian exporters. As regards imports, India's import costs would rise owing to higher prices of crude, fertilizers, metals, and edible oil. India's external sector remains highly vulnerable to global crude oil price movements and is expected to continue to remain so in the near future.

On the other hand, rise in commodity prices may prove favourable in case of sectors such as steel and aluminium, leading to higher realisations for domestic primary steel makers and aluminum smelters. However, it would have negative impact on the construction, real estate, and automobile sectors which are the end users of these products.

With Russia and Ukraine producing around 75% of the neon gas (Ukraine alone about 70%) used to manufacture semiconductors, disruptions are expected in the automobile sector which is already undergoing disruptions from the semiconductor shortages. Russian sanctions are expected to further curtail semiconductor production. With Russia being one of the largest producers and suppliers of palladium, globally, there has been a significant increase in the price of palladium amidst uncertainties surrounding Russian sanctions.

Thus, an expected increase in import bills due to elevated food, fuel, and fertilizer prices; moderation in domestic demand in major trading partners and growing uncertainty surrounding capital inflows may further widen India's current account deficit and thus impacting reserves in the short term.

Heightened Defence Spending

India's present military arsenal is heavily stocked with Russian-made or Russian-designed equipment, purchased mostly under government-to-government contract. Due to Russia-Ukraine conflict, India's reliance on Russia for arms imports are expected to come down. However, this would lead to India diversifying its import sources, leading to increased defence spending for the country. On the other hand, increased efforts by Government of India to increase the domestic production of defence equipment under 'Make in India' would reduce India's dependency on Russian based defence products and divert part of its huge defence budget to meeting development needs and other priority sectors.

Exposure of Indian Banks in Russia

Except for the Commerical Indo Bank LLC (JV of SBI and Canara Bank), Indian banks do not have any subsidiaries, branches or representative offices in Russia, and trade finance businesses for Indian banks are relatively less because of the limited trade size between India and Russia. State Bank of India, the largest Indian commercial Bank's exposure in Russia is reported to be less than US$ 10 million. However, according to reports, due to the worsening geopolitical situation, Indian banks have decided not to process any transactions involving Russian entities due to global sanctions. Indian banks are currently exploring ways to circumnavigate the sanctions placed on Russian trade. Thus, implications of the current conflict on Indian banks are expected to be limited.

India as an Alternative Supplier of Products

A positive possible benefit of the ongoing crisis is that India could emerge as an alternative supplier of several of products which were being supplied by Russia and are currently facing supply disruptions. Indian exporters of these commodities could perhaps benefit from increased global demand for these commodities, emerging as an alternative import source.

Towards Greener Energy and Increased Investment in Renewables

Using unconventional energy in the place of crude, along with increased used of electric vehicles (EVs) could help India to reduce its heavy dependence on imported fuel, while cushioning the country from similar oil price shocks. The present scenario is perhaps ideal for India to invest more on renewables and alternative fuels and increase renewable energy consumption in the coming years, paving way for greener energy in the country.

SANCTIONS AND PAYMENT RELATED ISSUES

The sanction has led to several problems on India's export front, which is largely related to payment issues due to the sanctions in the banking system, along with leading shipping lines suspending deliveries to and from Russia, resulting in sending fresh consignments difficult.

Alternative Payment Mechanism - Settlements of Payments in National Currencies

As a solution, an alternative payment mechanism could be established for engaging in economic and commercial relations with Russia.

- Rupee-Rouble payment mechanism is one solution. These transactions could be facilitated through selected banks, which is already in place for several of India's defence transactions with Russia. Under the "rupee-rouble" exchange scheme which existed prior to 1991, prices and payments of goods were designated in roubles and rupees according to a mutually agreed rate of exchange, but accounts were settled in goods. The goods traded were, however, specified and restricted, and purchases and transactions were conducted under the supervision of the Reserve Bank of India.

- India and Russia could work on promoting mutual settlements of payments in national currencies as an initiative for significantly increasing volume of bilateral trade in the context of current sanctions. Central

Banks of both countries could work out the modalities, especially pegging the rupee - rouble exchange rate for bilateral trade in consultation with both governments.

- Finding an alternative to bank transactions such as SWIFT would also support a move away from dollar-based trade. For instance, Structured Financial Messaging System (SFMS), a secure messaging standard developed by the IDRBT (Institute for Development and Research in Banking Technology) Hyderabad to serve as a platform for intra-bank and inter-bank applications may be promoted globally and use for cross-border transactions. The SFMS is built on the lines of SWIFT, with several advantages and additional utilities.

- There are also possibilities of countertrade mechanism where Russian banks and companies opening accounts with a few public sector banks in India, which are having limited foreign exposure, for trade settlement. This would also require public sector banks in both countries opening branches in the other country. Funds in such accounts could act as a guarantee of payment for trade exchanged between two countries, while the parties' barter commodities from each other to offset the sum.

1. RUSSIA - UKRAINE CONFLICT: BACKGROUND

Russia - Ukraine conflict, the resulting western sanctions on Russian economy and the subsequent geo-political and economic uncertainties are creating adverse shock in economies throughout the world, amid elevated price pressures. The conflict happened just as economies over the world started to recover from impact of COVID-19 pandemic. The aggravated geopolitical tensions emanated from the conflict are spilling over to economies across the world, having a substantial impact on global economy and financial markets. While the countries that are having close links to Russia and Ukraine were the first to witness commodity scarcities amid supply chain disruptions, later the conflict has resulted in alarming cascading effects on global economy.

Russia - Ukraine Conflict: The Past

Ukraine, a country wedged between Russia and Europe, was a member of the erstwhile Soviet Union. Post-disintegration of the Soviet Union, Ukraine became an independent nation in 1991. At the time of Ukraine's disintegration from the Soviet Union, Ukraine held the third largest nuclear arsenal in the world, including an estimated 1,900 strategic warheads, 2,650- 4,200 Soviet tactical nuclear weapons, 176 intercontinental ballistic missiles (ICBMs), and 44 strategic bombers.[1] By 1996, Ukraine transferred all Soviet-era strategic warheads to Russia in exchange for economic aid and security assurances, and in December 1994, Ukraine became a non-nuclear weapon state-party to the 1968 nuclear Non-proliferation Treaty (NPT). The country received extensive assistance to dismantle ICBMs, ICBM silos, heavy bombers, and cruise missiles

[1] The Nuclear Threat Initiative and Arms Control Association

from the US funded Cooperative Threat Reduction Program. Accordingly, ICBM silos were destroyed by 2002, ICBMs were dismantled or transferred to Russia, and heavy bombers were eliminated by 2001.

Since the breakup of the erstwhile Soviet Union, Russia has been aiming to establish a strong Eurasian Economic Union consisting of the erstwhile Soviet Union members as part of its Eurasian integration initiatives. The tussle between Ukraine and Russia began as an internal Ukrainian crisis in November 2013, when the then President (Viktor Yanukovych) rejected a deal for greater integration with the European Union and decided to join Russia-led Eurasian Economic Union, sparking mass protests across the country. This sparked further mass protests supported by the EU and the US, which the Ukrainian President (backed by Russia) attempted to put down violently. The 'Euromaidan' protests toppled the Ukrainian government and impacting Russia's influence on the country. In 2014, in an attempt to regain its lost influence in Ukraine, Russia invaded and annexed Crimea, an important port region in Ukraine, which was the first time since World War II that a European state annexed the territory of another. This was followed by the military conflict in the eastern Ukraine, including the Donbas region. Russia and Ukraine had signed the Minsk peace Accord in 2014 to halt the armed conflict in east Ukraine, though the conflict continued.

The annexation of Crimea and military conflict had brought the relationship between Russia and the West to its lowest point since the Cold War. A series of sanctions followed from the West which have pushed Russian economy to the brink of recession. The US and the EU imposed sanctions against officials, individuals and enterprises held responsible for the annexation. They were joined by several allies, such as Australia, Canada, and Norway. The US imposed sectoral sanctions against entities operating in the financial, energy, and defence sectors of Russian economy via inclusion on the Treasury Department's Sectoral Sanctions Identifications (SSI) List. These sanctions were intended to maximise the cost to Russia for its occupation of Crimea. These sanctions prohibited the participation of the US person in the issuance of new debt securities with maturities above certain thresholds. Later in 2017, through the passage of the Countering America's Adversaries Through Sanctions

Act (CAATSA), the US imposed additional sanctions related to cybersecurity activities, crude oil exploration and pipeline projects, financial institutions and on defence and intelligence sectors.

Sanctions in 2018 also targeted Russian oligarchs and affiliated companies. These companies were sanctioned from trading, which significantly impacted Russian and global aluminium markets. Later in the year, under the Chemical and Biological Control and Warfare Elimination Act, the US also imposed sanctions on Russia for cybercrimes and election interference, and the Department of Justice opened criminal cases against suspected culprits responsible for the use of chemical weapons against former intelligence officer in the UK. In 2019, it used the act to prohibit the US financial institutions from participating in the primary issuance of non-rouble-denominated sovereign bonds. In late 2019, the US Congress passed the National Defence Authorization Act (NDAA) for 2020, which included sanctions on companies involved in the construction of the Nord Stream 2 and TurkStream pipelines. In 2021, the US further expanded sanctions on Russia, prohibiting the US financial institutions from participating in the primary market for any bonds issued by Russian Ministry of Finance, the Bank of Russia, or the National Wealth Fund after June 14, 2021.

Importance of Ukraine to Russia

As a part of former Soviet Republic, Ukraine has deep social, linguistic, and cultural ties with Russia. But after the collapse of the Union, Russia lost most of its territory (including Ukraine) in the region, which is now slowly inching closer to the West. Ukraine was the most powerful country in the Soviet Union after Russia. It has been a hub for commercial industries, factories, defence manufacturing and advanced agriculture. Ukraine also provides Russia with the access to the Black Sea and crucial connectivity to the Mediterranean Sea. Trade routes in the Black Sea are a key transit point for several important commodities, agricultural products (such as wheat and corn), and dry bulk exports. Moreover, Ukraine and Russia are among the world's breadbaskets. Both Russia and the West consider Ukraine as a potential buffer against each other. Russia considers Ukraine within its natural sphere of influence. Most former Soviet Republics and allies in Europe had already joined the European

Union or the North Atlantic Treaty Organisation (NATO) and with Ukraine increasingly moving away from Russian influence, it would end the Russian authority in Eastern Europe.

Russia- Ukraine Conflict: The Present

Over the years, the eastward expansion of the NATO has threatened Russia's interest and border security. Ukraine and Russia are two countries that border each other in Eastern Europe. The current crisis began in early January 2021, when Ukraine President urged the US to let Ukraine join the NATO. The NATO is a military alliance of 28 European and 2 North American countries that constitutes a system of collective defence. Its members already include three Baltic countries of Estonia, Latvia and Lithuania that share borders with Russia. Members also include Hungary, Poland, Romania, and Bulgaria, all of them were a part of the former Soviet-led Warsaw Pact. On November 10, 2021, the US and Ukraine signed a Charter on Strategic Partnership, which asserted the US' support for Ukraine's right to pursue membership in the NATO. The pact made it likelier than ever that Ukraine would eventually join the NATO. The idea of Ukraine joining the NATO led Russia to build up military along its border with Ukraine. Subsequently, Russia demanded that the West gives a legally binding guarantee that the NATO will not hold any military activity in eastern Europe and Ukraine. Further, Russia wanted the NATO to pull back its military deployments to the 1990s level and prohibit the deployment of intermediate-range missiles in the bordering areas. However, the US has ruled out changing the NATO's 'open-door policy' which means, the NATO would continue to induct more members.

In 2014, pro-Russian separatists captured parts of eastern Ukraine, setting up two rebel republics in the Donetsk and Luhansk regions in the Donbass region and these have remained unrecognized until now. Against no assurance from the US, on February 22, 2022, Russia recognized the independence of these two separatist regions of Donetsk and Luhansk and then dispatched Russian troops into the area, a move that became a prelude to the broader special operations in Ukraine.

The larger conflict materialized, on February 24, when Russia launched what is termed as a 'special military operation' into Ukraine. As per reports, Russia is seeking 'demilitarization and de-nazification' and ensuring neutral status of Ukraine, and not occupation in Ukraine as Russia believes that the Western-oriented Ukraine is a threat for Russia's future development. Since Ukraine is not a NATO member, it could not count on the direct military support of the US and its allies. Thus, Europe is witnessing the biggest war since World War Two, which has dealt a heavy blow to global growth prospects.

2. INTERNATIONAL TRADE OF RUSSIA AND UKRAINE

Russia and Ukraine are major links in international trading network. Both countries are major global commodity exporters, and the ongoing conflict is having potentially devastating consequences for global energy and grain importers, while generating ripple effects across the globe through soaring global prices, especially that of oil and natural gas and food prices. According to the UNCTAD, Russia and Ukraine together provide around 30% of the world's wheat and barley, one-fifth of its maize, and over half of its sunflower oil. Together, both countries represent 53% share of global trade in sunflower oil and seeds, and 27% of the global trade in wheat.[2] The conflict has also resulted in shipping being halted from the Black Sea, one of the most important global maritime transport routes, exacerbating already high shipping costs. Further, Ukraine's major ports, including that of Odessa, are closed due to the conflict, affecting global food supplies as the country ships over 70% of its exports, and almost in entirety its corn exports. According to the International Monetary Fund (IMF), the cost of shipping a container on the world's transoceanic trade routes increased seven-fold in the 18 months following March 2020, while the cost of shipping bulk commodities spiked even more.

SNAPSHOT OF RUSSIA'S TRADE

Russia is the largest country in the world, in terms of surface area, spanning over an area of 17,075,400 sq km, in two continents, Europe and Asia. Being a commodity driven economy, Russia is one of the leading suppliers of global energy, the second largest producer of gas (after the US), and the third largest

[2] The Impact on Trade and Development of the War in Ukraine, UNCTAD, March 2022

oil producer (after Saudi Arabia and the US), accounting for 17% and 12% of the global output, respectively. In 2021, Russia was the second largest crude oil and condensate exporting country after Saudi Arabia, with Europe receiving most of Russia's crude oil exports in 2021. In 2021, Russian crude and condensate output reached 10.5 million barrels per day (bpd), making up 14% of the world's total supply. Of the 10.5 million barrels per day (b/d) of crude oil and condensate that Russia produced in 2021, Russia exported more than 45%. In addition to having vast resources, Russia has an estimated refining capacity of 6.9 million bpd and produces a substantial amount of oil products, such as gasoline and diesel. Moreover, Russia has extensive crude export pipeline capacity, that allows it to ship large volumes of crude directly to Europe as well as Asia. The world's longest pipeline network, the Druzhba pipeline system of around 5,500 km, transports 750,000 bpd of crude directly to refineries in east and central Europe. At present, Russia supplies around 20% of total European refinery crude throughputs. In 2012, Russia launched the 4,740 km, 1.6 million bpd ESPO pipeline, which transports crude directly to Asian markets such as China and Japan. Russia also ships crude by tanker from the Northwest ports of Ust-Luga and Primorsk, as well as the Black Sea port of Novorossiysk, and Kozmino in the Far East. In addition, Russia also exports crude by rail.

Russia is the world's largest gas exporter, where it produced 762 bcm of natural gas, and exported approximately 210 bcm via pipeline in 2021, with Europe receiving majority of natural gas exports. Russia also has a wide-reaching gas export pipeline network, both through transit routes through Belarus and Ukraine, and through pipelines sending gas directly into Europe (including Nord Stream, Blue Stream, and TurkStream pipelines). Russia also completed work on the Nord Stream II pipeline in 2021. In 2019, Russia launched a major eastward gas export pipeline, the roughly 3,000 km-long Power of Siberia pipeline, which has a capacity of 38 bcm, in order to be able to send gas from far east fields directly to China.

In 2021, Russia was the third largest coal-exporting country, behind Indonesia and Australia. Russia's coal exports in 2021 increased by 7% to 262 million short tons (MMst). Russia exported more than half of the coal the country produced in 2021, with countries in Asia and the Oceania region receiving most of Russia's coal exports. China imported nearly 25% (63 MMst), while South Korea, Japan, and Taiwan together received about 22% of Russia's coal exports. One-third of Russia's coal exports were sent to Europe (mostly to Germany, Netherlands, Turkey, and Poland). Thermal coal, often used for power generation, accounted for 90% of Russia's coal exports.

Further, Russia is also one of the world's leading exporters of mineral fuels and products, fertilizers, metals such as steel, copper, and primary aluminium, wood, and plastics. According to International Energy Agency (IEA), Russia relies heavily on revenues from oil and natural gas, which in 2021 made up 45% of Russia's federal budget.

Russia acceded to the World Trade Organization in August 2012. Since 2014, the Government has implemented the State Programme for the Economic Development and Innovation Economy, combining activities to improve the business and investment environment, increase employment in SMEs, and for self-employed persons, improving labour productivity, stimulating technology adoption, and improving the efficiency of public administration. Russia has been pursuing import substitution and localization policies, while emphasizing the importance of the promotion and diversification of non-energy exports, especially in the new national development objectives announced in 2018. In 2020, the country has set a target to achieve real growth in exports of non-resource-based, non-energy goods by at least 70% by 2030.

Russia was the 13th largest exporter and 21st largest importer globally during 2021. During the last decade, global trade of Russia decreased from US$ 823.1 billion in 2011 to US$ 568.8 billion in 2020. In line with global trends, total trade picked up sharply to US$ 785.8 billion in 2021. Russia's global exports recorded US$ 492.3 billion, and imports recorded US$ 293.5 billion in 2021 **(Table 2.1)**. Russia maintains a surplus in its trade balance which recorded US$ 198.8 billion in 2021, as compared to US$ 105.4 billion recorded in 2020.

Table 2.1: Merchandise Trade of Russia

(US$ billion)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Export	517.0	524.8	527.3	497.8	333.5	285.5	357.1	449.3	422.8	337.1	492.3
Import	306.1	316.2	314.9	286.6	177.3	182.3	227.0	238.2	243.8	231.7	293.5
Total Trade	823.1	841.0	842.2	784.5	510.8	467.8	584.0	687.5	666.6	568.8	785.8
Trade Balance	210.9	208.6	212.3	211.2	156.2	103.2	130.1	211.2	179.0	105.4	198.8

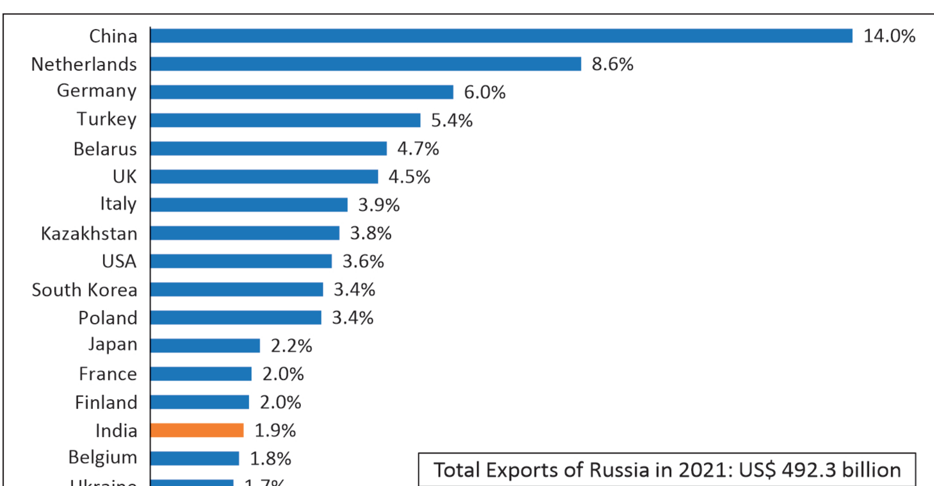
Source: ITC Trade Map and India Exim Bank Analysis

Russia's Merchandise Exports

Merchandise exports of Russia continue to be highly concentrated geographically. In 2021, 38.2% of total exports were shipped to the European Union (EU-27) (compared with 42.6% in 2011), followed by Asia with 33.1%, and the Commonwealth of Independent States (CIS) (13.4%).

In 2021, 14% of Russia's exports headed to China (compared to 6.7% in 2011), which amounted to US$ 68.7 billion, making it the single largest export destination for Russia's exports. Netherlands was the second largest destination for Russian exports worth US$ 42.1 billion (8.6% of total exports in 2021 compared to 11.8% in 2011), followed by Germany, Turkey, Belarus, UK, Italy, and Kazakhstan, among others **(Chart 2.1)**.

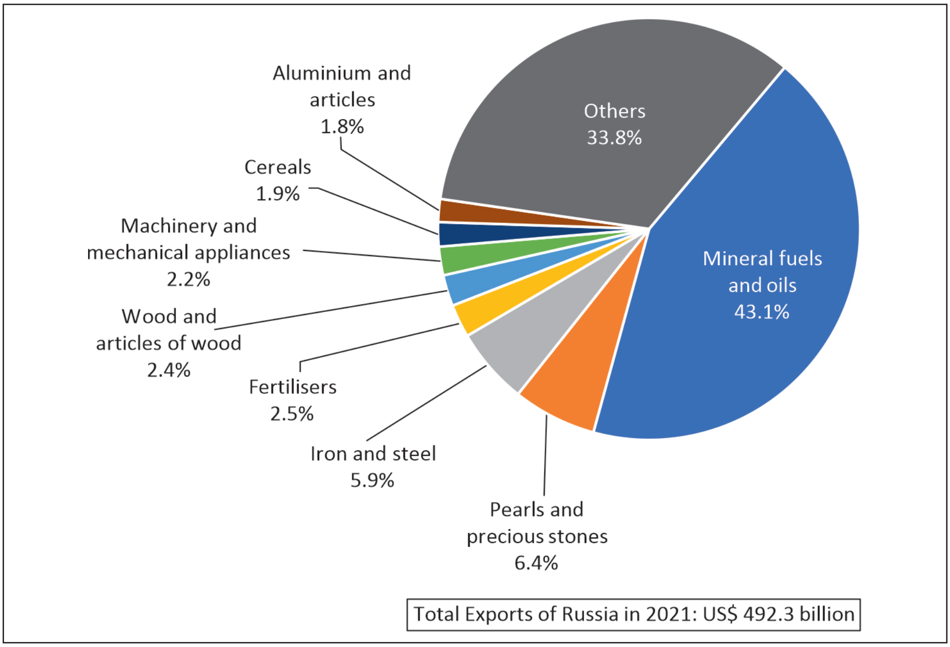
Chart 2.1: Major Export Destinations of Russia in 2021



Source: ITC Trade Map and India Exim Bank

In terms of products, Russia's exports have been historically dominated by mineral fuels, oil and products which accounted for 43.1% of total exports (68.1% in 2011) and amounting to US$ 212.4 billion in 2021. In 2021, Russia was the largest supplier of crude oil (HS 2709) globally, accounting for 13.1% of global crude oil supply. Russia was also the 5th largest supplier of liquified natural gas (HS 271111) globally, accounting for 4.5% of global liquified natural gas supply. The other major products of export are pearls and precious stones (6.4% of total exports), iron and steel (5.9%), fertilizers (2.5%), wood and articles of wood (2.4%), machinery and mechanical appliances (2.2%), and cereals (1.9%) **(Chart 2.2)**. Russia is one of the main suppliers globally of palladium and rhodium, key inputs in the production of catalytic converters.

Chart 2.2: Major Export Products of Russia in 2021



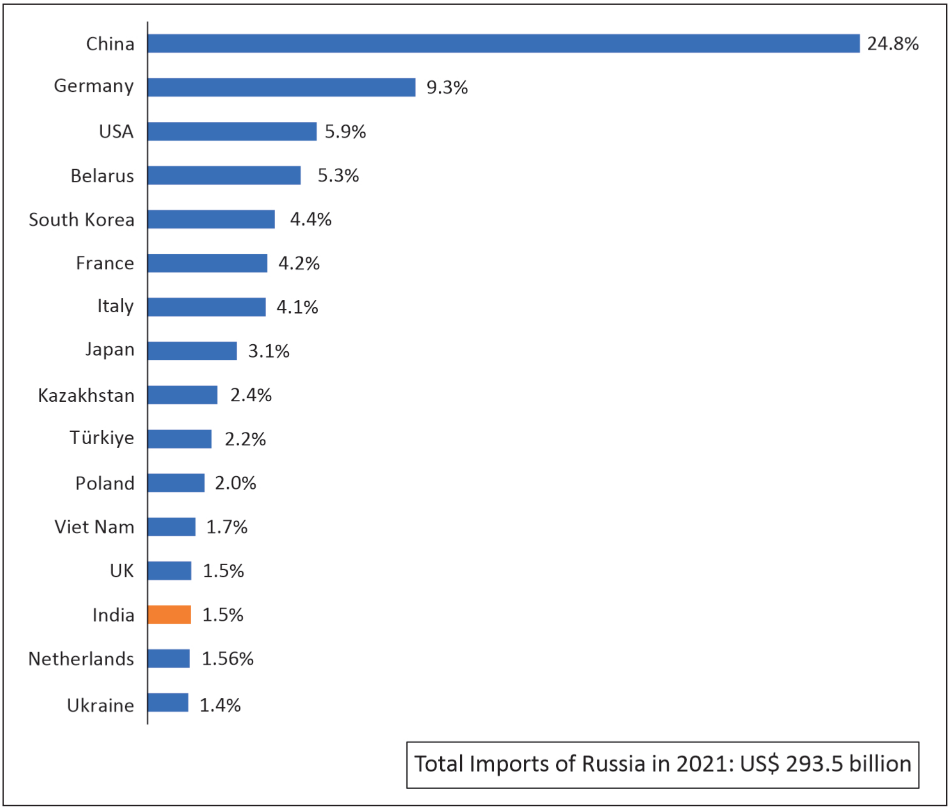
Source: ITC Trade Map and India Exim Bank Analysis

Russia's Merchandise Imports

Asia was the source of 42.9% of total merchandise imports of Russia in 2021 (31.5% in 2011). The EU-27 represented 32% of Russian merchandise imports in 2021, compared with 38.1% in 2011. CIS countries accounted for 10.9% of imports in 2021.

In 2021, China was the single largest source of imports for Russia. Russia's merchandise imports from China amounted to US$ 72.7 billion (24.8% of Russia's total imports in 2021 compared to 15.7% in 2011). Germany followed China as the second largest source of imports for Russia in 2021, with imports amounting to US$ 27.4 billion and a share of 9.3% in total imports (declining from 12.2% in 2011). Other major sources of imports include the US, Belarus, South Korea, France and Italy **(Chart 2.3)**.

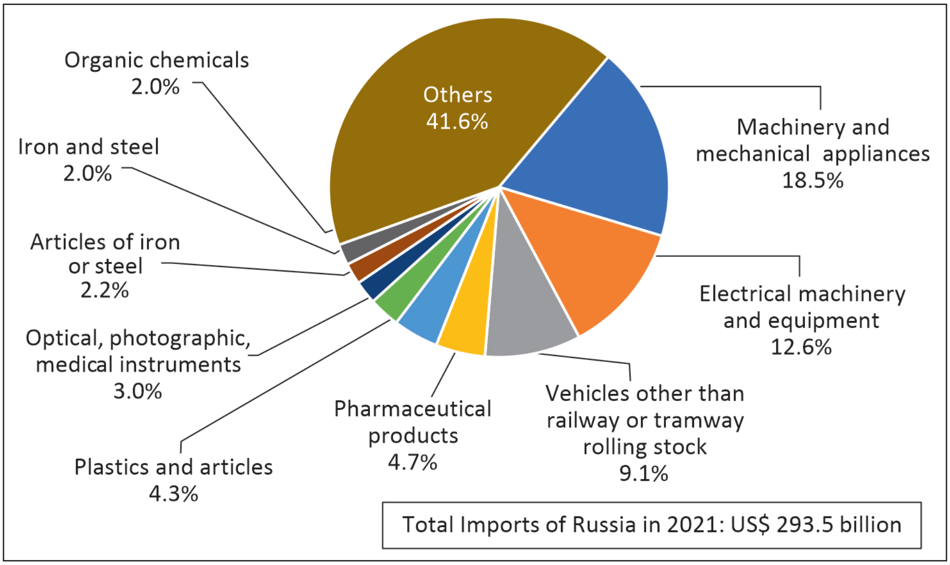
Chart 2.3: Major Import Sources of Russia in 2021



Source: ITC Trade Map and India Exim Bank Analysis

In terms of products, machinery, electrical machinery, and vehicles together account for 40.2% of total imports of Russia in 2021. Other import items include pharmaceuticals, plastics, optical, photographic, cinematographic apparatus, and article of iron and steel, among others **(Chart 2.4)**.

Chart 2.4: Major Import Products of Russia in 2021



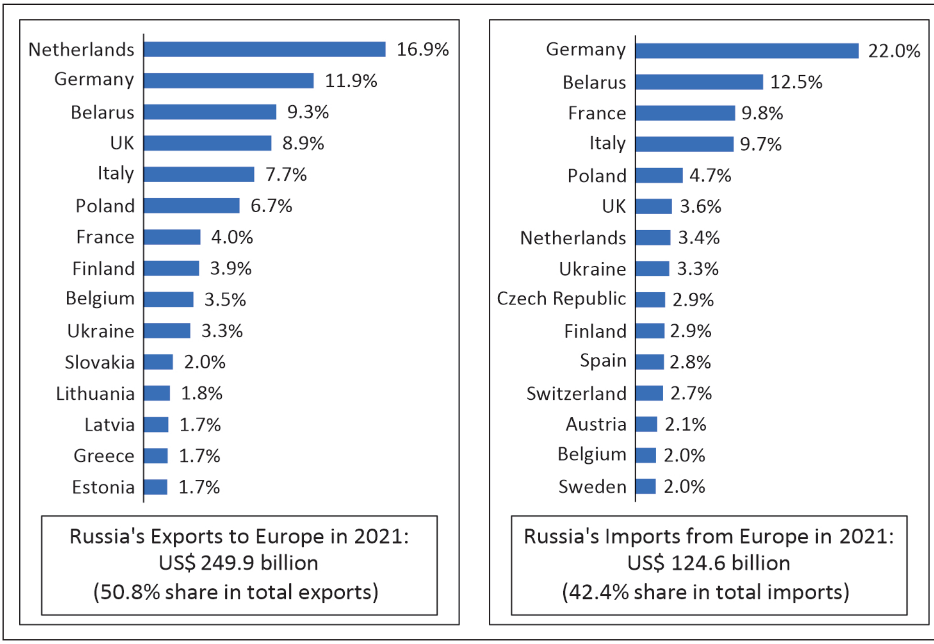
Source: ITC Trade Map and India Exim Bank Analysis

Russia's Merchandise Trade with Europe

Considering the geographical proximity and complementary needs, Europe is an important region for Russia's merchandise trade. Russia exported 50.8% of its total merchandise exports to Europe and imported 42.4% of its total merchandise imports. Major European destinations of Russian exports in 2021 include Netherlands with exports of US$ 42.1 billion (16.9% of the total exports to Europe), Germany (11.9%), Belarus (9.3%), UK (8.9%), Italy (7.7%) and Poland (6.7%), among others. Major European suppliers of Russia in 2021 include Germany (22% of total imports from Europe), Belarus (12.5%), France (9.8%), Italy (9.7%), Poland (4.7%), and UK (3.6%), among others **(Chart 2.5)**.

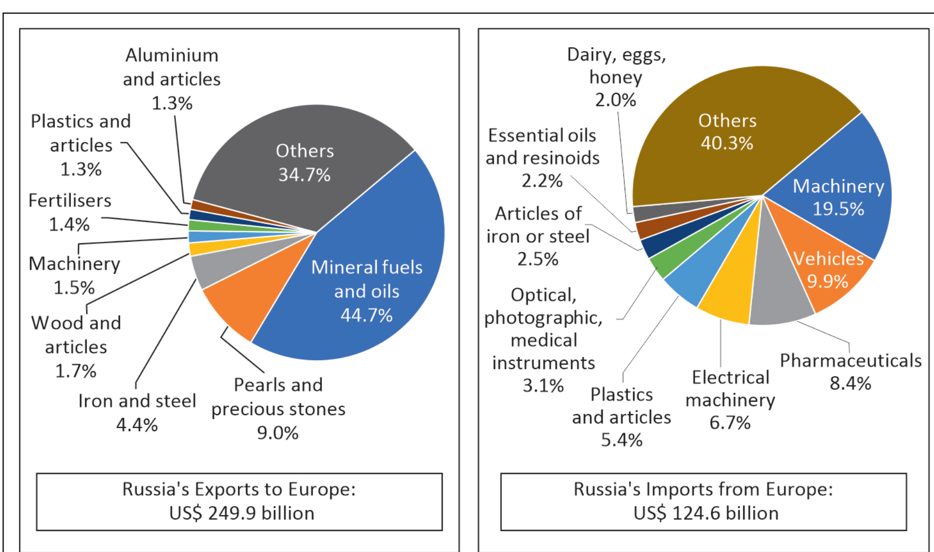
In terms of products, mineral fuels and oils constitute 44.7% of Russia's total exports from Europe, amounting to US$ 111.7 billion in 2021. It was followed by pearls and precious stones, iron and steel, wood and articles, machinery and fertilizers, among others. As regards Russia's imports from Europe, machinery accounted for one-fifth of Russia's imports from the region, followed by vehicles (9.9% share), pharmaceuticals (8.4%), electronics (6.7%), and plastics and articles (5.4%), among others **(Chart 2.6)**.

Chart 2.5: Russia's Trade with European Countries in 2021



Source: ITC Trade Map and India Exim Bank Analysis

Chart 2.6: Russia's Major Traded Commodities with Europe in 2021

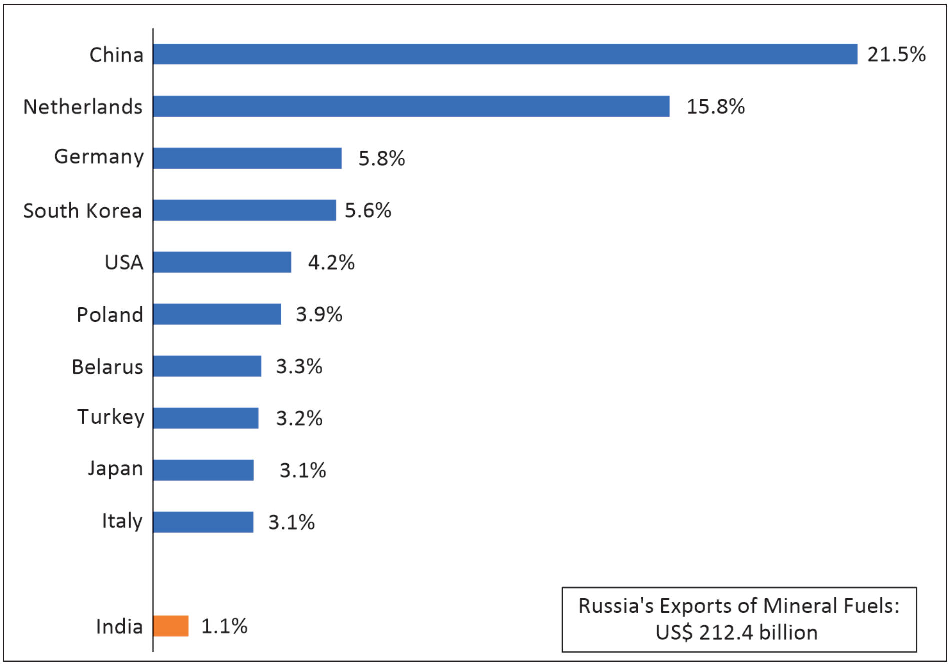


Source: ITC Trade Map and India Exim Bank Analysis

Analysis of Russia's Major Merchandise Exports in 2021

Russia holds an important position in the global trade, being a critical supplier of several important goods. Russia was the 2nd largest global exporter of mineral fuel and oils, after the US, amounting to US$ 212.4 billion and accounting for 8.7% of the total exports in 2021. Several European countries are highly dependent on Russian fuel exports. Russia's major destination markets for the product include China (21.5% of total exports), Netherlands (15.8%), Germany (5.8%), South Korea (5.6%), and the US (4.2%), among others **(Chart 2.7)**. India was the 19th largest destination of mineral fuels exports of Russia in 2021.

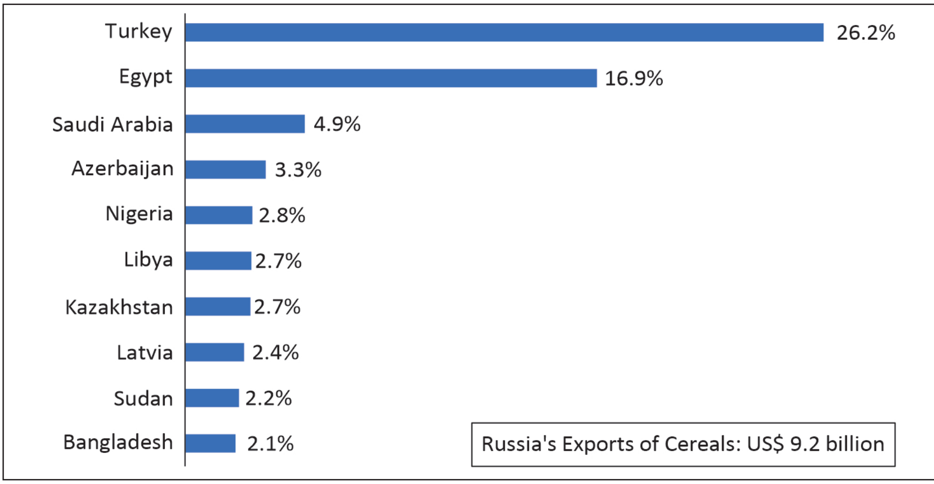
Chart 2.7: Mineral Fuels (HS 27)- Russia's Major Export Destinations in 2021



Source: ITC Trade Map and India Exim Bank Analysis

Russia was the 6th largest global exporter of cereals, after the US, Argentina, India, Ukraine, and Australia in 2021, accounting for 5.9% of the total exports in 2021, which amounted to US$ 9.2 billion. Russia's major destination markets include Turkey (26.2%), Egypt (16.9%), Saudi Arabia (4.9%), Azerbaijan (3.3%), and Nigeria (2.8%), among others **(Chart 2.8)**.

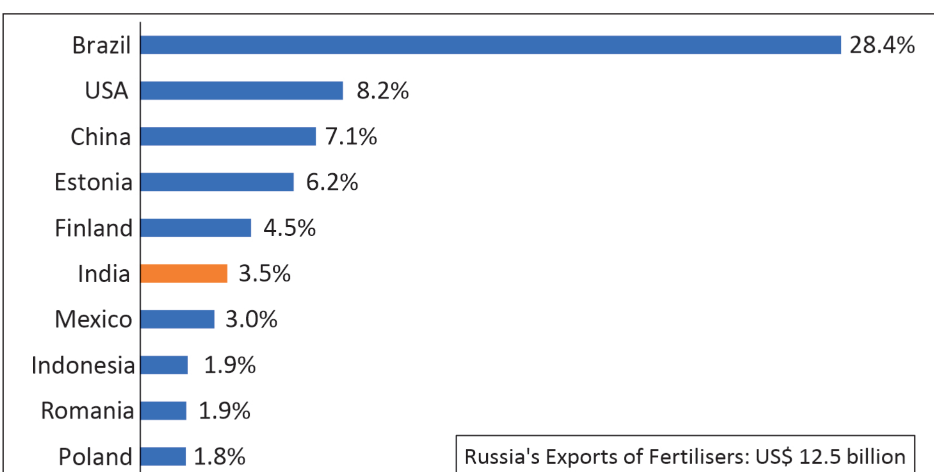
Chart 2.8: Cereals (HS 10)- Russia's Major Export Destinations in 2021



Source: ITC Trade Map and India Exim Bank Analysis

Russia was the largest global exporter of fertilizers, accounting for 14.7% of the total world exports in 2021, which amounted to US$ 12.5 billion. Russia's major destination markets include Brazil (28.4%), the US (8.2%), China (7.1%), Estonia (6.2%), Finland (4.5%), and India (3.5%), among others **(Chart 2.9)**.

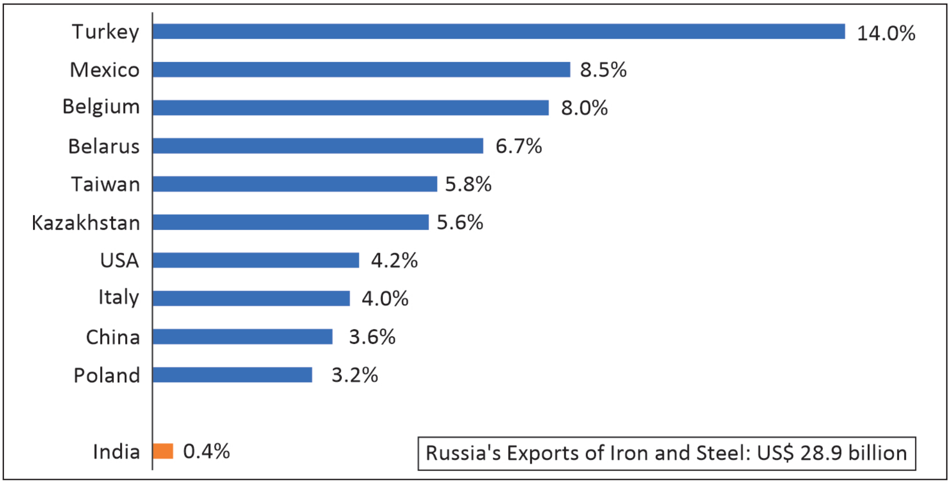
Chart 2.9: Fertilizers (HS 31)- Russia's Major Export Destinations in 2021



Source: ITC Trade Map and India Exim Bank Analysis

Russia was the 4th largest global exporter of iron and steel, accounting for 5.2% of the total world exports in 2021, which amounted to US$ 28.9 billion. Russia's major destination markets include Turkey (14%), Mexico (8.5%), Belgium (8%), Belarus (6.7%), and Taiwan (5.8%), among others **(Chart 2.10)**.

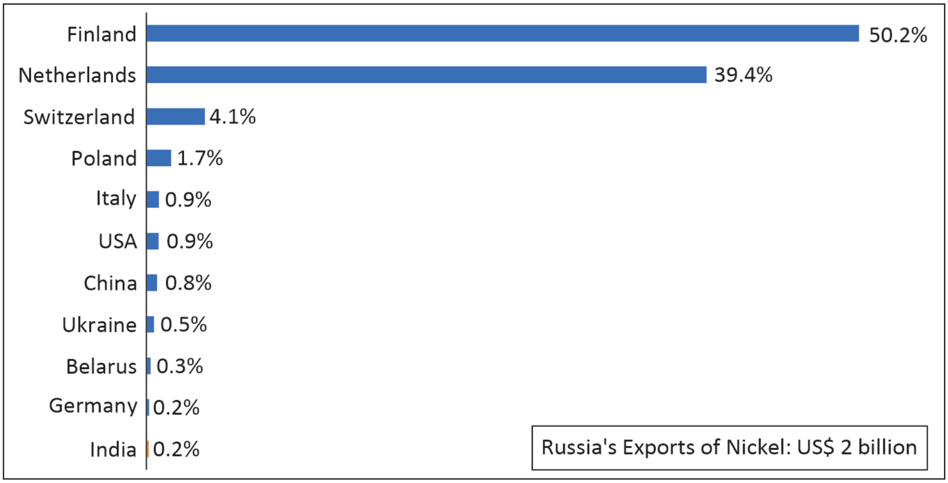
Chart 2.10: Iron and Steel (HS 72)- Russia's Major Export Destinations in 2021



Source: ITC Trade Map and India Exim Bank Analysis

Russia was the 3rd largest global exporter of nickel, accounting for 7.2% of the total world exports in 2021, which amounted to US$ 2 billion. Russia's major destination markets include Finland (50.2%), Netherlands (39.4%), Switzerland (4.1%), Poland (1.7%), and Italy (0.9%), among others **(Chart 2.11)**.

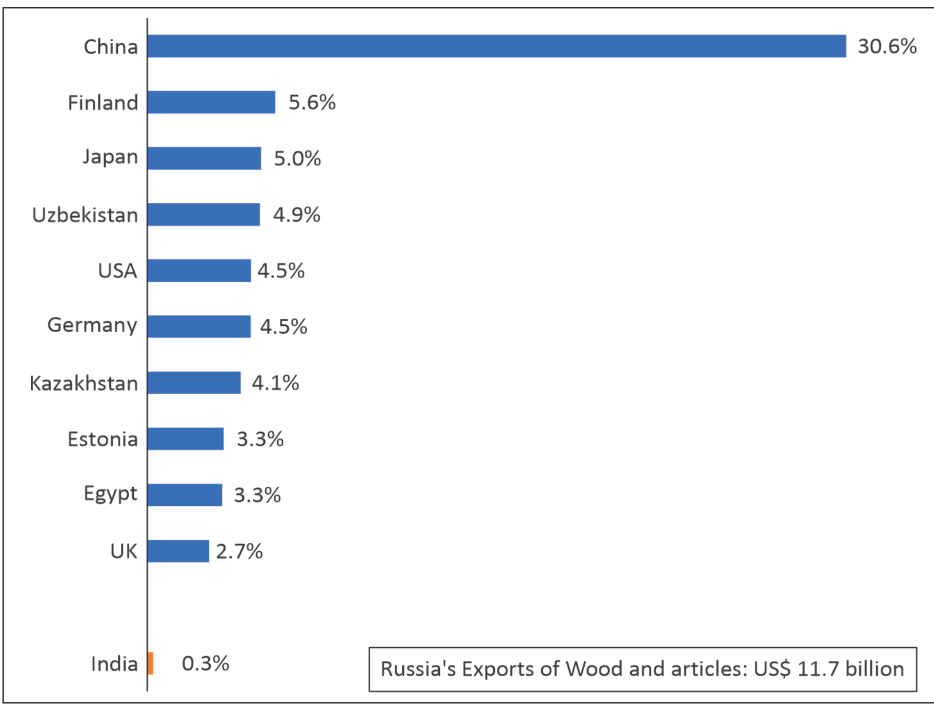
Chart 2.11: Nickel (HS 75)- Russia's Major Export Destinations in 2021



Source: ITC Trade Map and India Exim Bank Analysis

Russian has a large forest area of around 815 million hectares, covering roughly half of the country, accounting for 20.1% of the world's forests. Accordingly, Russia remains a major producer of wood and wood products. Russia was the 4th largest global exporter of wood and articles of wood, accounting for 6.3% of global exports in 2021, which amounted to US$ 11.7 billion. China, Finland, and Japan were the largest export destinations of the product in 2021 **(Chart 2.12)**.

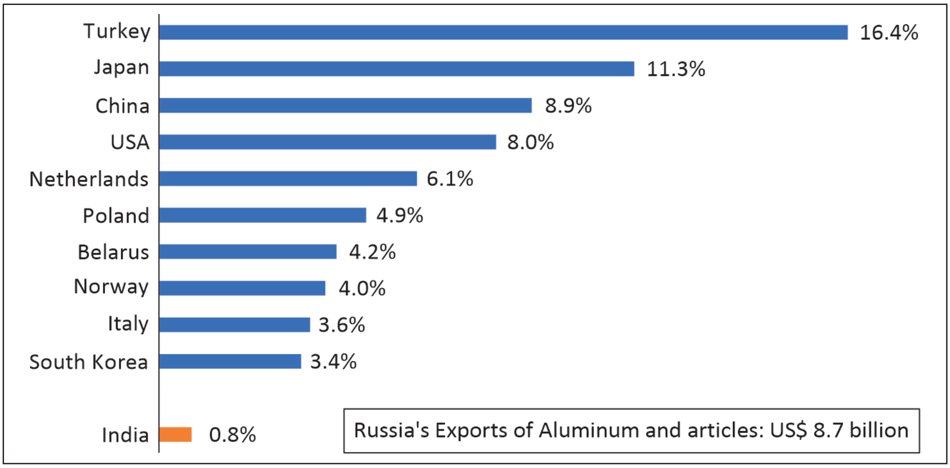
Chart 2.12: Wood and Articles of Wood (HS 44)- Russia's Major Export Destinations in 2021



Source: ITC Trade Map and India Exim Bank Analysis

Russia was the 6th largest global exporter of aluminium and articles, accounting for 3.6% of global exports in 2021, which amounted to US$ 8.7 billion. Turkey, Japan, China, the US, and Netherlands were the largest export destinations of the product in 2021 **(Chart 2.13)**.

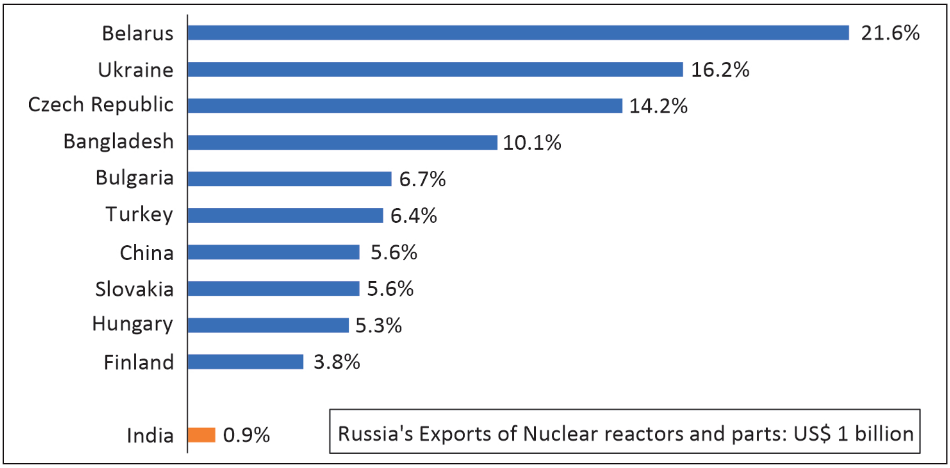
Chart 2.13: Aluminium and Articles (HS 76)- Russia's Major Export Destinations in 2021



Source: ITC Trade Map and India Exim Bank Analysis

Russia remains the largest exporter of nuclear reactors, their parts and other machinery, accounting for 28.3% of the world's exports in nuclear reactors and their parts. These products are Russia's second biggest machinery exports, following turbojets, turbopropellers and other gas turbines. Major exports under this category went towards Belarus, Ukraine, and Czech Republic in 2021 **(Chart 2.14)**.

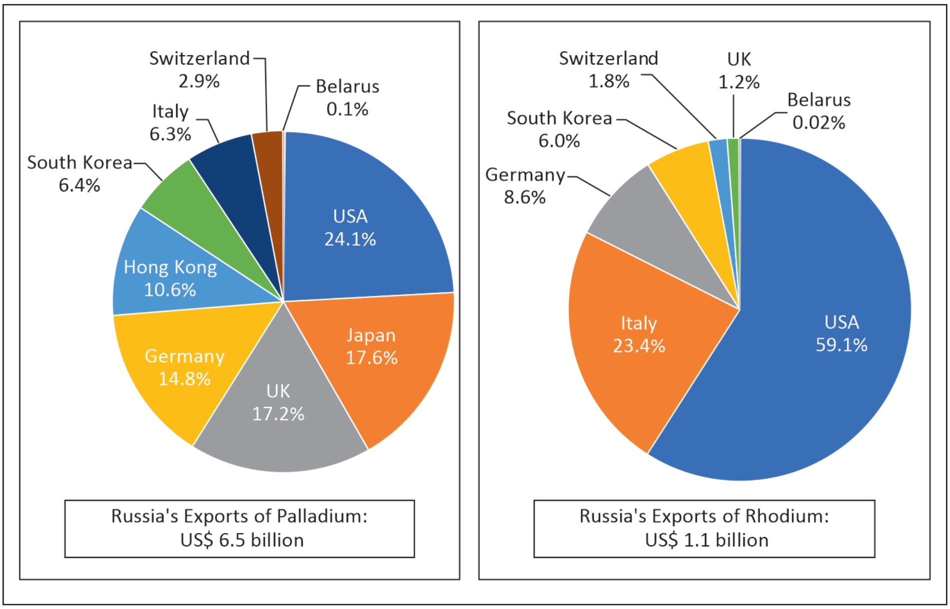
Chart 2.14: Nuclear Reactors; Fuel Elements and Cartridges (HS 8401)- Russia's Major Export Destinations in 2021



Source: ITC Trade Map and India Exim Bank Analysis

Russia remains the 4th largest exporter of platinum, including palladium and rhodium, unwrought or in semi-manufactured form, accounting for 9.3% of the world's exports, amounting to US$ 8.4 billion in 2021. Of these, Russia remains the largest exporter of palladium in unwrought or powder form, supplying 23.6% of global demand in 2021 and 7th largest exporter of rhodium in unwrought or powder form, supplying 3.6% of global demand. Palladium and rhodium are needed to produce catalytic converters in the automotive sector and the manufacture of semiconductors. The US remined the major export destination for both palladium and rhodium exports of Russia **(Chart 2.15)**.

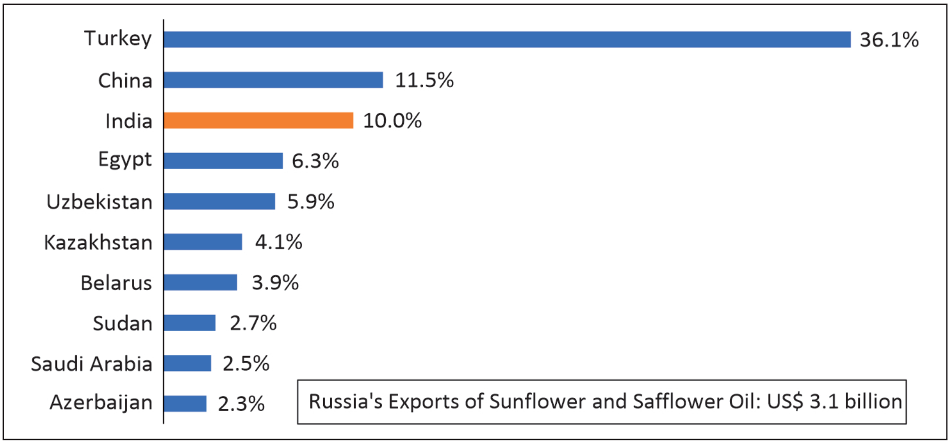
Chart 2.15: Palladium and Rhodium, Unwrought (HS 711021 and HS 711031)-Russia's Major Export Destinations in 2021



Source: ITC Trade Map and India Exim Bank Analysis

Russia remains the 2nd largest exporter of sunflower-seed, safflower or cotton-seed oil and fractions, after Ukraine, accounting for 17.9% of the world's exports, amounting to US$ 3.1 billion in 2021. Turkey, China, India, Egypt, and Uzbekistan were the largest export destinations of the product in 2021 **(Chart 2.16**).

Chart 2.16: Sunflower-Seed, Safflower or Cotton-Seed Oil and Fractions (HS 1512)- Russia's Major Export Destinations in 2021



Source: ITC Trade Map and India Exim Bank Analysis

SNAPSHOT OF UKRAINE'S TRADE

Ukraine, the second largest country in Europe, remains among the poorest countries in Europe in terms of per capita GDP. Agricultural and industrial exports form the key drivers of Ukraine's economy. Ukraine, widely known as the breadbasket of Europe, export substantial amounts of grain, vegetables, sugar beets, sunflower seeds, milk, and meat.

Ukraine is one of the major minerals producing countries globally, having huge reserves of lithium, gallium, germanium, titanium, iron, and manganese, among others. Ukraine has the second-biggest known gas reserves in Europe, which are largely unexploited. It is ranked among the top 15 largest steel producers globally and is one of the largest distributors of wheat, corn, edible oil, and sugar. The country also has a developed chemical equipment industry, making it a major supplier of fertilizers.

During the last decade, merchandise trade of Ukraine moderated from US$ 151 billion in 2011 to US$ 103.4 billion in 2020. In line with global trends, Ukraine's trade increased in 2021 to US$ 135.8 billion, with exports of US$ 65.9 billion and imports of US$ 70 billion. Historically, Ukraine's imports are larger than its exports, resulting in a negative trade balance, with the trade deficit recording US$ 4.1 billion in 2021 **(Table 2.2)**.

Table 2.2: Merchandise Trade of Ukraine

(US$ billion)

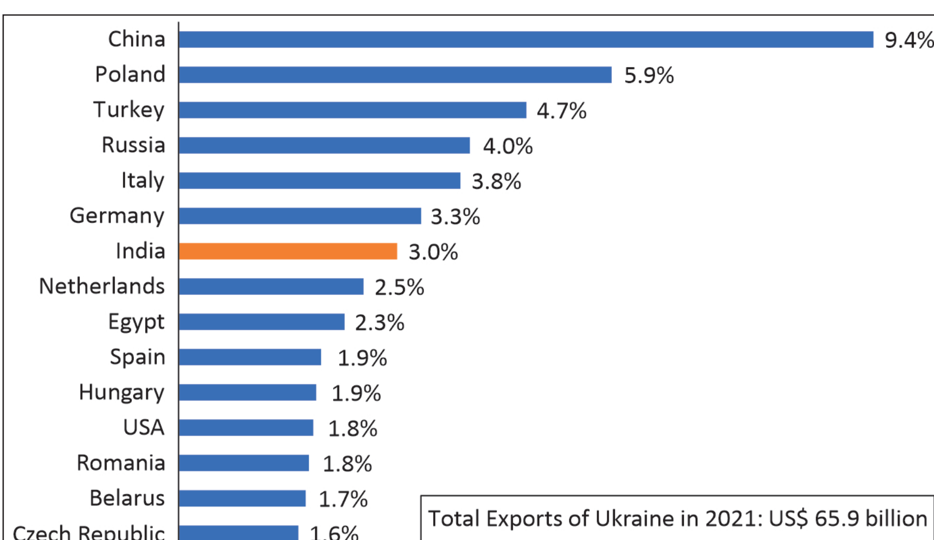
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Export	68.4	68.7	63.3	53.9	38.1	36.4	43.4	47.3	49.9	49.4	65.9
Import	82.6	84.7	77.0	54.4	37.5	39.2	49.4	57.2	60.7	54.0	70.0
Total Trade	151.0	153.4	140.3	108.3	75.6	75.6	92.9	104.5	110.5	103.4	135.8
Trade Balance	-14.2	-16.0	-13.7	-0.5	0.6	-2.9	-6.0	-9.9	-10.8	-4.6	-4.1

Source: ITC Trade Map and India Exim Bank Analysis

Ukraine's Merchandise Exports

In 2021, 9.4% of Ukraine's exports headed to China (increasing from 2.6% in 2011), which amounted to US$ 8.0 billion, making it the single largest export destination for Ukraine's exports. Poland was the second largest destination for Ukrainian exports worth US$ 5 billion (5.9% of total exports), followed by Turkey, Russia, Italy, Germany, and India, among others **(Chart 2.17)**. Russia's share in Ukraine's exports decreased over the last decade form 24% in 2011 to 4% in 2021. India remained the 7th largest export destination of Ukraine in 2021.

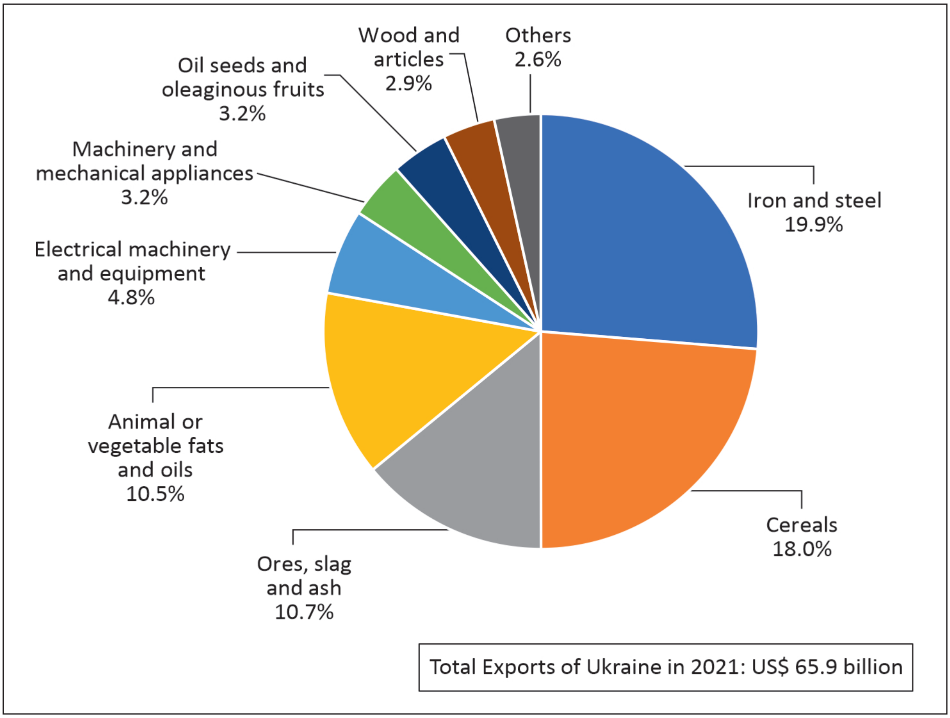
Chart 2.17: Major Export Destinations of Ukraine in 2021



Source: ITC Trade Map and India Exim Bank Analysis

In terms of products, Ukraine's major exports include iron and steel which accounted for 19.9% (US$ 13.1 billion) of total exports in 2021. The other major products of export are cereals (18% of total exports), ores, slag, and ash (10.7%), animal or vegetable fats and oils (10.5%), and electrical machinery (4.8%) **(Chart 2.18).**

Chart 2.18: Major Export Products of Ukraine in 2021

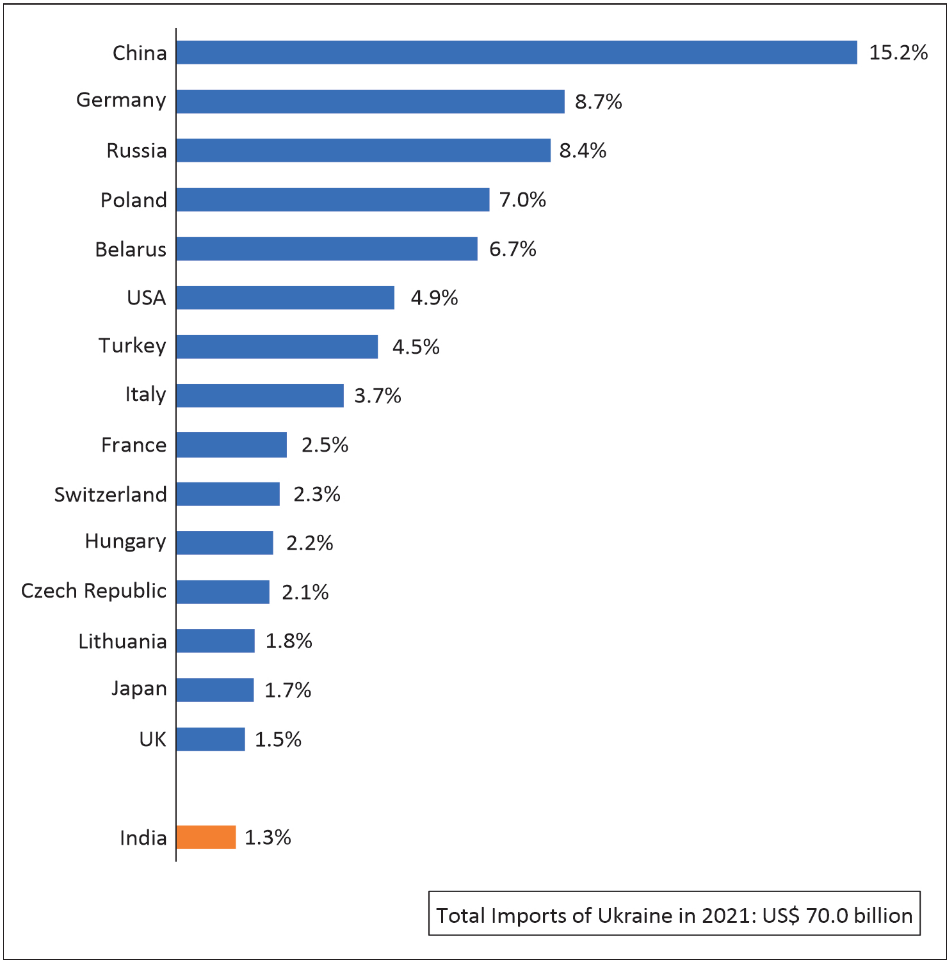


Source: ITC Trade Map and India Exim Bank Analysis

Ukraine's Merchandise Imports

In 2021, China was the single largest source of imports for Ukraine. Ukraine's merchandise imports from China amounted to US$ 10.6 billion (15.2% of Ukraine's total imports in 2021, increasing from 7.6% in 2011). Germany followed China as the second largest source of imports for Ukraine in 2021, with imports amounting to US$ 6.1 billion and a share of 8.7% in total imports in 2021. Other major sources of imports include Russia, Poland, Belarus, and the US, among others **(Chart 2.19)**. Russia's share in Ukraine's imports decreased sharply over the last decade from 35.3% in 2011 to 8.4% in 2021. India remained the 18th largest import supplier of Ukraine in 2021.

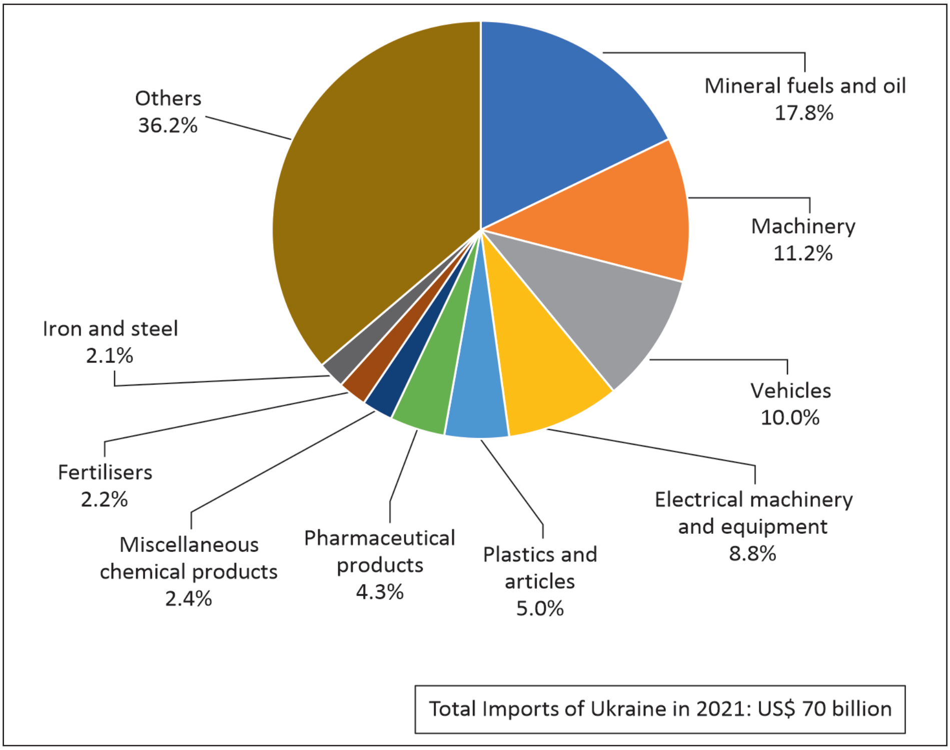
Chart 2.19: Major Import Sources of Ukraine in 2021



Source: ITC Trade Map and India Exim Bank Analysis

In terms of products, mineral fuels, and oils accounted for 17.8% of total imports of Ukraine in 2021. Other import items include machinery, vehicles, electrical machinery, plastics, and pharmaceuticals, among others **(Chart 2.20)**.

Chart 2.20: Major Import Products of Ukraine in 2021



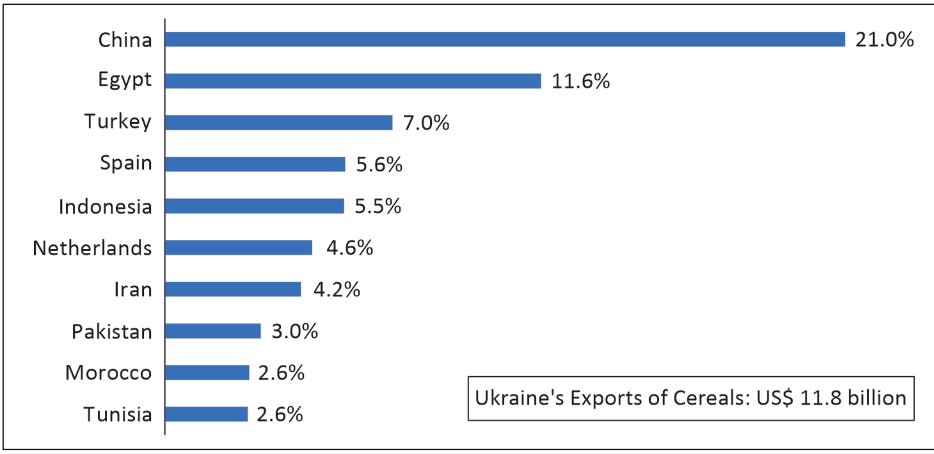
Source: ITC Trade Map and India Exim Bank Analysis

Analysis of Ukraine's Major Merchandise Exports in 2021

Ukraine holds a significant position in the global trade, being a critical supplier of several essential products, notably food and fertilizers. Ukraine is a major supplier of grains (wheat and maize) and sunflower oil. Neon supplied by Ukraine is a critical component in semiconductor production. Ukraine also supplies products such as wire harnesses, which are important for European automobile value chain.

Ukraine was the 4th largest global exporter of cereals in 2021, accounting for 7.7% of global exports, which amounted to US$ 11.8 billion. Ukraine's major destination markets include China (21% of total exports), Egypt (11.6%), Turkey (7%), Spain (5.6%), and Indonesia (5.5%), among others **(Chart 2.21)**.

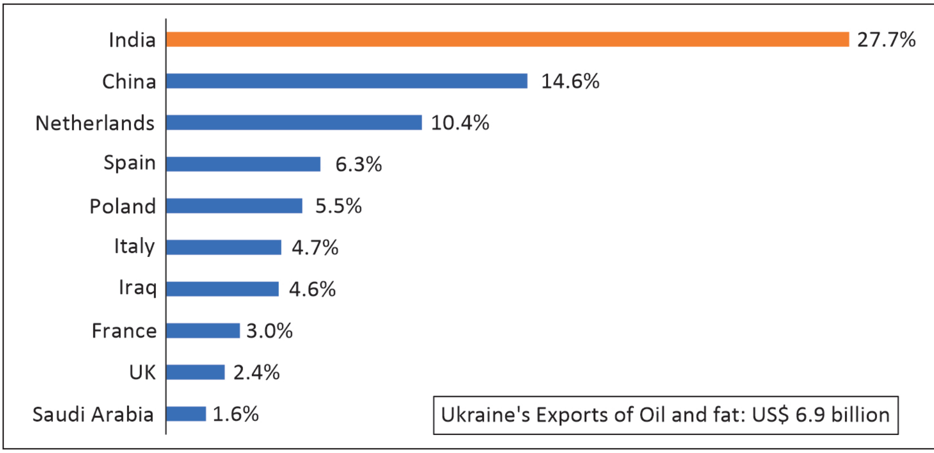
Chart 2.21: Cereals (HS 10)- Ukraine's Major Export Destinations in 2021



Source: ITC Trade Map and India Exim Bank Analysis

Ukraine was the 5th largest global exporter of animal or vegetable fat and oil, accounting for 4.6% of the total exports in 2021, which amounted to US$ 6.9 billion. Ukraine's major destination in 2021 include India (27.7%), China (14.6%), Netherlands (10.4%), Spain (6.3%), and Poland (5.5%), among others **(Chart 2.22)**. China's share in Ukraine's exports of the product increased from 2.8% in 2011 to 14.6% in 2021.

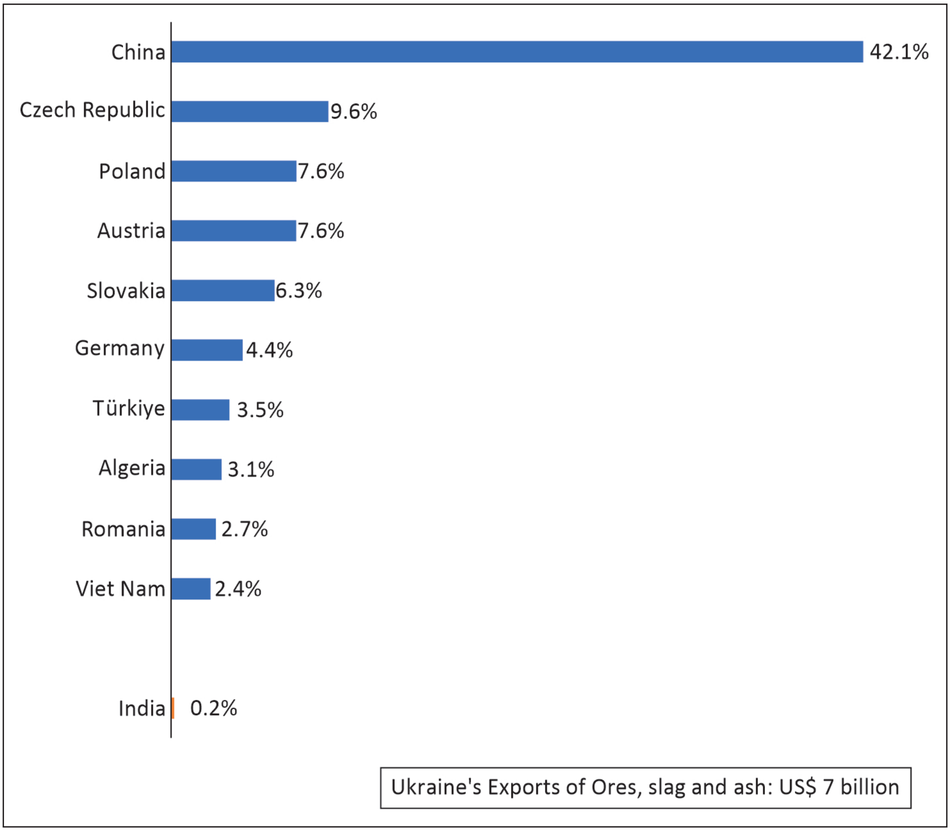
Chart 2.22: Oil and Fats (HS 15)- Ukraine's Major Export Destinations in 2021



Source: ITC Trade Map and India Exim Bank Analysis

Ukraine was the 10th largest global exporter of ores, slag, and ash, accounting for 1.9% of the total exports in 2021, which amounted to US$ 7 billion. China alone accounts for 42.1% of the total exports from Ukraine in 2021. Other major destination markets include Czech Republic, Poland, Austria, Slovakia and Germany, among others **(Chart 2.23)**.

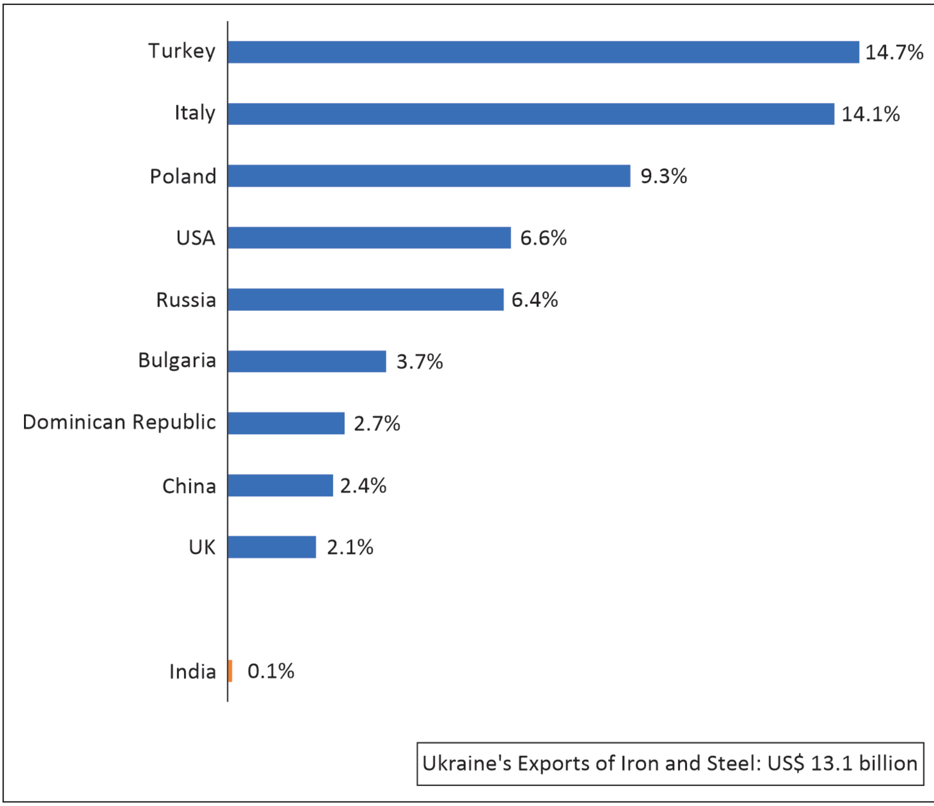
Chart 2.23: Ores, Slag and Ash (HS 26)- Ukraine's Major Export Destinations in 2021



Source: ITC Trade Map and India Exim Bank Analysis

Ukraine is among the top 15 largest exporters of iron and steel globally in 2021. With an export of US$ 13.1 billion in 2021, Ukraine supplied 2.3% of global demand for iron and steel, with the major destinations being Turkey, Italy, Poland, the US, and Russia **(Chart 2.24)**.

Chart 2.24: Iron and Steel (HS 72)- Ukraine's Major Export Destinations in 2021



Source: ITC Trade Map and India Exim Bank Analysis

Ukraine also supplies electrical wiring harness for vehicles (HS 8544), crucial for European automobile sector. According to UkraineInvest, the Ukrainian government's investment promotion agency, 22 automotive companies have invested more than US$ 600 million in 38 plants in the country, which produce mostly inputs like wire harnesses, which hold together electric cabling in cars. According to the Centre for Strategic and International Studies (CSIS), Ukraine supplies about 70% of the world's neon gas and 40% of the global krypton supply. Additionally, the country supplies more than 90% of the highly purified, semiconductor-grade neon which are critical for lasers used in chipmaking, used by the US industries. The gas is a biproduct of Russian steel manufacturing and is purified in Ukraine.

3. SANCTIONS ON RUSSIA

The impact of financial sanctions imposed on Russia during 2014-2021 had been limited on Russian economy. However, their impact on specific firms and sectors had been more significant. According to the Congressional Research Service report of the US Government dated January 18, 2022, sanctioned firms lost on average about 25% of their operating revenues, equating to over 50% of their asset values, and about 33% of their employees relative to their non-sanctioned peers over a period from 2012-2016. Additionally, the limited design of the sectoral sanctions did not necessarily result in a rapid disruption in business operations, particularly as oil prices rose.

The US and its allies imposed a series of coordinated economic sanctions on Russia since February 21, 2022 in response to the ongoing Russia-Ukraine conflict, with the aim of isolating the Russian economy and severing its financial connections. The new sanctions imposed by the United States, the EU, the UK, Canada, Australia, Japan, and others are unprecedented in terms of scope -both in terms of the type of sanctions and the entities targeted; coordination, and speed. This remains the most comprehensive sanctions imposed on a major global economic power, covering finance, imports, exports, travel, and individuals. These sanctions include asset freezing, blocking access to new funding, restrictions on certain types of transactions, and exclusion of Russian banks from the SWIFT payments system. In addition to financial sanctions, several trade sanctions have also been imposed including suspension of export licenses for dual-use items which can be used for military purposes, banning exports of high-tech items and oil-refinery equipment, sale of aircraft and equipment to Russian airlines, etc. Following several rounds of sanctions, Russia is currently the most sanctioned country globally, surpassing Iran.

FINANCIAL SANCTIONS TIMELINE

February 22, 2022: Initial deployment of Russian troop in the Donbas region

The US imposed a blocking sanction on two Russian Banks[3] and individuals. This measure was intended to freeze their assets in the US, cut them off from the US financial system, foreclose access to the US dollar and prohibit US person or entity from doing business with them. The US further expanded the sovereign debt prohibition which will deny Russia access to key US financial markets and investors. The measure restricted US persons from participation in secondary market for sovereign debt issued by the Central Bank of Russian Federation, the National Wealth Fund of Russian Federation, and the Ministry of Finance of Russian Federation. Further, Australia also imposed financial sanctions and travel bans on 8 Russian officials and restricts Australians from transacting with Russian banks. The UK also imposed sanctions on 5 Russian Banks – Rossiya, IS Bank, General Bank, Promsvyazbank and the Black Sea Bank and also sanctioned three very high net worth individuals. Germany halted certification of Nord Stream 2 Baltic Sea gas pipeline project, designed to double the flow of Russian gas supplies to Germany.

February 23, 2022: EU initiates Sanctions

The EU imposed its first major package of sanctions against Russia, including an import ban on goods from the non-government-controlled areas of Luhansk People's Republic (LNR) and Donetsk People's Republic (DNR) regions of Ukraine, restrictions on trade and investments, an export ban for certain goods and technologies, restrained Russian access to the EU's capital and financial markets and services, and more travel bans and asset freezes for a number of Russian individuals. Australia imposed financial sanctions and travel bans on 8 Russian officials and restricts Australians from transacting with Russian banks (Rossiya Bank, Promsvyazbank, IS Bank, Genbank, Black Sea Bank for Development and Reconstruction, VEB). Japan also announced travel

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[3] Vnesheconombank (VEB) and defense sector connected Promsvyazbank (PSB) and 42 of their subsidiaries

restrictions, trade restrictions, and limitations on transactions with designated Russian banks and Russian sovereign debt.

February 24, 2022: Russia finally invades Ukraine

The US announced a new round of sanctions against Russia. It severed the connection with Russia's largest bank Sberbank (including its 25 subsidiaries), which restricted its access to transaction made in the US dollar. It also issued blocking sanction on VTB Bank (Russia's second largest bank) and three[4] other major Russian banks. These sanctions freeze these financial institutions' assets involving the US financial system and prohibit US persons from dealing with them. The US Department of Commerce restricted Russian access to technology, e.g., semiconductors, computers, telecommunications, information security equipment, lasers, and sensors—by controlling the US exports or exports from third countries that use US inputs such as equipment, software, and blueprints.

The US also imposed restrictions against all transactions in, provision of financing for, and other dealings in new debt of greater than 14 days maturity and new equity issued by thirteen[5] state-owned entities of Russia. The UK also restricted Russia from raising finance and borrow money from the UK market. The UK even placed limits on the deposits that Russians can make in the UK banks. The EU, UK, Canada, Japan, and Australia also followed the US suit and sanctioned Russian banks and individuals, thus targeting Russian financial system.

February 26, 2022: DeSWIFTing

The US in a joint statement along with European Commission, France, Germany, Italy, UK, and Canada removed several Russian banks from the global financial messaging system, the Society for Worldwide Interbank Financial Telecommunication (SWIFT).

[4] Bank Otkritie, Sovcombank, and Novikombank

[5] Sberbank, AlfaBank, Credit Bank of Moscow, Gazprombank, Russian Agricultural Bank, Gazprom, Gazprom Neft, Transneft, Rostelecom, RusHydro, Alrosa, Sovcomflot, and Russian Railways.

Western allies till then opted for a targeted approach leaving room for continued trade settlements and, thus, soften the impact on European importers of Russian energy. Removal from SWIFT disconnects the targeted banks from the international financial system and weaken their ability to conduct business with the rest of the world. With the aim of preventing the deployment of international reserves, the assets of Russian Central Bank were also freezed. The EU, UK, the US, and Canada have also launched a transatlantic taskforce to identify and freeze the assets of sanctioned individuals and companies.

On February 28, 2022: Incapacitation of Central Bank of Russian Federation

The US prohibited transactions[6] involving the Central Bank of Russian Federation, National Wealth Fund of Russian Federation and the Ministry of Finance of Russian Federation but issues a general license to authorize certain energy-related transactions. These three entities have been added to the US Department of the Treasury's Office of Foreign Assets Control's (OFAC) Non-SDN Menu-Based Sanctions List. The US also added Russian Direct Investment Fund, Joint Stock Company Management Company of Russian Direct Investment Fund (JSC RDIF), and Limited Liability Company RVC Management Company (LLC RVC) to the Specially Designated Nationals List (SDN) list.

March 23, 2022: ECAs withdrew any new export finance support

Major Export credit agencies (ECA) namely Export-Import Bank (EXIM) of the United States, UK Export Finance (UKEF), and Export Development Canada (EDC), have jointly withdrew any new export finance support for Russia and Belarus.

On April 6, 2022: UK and the US further enhance sanctions on banks

The UK imposed financial sanctions on Sberbank, Credit Bank of Moscow, and 8 oligarchs. The UK also banned all new outward investment to Russia. The US Treasury also imposed financial sanctions on Sberbank, Alfa-Bank, and family members of Putin, Lavrov, and Russian Security Council members.

[6] Directive 4 under E.O. 14024

The western allies continued to impose sanctions on Russian financial institutions and Companies throughout April and May 2022 including Alrosa, Russia's largest diamond mining company; United Shipbuilding Corporation, a major Russian company responsible for building Russian navy warships; Transkapitalbank, Bitriver, and other companies in Russia's virtual currency mining industry; several entities in Russia's defense sector and state-owned enterprises.

TRADE SANCTIONS

February 21, 2022: Russia's recognition of the independence of two Republics in the Donbas region

The US sanctions targeted the Donetsk and Luhansk regions which prohibited new investments by US person in the region; import of any good services, technology from the region into the US directly and in-directly; exporting, re-exporting, selling, or supplying, directly or in-directly, from the US, or by a US person, wherever located, of any goods, services, or technology to the regions; and approving, financing, facilitating, or guaranteeing by a US person a sanctioned transaction by a foreign person[7].

On February 23, 2022: Sanction on Nord Stream 2 Pipeline

Most notably, Germany suspended the certification of the Nord Stream 2 pipeline from Russia, preventing the pipeline from becoming operational. Nord Stream 2 is a 1,200 km pipeline under the Baltic Sea, which transfer gas from Russian coast near St Petersburg to Lubmin in Germany. The US also announced sanctions on the pipeline operator and its corporate officers.

On February 24, 2022: Russia finally invades Ukraine

Under the Export Administration Regulations (EAR), the US heighted export controls on Russia. These were intended to deny Russia's ability to import advanced technologies in Russian defence, aviation, and maritime sectors. These export controls apply broadly to wide range of items including

[7] Executive Order 14024

semiconductors, telecommunication, encryption security, lasers, sensors, navigation, avionics and maritime technologies. The US imposed license requirements for all items subject to the EAR on Russian 'military end users' and 'military end uses', with limited license exceptions available for exports to Russia for civil end-uses and end-users. Also, most of the items on the Commerce Control List require a license for export to Russia.

Export Control measures further extended[8] by restricting exports of nearly all US items and items produced in foreign countries using certain US origin software, technology, or equipment to targeted military end users. Russia was denied of exports of sensitive technology to make it more difficult for Russia to compete in the technology economy. The EU and Japan restricted Russia's access to dual-use goods and key technologies, such as semiconductors and software, which contribute to the enhancement of Russia's defence sector. The EU even banned the exports on materials used in oil refining and sale of airplanes and equipment to Russia.

On March 02, 2022: Targeting the oil refinery sector

Through export controls on oil and gas extraction equipment, the US imposed restrictions on technology exports that would support Russia's refining capacity over the long term. This also include a measure to extend all export controls put in place for Russia to also cover Belarus, to prevent deliveries from being diverted through Belarus.

On March 08, 2022: Hitting the main artery of Russia's economy

The US banned all imports of Russian oil and gas and energy from Russia which is the main artery of Russia's economy. Russian crude oil accounted for about 10% of the US oil imports. The UK has also pledged to phase out the imports of Russian crude oil by the end of 2022. The ban blocked any new purchases of Russian crude oil, certain petroleum products, liquefied natural gas, and coal, and winds down the deliveries of existing purchases that have already been

[8] These restrictions apply to the Russian Ministry of Defence, including the Armed Forces of Russia, wherever located.

contracted. New investments from the US in Russia's energy sector are also prohibited under the ban.

On March 09, 2022: Restriction on exports of maritime navigation goods

The EU introduced restrictive measures with regard to the export of maritime navigation goods and radio communication technology to Russia. These measures prohibited any sell, supply, transfer or export, directly or indirectly, maritime navigation goods and technology to any natural or legal person, entity or body in Russia, for use in Russia, or for the placing on board of a Russian-flagged vessel.

On March 10, 2022: Australia and Canada follow the US suit

Australia has banned imports of Russian oil, gas, petroleum products and coal, following similar sanctions from the US and the UK. Canada also banned imports of Russian petroleum, sanctioned additional Russian entities, and 5 Russian individuals.

On March 11, 2022: Banning exports of luxury goods to Russia

Through an Executive order, the US has banned the exports of luxury goods to Russia and the import of signature Russian goods. The imports from Russia into the US of fish, seafood, and preparations thereof; alcoholic beverages; non-industrial diamonds; and any other products of Russian origin has to be determined by designated authorities. The US has also restricted US investment in any sector of Russian economy.

On March 15, 2022: Sanctions from the Europeans

The UK imposed 35% tariff on imports of Russian vodka and other goods and banned exports of luxury goods to Russia. The EU also restricts imports of iron and steel from Russia and exports of luxury goods to Russia. It also prohibited new investments and adds export controls targeting energy industry. The export controls were further expanded on Russian defence and security sectors.

On March 19, 2022: Ban on exports of alumina

Australia banned exports of alumina and bauxite to Russia. Alumina is used is the production of aluminium. Russia was the 6th largest exporter of aluminium in 2021. Russia relies on Australia for nearly 20% of its alumina needs and thus this will directly impact Russian aluminium production capability.

On March 31, 2022: Australia announced withdrawal of MFN tariff treatment

Australia announced the withdrawal of MFN tariff treatment and applied an additional tariff of 35% to all imports from Russia and Belarus, effectively to be applied from April 25, 2022.

On April 1, 2022: The US expanded export controls

The US Department of Commerce expanded export controls by adding to the Entity List, 120 Russian and Belarusian firms alleged to support the two countries' militaries.

On April 6-8, 2022: The UK, New Zealand, and the US further restrict trade with Russia

The UK banned imports of Russian iron and steel products and commits to end imports of Russian coal and oil by the end of 2022 and gas "as soon as possible thereafter". It also banned exports to Russia of quantum and advanced material technologies. While the EU banned imports of Russian coal starting from August 2022, along with other products such as wood, cement, fertilizers, seafood, and liquor. It also expanded export bans to include jet fuel, quantum computers, semiconductors, and other technology products and services.

On the other hand, New Zealand announced application of a 35% tariff on all imports from Russia and extended its export ban to new products such as ICT equipment and engines. The US issued an Executive Order banning new outbound US foreign investment into Russia as well as services exports, while the US Treasury sanctioned Alrosa, Russia's largest diamond mining company.

The US also signed two bills into law- The "Ending Importation of Russian Oil Act" which prohibited energy imports from Russia, and the "Suspending Normal Trade Relations with Russia and Belarus Act" which raised US tariffs toward each country to their rates in column 2 of the Harmonized Tariff Schedule.

On April 20, 2022: Japan and the UK alters tariff treatment to Russia

Japan passed a law withdrawing MFN tariff treatment for imports from Russia, which raises import tariffs for certain products. The UK banned imports of additional Russian goods, including silver, wood products, and caviar, and imposes an additional 35% import tariff on other imports from Russia and Belarus, including diamonds and rubber.

The trade sanctions in the form of ban and high tariff imposition on various sectors/products including Russian gold by Western allies continued throughout next months.

On May 30-31, 2022: EU bans Russian oil

The EU decides to eventually ban imports of Russian crude oil and petroleum products, with a temporary exception for some crude oil delivered by pipeline.

IMPACT OF SANCTIONS ON RUSSIAN ECONOMY

The International Monetary Fund (IMF) projects that in 2022 Russia's economy will contract by 8.5%, inflation will reach 21.3%, and unemployment will double to 9.3% (from 4.8% in 2021). Several Russian factories reportedly have suspended production as they cannot access the necessary foreign parts and supplies. The Russian government has enacted a number of policies to support domestic economic activity mitigate the impact of sanctions.

Sanction on Banks: As on end 2021[9], more than 40% of Russia's external debt (US$ 209 billion out of US$ 478 billion at the end of 2021) is denominated in US dollars, of which US$ 135 billion is due within one year. Even after constant efforts of de-dollarisation from 2014, the sanctions imposed on Russian Banks

[9] Russia Sanctions: Climbing the Escalation Ladder, IIF, February 2022

have put financial institution and corporates in tricky position. Notably, the freezing of the Bank of Russia's assets and prohibition of transactions with the Central Bank would significantly impair the central bank's ability to supply US dollar liquidity to the economy. The cumulative impact of these sanctions are likely to be strong, thus leading to significant contraction of the GDP of Russia.

Severing SWIFT: SWIFT is a messaging network that financial institutions use to transmit information and instructions through codes securely. According to SWIFT, as of January 2022, 39.9% of all SWIFT transactions by value were in US Dollars, followed by Euro at 36.6%, Pound at 6.3% and Renminbi at 3.2%.[10] Rouble does not fall under the top 20 currencies of SWIFT transactions by value, however, if excluding payments within Eurozone, Rouble is the 18th largest currency of SWIFT transactions by value, with 0.26% share.

Till April 2022, western allies followed only a targeted approach to allow continued trade settlement for Russian energy by European importers. The impact of the SWIFT related sanctions is expected to lead to destabilization of Russian financial system, by profoundly impacting banks' and corporates' ability to transfer money across borders. This would affect their ability to receive and make payments for exports and imports of goods and services as well as debt repayments and foreign investments. Trade with the EU would be particularly hard-hit, as the EU accounts for more than 40% of Russia's gross trade flows. Foreign lenders are also reluctant to reengage with Russian borrowers. In March itself, Russia started witnessing bank-runs and a rush on foreign exchanges considering the fall in the value of the Rouble. To restrict any further fall of Rouble, Russia imposed a condition on payment of Russian gas in Rouble on certain countries. These are majorly the countries that have imposed sanctions on Russia. The countries include the US, the EU member states, the UK, Japan, Canada, Norway, Singapore, South Korea, Switzerland and Ukraine. In addition, Russia has also blocked interest payments to foreign investors who hold government bonds as well as banned Russian firms from paying overseas shareholders. It has also restricted the sell-off of billions worth Russian stocks held by foreign investors.

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[10] RMB Tracker - Monthly reporting and statistics on renminbi (RMB) progress towards becoming an international currency, SWIFT, February 2022.

In response to the sanctions of 2014 and in anticipation of additional measures in the future, the Bank of Russia began to develop its own Financial Communications System, System for Transfer of Financial Messages (SPFS) since 2014 and over 400 primarily domestic institutions are linked to it. In 2020, the number of messages almost doubled to two million and it handled over 20% of total traffic (total messages)[11]. Russia also launched a domestic alternative to the US based card payment companies called MIR and rapid payments system, through which consumers can transfer money and execute payments, thus contributing to a sharp rise of cashless transactions in Russia. Due to SPFS' limited international reach, Russia has also undertaken efforts to link it to China-based Cross-Border Inter-Bank Payments System (CIPS) and China National Advanced Payment System (CNAPS). For instance, in 2020, Shanghai branch of Russian based, VTB Bank, has linked up to CNAPS, thus, obtaining direct access to settlements in Renminbi, allowing it to ensure efficient and reliable cross-border payments and foreign currency exchange transactions between Russia and China. While Russian oil and broader Renminbi based trade could mitigate some of the immediate impacts of the SWIFT ban to Russia, it is not adequate enough to provide an alternative to SWIFT.

Sanctions on Secondary Debt Markets: Sanctions on the secondary local currency-denominated debt market would directly impact the fiscal health of the economy. Russia's expenditure is likely to drive-up due to military operations in Ukraine while the borrowing needs are also expected to rise sharply. These sanctions will lead to higher costs of funding to Russia and impact its fiscal policies which further will require either spending cuts or higher taxes. However, Russia financial system to a certain extent could absorb the damage by additional issuance in the domestic market.

Sanctions on Oil and Gas and Export Controls: Sanctions on key Russian exports such as oil and natural gas would have a strong impact on Russia both in terms of the country's external balance as well as the government's fiscal accounts. Revenues from oil and gas play a major role in Russia's budget. These revenues largely consist of export duties and taxes on mining and quarrying activities.

[11] Russia Sanctions: Climbing the Escalation Ladder, IIF, February 2022

With significantly lower revenues from these sources, Russia would have to make meaningful adjustments to government spending to avoid large deficits. This would also pose serious challenges to countries that are reliant on Russia's hydrocarbon exports, especially the EU. Additionally, exports controls have limited Russia's ability to import advanced technologies in Russian defence, aviation, and maritime sectors.

De-dollarisation of Russian Economy

Post international sanctions in 2014, as a part of its deliberate risk reduction strategy, Russia has been actively pursuing de-dollarisation of its reserves. Russia has reduced share of its reserve assets in US dollar from 43% in 2014 to around 16% in 2021. Gold surpassed the US dollar in Russia's reserves, accounting for over 20%, while Renminbi accounts for 13% of the total reserves in 2021. Russia has also eliminated its holdings of US Treasuries almost entirely. The European Union and China are Russia's most important trading partners, and both were interested in settling with Russia in their respective currencies. There has been a significant increase in the use of Euro for the export and import settlement from 10% in 2013 to 30% in 2021, and a corresponding decrease of the dollar's share from 80% to 55% over the same period. The introduction of digital Rouble and continued development of domestic payments system are expected to further support de-dollarisation of Russia.

Impact on Macroeconomic Indicators

According to the World Economic Outlook, April 2022 of the IMF, real GDP of Russia is estimated to have rebounded to 4.7% growth in 2021, as compared to a contraction of 2.7% recorded in the previous year, with industrial activity picking up as lockdown measures eased. Growth was further supported by stronger oil market, and pick up in investment activity. Russia's high dependency on oil and a lack of other major drivers of the economy limited growth in 2021. Western sanctions are expected to impose severe economic costs on Russia. Russia's real GDP is expected to contract by 8.5% in 2022, as a result of the conflict with Ukraine and international sanctions. The economic shock is expected to continue in 2023, resulting in another recession of 2.3%. Although Russia has undertaken a drive towards import substitution since 2014, its industries continue to be highly reliant on imported components, mainly produced by Western manufacturers. The ban on the sale of technological goods to Russia is leading to significant shortages, and industries are struggling to maintain previous levels of productivity as they deplete existing stocks. Low external demand for some Russian goods, as well as component scarcity is expected to lead some industries grinding to a halt, before alternatives are secured.

Consumer price inflation is expected to accelerate to 21.3% during 2022, with the main driver of price growth being forced import suppression, which leads to shortages of manufactured products for consumption and components needed to manufacture goods for the domestic market. Another factor fuelling inflationary pressures will be logistical constraints, as sanctions have made it physically difficult and financially costly to deliver goods to Russia. Disconnecting Russian banks from the SWIFT settlement system and blocking Russia's use of foreign exchange reserves have triggered a sharp depreciation of the Rouble. Amid the invasion of Ukraine, the Rouble lost about 70% of its value between February 23rd and March 9th. The convertibility of the currency remains heavily limited inside Russia. Many international firms left the country, a culmination of all these leading to sharp fall in the real income of the people.

4. GLOBAL IMPACT OF RUSSIA-UKRAINE CONFLICT

In a globalised world, the economies are interlinked. Disturbances in any part of the world leads to disruptions experienced by the partners, depending upon its contribution in the global trade. The preceding section has already emphasised on the significant global position that both Ukraine and Russia hold in the international trade. According to the IMF, the entire global economy would be feeling the effects of the conflict through reduced growth and accelerated inflation. Moreover, heightened geopolitical tension raises risks of economic fragmentation, especially for trade and technology. As a major producer and exporter of both oil and natural gas, Russia has a significant role in global energy markets. Russia-Ukraine conflict has potential serious implications for international energy security. The besieging of Black Sea ports and sanctions on Russia have triggered a supply shock that is ripping throughout the global economy.

The current conflict is affecting global economies through various channels:

a) Commodity Price Channel
b) Financial Market Channel
c) Trade and Supply Chain Channels
d) Confidence Channel

The first response of the conflict was a quantum jump in several commodity prices, beginning with crude oil and metals. Since, Russia accounted for around 13% of global crude oil (HS 2709) supply in 2021, uncertainties surrounding the conflict has resulted in adding an additional risk premium to the already escalating crude oil prices. It has also resulted in raising prices of other commodities where energy is a necessary input. This has further aggravated the supply disruptions in several sectors, where COVID-19 pandemic has already resulted in significant supply chain disruptions. Ukraine and Russia being important exporters of several agriculture products, there would be severe impact on prices of food items such as wheat, corn, maize, barley, and sunflower oil. The current crisis happened at a time when the ongoing geopolitical tensions and persistent supply challenges in areas like coal, power and semiconductors have already been affecting economies across the world.

a) Commodity Price Channel

Rising Price of Crude Oil and Natural Gas: As the economies slowed down during the pandemic, petroleum refiners had reduced output. Global economy rebounded from a pandemic-induced slowdown amidst the reduced supply, have lifted the prices from the pandemic lows, but it surged significantly after the commencement of Russia's conflict in Ukraine. Russia is the world's third largest oil producer behind Saudi Arabia and the US. In January 2022, Russia's total oil production was 11.3 mb/d, of which 10 mb/d was crude oil, 960 kb/d[12] condensates and 340 kb/d NGLs as compared to the US total oil production of 17.6 mb/d while Saudi Arabia produced 12 mb/d.

Russia is also the world's second largest exporter of mineral fuels to global markets. In December 2021, it exported 7.8 mb/d, of which crude and condensate accounted for 5 mb/d[13], or 64%. Mineral fuel and products exports totalled 2.85 mb/d, of which 1.1 mb/d of gas oil, 650 kb/d of fuel oil and 500 kb/d of naphtha and 280 kb/d of vacuum gas oil (VGO). Gasoline, LPG, jet fuel and petroleum coke made up the remaining 350 kb/d.[14]

Russia's commencement of its special operations in Ukraine on February 24, 2022, had resulted in crude oil and natural gas prices shooting up on expectations that sanctions against Russia would cripple energy exports. The prices of Brent crude oil peaked at US$ 133.2 per barrel on March 08, 2022

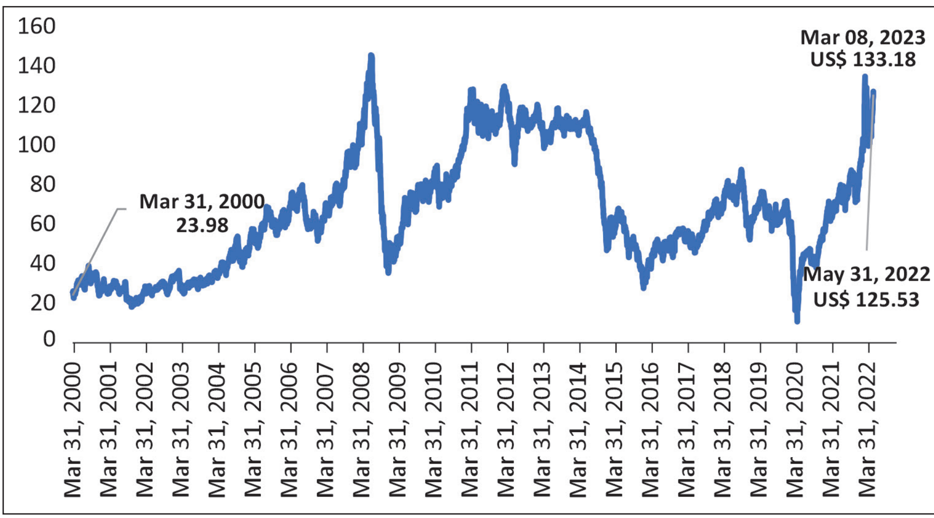
[12] Thousand Barrels per day

[13] Million barrels per day

[14] International Energy Agency

(Chart 4.1). However, the prices have since then settled with the release of reserves and the announcement of increased production by OPEC countries. Since Russia is one of the biggest oil exporters in the world, the conflict has caused an instantaneous global supply shock. The conflict is expected to disrupt supplies from the Nord Stream pipelines to the EU, leading to further energy shortages and inflation.

Chart 4.1: Europe Brent Spot Price FOB (Dollars/Barrel)



Source: US Energy Information Administration

International natural gas prices have been rising amid Russia-Ukraine conflict and increased uncertainty in European natural gas markets. At the Title Transfer Facility (TTF) in the Netherlands, the most liquid natural gas spot market in Europe, the day-ahead prices rose to US$ 18.71 to a weekly average of US$ 59.76/MMBtu[15] (for the week ending Wednesday, March 9, 2022) compared to US$ 5.93/MMBtu during the week ending March 10, 2021.

The concerns over tightening supplies and further sanction on oil and gas supplies have added to the uncertainty in the market. Thus, global traders, shippers and financiers are moving away from dependence on Russian oil, which has reduced the daily global supply further. Buyers of Russian oil are also

[15] Metric Million British Thermal Unit

facing difficulty over payments and vessel availability as the western sanction materialises. The rise in the price of crude oil will have a domino effect through serious impact on inflation which get passed through to energy-intensive goods and services, affecting the whole world. Further rise in gas and oil prices, along with curtailment of Russian gas supply could lead to factory closures and loss of GDP in European countries.

Rising Prices of Food: Russia and Ukraine are among the most important producers of agricultural commodities in the world. Both countries are net exporters of agricultural products, and they both play leading supply roles in global markets of food products and fertilizers, where exportable supplies are often concentrated in a handful of countries. Russia and Ukraine together ranked amongst the top three global exporters of wheat, maize, rapeseed, sunflower seeds, and sunflower oil, while Russia is also the world's top exporter of nitrogen fertilizers and the second leading supplier of both potassic and phosphorous fertilizers.

Ukraine and Russia being the 4th and 6th largest exporters of cereals in 2021, the disruptions caused by sanctions and the related uncertainty would directly impact the availability of food in the global market. Wheat prices have risen by 50% by May end. The escalation of conflict has led to port closures in Ukraine, the suspension of oilseeds crushing operations and the introduction of export licensing requirements for some crops, which would have a major impact on exports of grains and vegetable oils. Reduced availability of food and critical agriculture-related goods have bid up the prices, thus leading to higher food costs. This contributes to the rise in the global inflation level. Moreover, these soaring prices are expected to have significant impact on African economies and other Least Developed Countries (LDCs). According to the UNCTAD, during 2018-2020, 44% of total wheat imports of Africa originated from Russia and Ukraine. Further, around 25 African countries import more than one third of their wheat from the two countries, and 15 of them import over half.

The soaring wholesale gas prices have resulted in high fertilizer prices. Additionally, the ban imposed by Russia on March 10, 2022, on the exports of fertilizer is also expected to drive up the cost of food due to rise in the cost of inputs as Russia is the single largest exporter of fertilizer in the global market. Disruptions in the fertilizer market could also lead to decline in crop yield by around 50%.[16] This could lead to decline in food production and food insecurity especially in imported food dependent countries.

Edible Oil: In 2021, Ukraine and Russia were the 5th and the 7th largest exporters of edible oil, and the top exporters of sunflower oil. In 2021, the unfavourable weather conditions in major oil-exporting countries like Malaysia, Indonesia, Ukraine, Argentina and Russia, and labour shortage due to the pandemic have already impacted the production of edible oil. The ongoing conflict between the two nations have further created a supply crunch in the market, thus leading to higher prices.

Metals: Russia is a major producer of metals as it accounts for 6-8% of nickel and 6% of aluminium production and has a 14% share in world steel trade. Ukraine also produces a significant share of steel. Uncertainty over the supply of metals and sanctions on Russia have led to sharp rise in the prices of these products. Between February 23 and March 08, 2022, three-month nickel futures on the London Metal Exchange (LME) increased 97%, zinc 16%, aluminium 6.2%, and copper 3.5%.[17] According to Crisil Research, prices of steel- FOB China have also increased 4% in two weeks since the conflict started.

Chip Shortage Widens: Russia-Ukraine conflict has further aggravated the ongoing chip shortage as Russia produces around 40% of the global palladium production and Ukraine controls 70% of the neon supplies. These are the key raw materials that go into making of semiconductors. The global chip shortage is likely to worsen if the military conflict continues. It is through this shortage of semiconductors that industries such as automobile, mobile phones, and consumer electronics industry are impacted, which are directly dependent on these chips for their production, and could get severely affected in the due course of time.

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[16] Ukraine war 'catastrophic for global food', BBC, March 7, 2022

[17] Business Standard Article titled 'Fallout of Russia-Ukraine war: Metal users, producers feel price pinch', March 10, 2022

The higher prices for commodities such as food and fuel are already accelerating inflation across economies globally, leading to decline in demand, both domestic and foreign, due to reduced incomes. The fuel and food import dependent economies are also expected to witness worsening of balance of payments.

b) Financial Market Channel

Wide ranging sanctions in banking and the broader financial sectors, together with several Western economies ceasing business with Russia have been severely disruptive to businesses impinging on the profits of companies in Russia and raised questions on capability and willingness of Russia to repay its debts. It has also resulted in severe depreciation of Russia's currency and raising key interest rates to 20% from 9.5% by Russian Central Bank. The global credit rating agencies though initially downgraded Russia's Sovereign ratings as well as long term debt ratings; later withdrew all ratings on Russia and Russian sub-sovereign entities after the EU ban on providing credit ratings to legal persons, entities, or bodies established in Russia.

Globally risk assets are under severe pressure, leading to flight to safety to US dollar and gold. Economies, especially emerging ones, are also facing various additional credit risks evolving from the conflict, including severe price pressures and increased risk averseness by global investors, raising the cost of external financing. This could exert severe downward pressure on investment in developing countries, especially in strategic infrastructure sector, exchange rate devaluation, and rising external debt obligations. There are also possibilities of push towards an alternative financial system, including parallel cross-border payments and a shift towards cryptocurrencies.

c) Trade and Supply Chain Channels

Russia accounted for a marginal 1.8% of global GDP (current prices) and 3.1% of GDP (PPP) in 2021. Russia also accounted for a marginal 2.2% of global exports in 2021. Considering these small numbers, disruptions in global trade may not be profound. However, with Russia and Ukraine being major suppliers of several commodities, there would be supply chain disruptions in these sectors in the global commodity market, exacerbating ongoing disruptions to global logistics and supply chains. Although there were a few positive signs initially such as improvements in the JP Morgan Global Manufacturing PMI which rose from a 15-month low of 53.2 in January to 53.6 in February, the current conflict is adding pressure to the existing supply chain issues. In the later months, J.P.Morgan Global Manufacturing PMI fell further to 53.0 in March, and 52.2 in April, signalling a downturn in worldwide manufacturing production.

Russia and Ukraine together are a key geographical component of the Eurasian Land Bridge. The conflict in Ukraine and sanctions on Russia have disrupted shipping and air logistics networks, causing freight rates rising across the board. The Ukrainian Black Sea port of Odessa has been shut down. Cargo destined for Ukraine has been diverted to other ports. The disruptions in the Black Sea are impacting the prices of several agricultural products, using Black Sea trade routes for transit. It is also having a material impact on cargo air capacity as the immediate closure of air space above Ukraine, Russia, and other countries implies disruption to certain existing flight paths, adding time, distance, or additional stops. The impact of this is being seen on some trade lanes. The container shipping carrying capacity which has already been constrained by the ongoing global supply chain crisis has further hindered due to higher fuel costs and re-routing efforts. The global freight rates are also expected to witness sharp rises in the coming days.

About 50% of Asia-Europe flights are operated by European airlines, making them directly subject to diversion around Russian air space, increasing route length and effectively decreasing supply as more fuel is used and payloads have to be limited to accommodate longer, diverted transits. Russian airlines, specifically, have been banned from the EU airspace – including Aeroflot and AirBridgeCargo. Since the latter is a top-20 global provider, with 18 widebody freighters, its ban is further reducing the already tight capacity on Asia-Europe lanes.[18]

d) Confidence Channel

The uncertainties surrounding the current conflict is eroding the global market/ business confidence, leading to increased volatility, higher investor uncertainty

[18] Baltic Exchange

and risk premia in global financial markets. The US consumer confidence had started weakening in February 2022 on expectations about the ongoing conflict. Inflation expectations are shifting higher, alongside downside risks to GDP growth and high interest rates forecasts. Stricter sanctions and sustained geopolitical tensions are leading to severe and protracted rise in global uncertainty. Further disruptions in financial sector would affect various asset categories severely, which in turn would further depress risky asset prices, tighten financial conditions and increase volatility. The conflict has already resulted in general increase in risk premia, leading to higher external financing costs for companies and weighing on investment. This is also expected to lead to increased capital outflows, especially from emerging markets.

From a macroeconomic perspective, global GDP forecasts for 2022 have been downgraded in light of the Russia - Ukraine conflict. While shares of Russia and Ukraine in global trade and GDP are relatively small, both countries remain important suppliers of essential products, notably food and energy. In addition to Russia and Ukraine, European countries are expected to witness a decline in their GDP, given their geographic proximity to the conflicting countries and heavy dependence on Russian energy. The WTO has estimated that the conflict could reduce global GDP growth by 0.7-1.3 percentage points and global trade growth would slow by up to 2.2 percentage points in 2022. Higher food and energy prices would reduce real incomes and dampen global import demand. Trade costs are expected to rise due to sanctions, export restrictions, higher energy costs and transport disruptions.

Thus, the ongoing conflict is expected to affect global economies through multiple channels. Alongside, these issues, at the public front there has been increased defence spending in the recent times on the back of these uncertainties, crowding out investment for development expenditure. The conflict is also expected to pave way towards further de-globalization trends. As highlighted by the IMF, if Russia-Ukraine conflict results in shifting of energy trade, reconfiguration of supply chains, fragmentation in payment networks, and rethinking of reserve currency holdings by countries, then it might fundamentally alter the global economic and geopolitical order in the long run.[19]

[19] How War in Ukraine Is Reverberating Across World's Regions, IMF, March 2022

5. INDIA'S TRADE WITH RUSSIA AND UKRAINE

India's Trade with Russia

Bounded by strong ties of history and culture, Russia and India share many fundamental values and a robust wide-ranging relationship. India enjoys a privileged strategic partnership with Russia. India's exports to Russia increased from US$ 1.8 billion in 2011-12 to US$ 3.3 billion in 2021-22, recording an average annual growth rate (AAGR) of 7.7%. During the same time, the imports have recorded an AAGR of 12%, growing from US$ 4.8 billion in 2011-12 to US$ 9.9 billion in 2021-22. India has been maintaining a trade deficit with respect to Russia, with the deficit widening from US$ 3 billion in 2011-12 to US$ 6.6 billion in 2021-22. Trade with Russia in terms of both exports and imports recorded the highest levels in 2021-22 **(Table 5.1).**

Table 5.1: India's Merchandise Trade with Russia

(US$ billion)

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
India's Exports to Russia	**1.8**	**2.3**	**2.1**	**2.1**	**1.6**	**1.9**	**2.1**	**2.4**	**3.0**	**2.7**	**3.3**
Russia's Share in India's Exports	0.6%	0.8%	0.7%	0.7%	0.6%	0.7%	0.7%	0.7%	1.0%	0.9%	0.8%
India's Imports from Russia	**4.8**	**4.2**	**3.9**	**4.2**	**4.6**	**5.6**	**8.6**	**5.8**	**7.1**	**5.5**	**9.9**
Russia's Share in India's Imports	1.0%	0.9%	0.9%	0.9%	1.2%	1.4%	1.8%	1.1%	1.5%	1.4%	1.6%
Total Trade	**6.5**	**6.5**	**6.0**	**6.3**	**6.2**	**7.5**	**10.7**	**8.2**	**10.1**	**8.1**	**13.1**
Trade Balance	**-3.0**	**-1.9**	**-1.8**	**-2.2**	**-3.0**	**-3.6**	**-6.5**	**-3.5**	**-4.1**	**-2.8**	**-6.6**

Source: Department of Commerce, Ministry of Commerce & Industry, Government of India (GOI)

As part of the Eurasian Economic Union (EAEU), Russia provides GSP benefits to exports from India. With respect to commodities traded, around 16% of India's exports to Russia during 2021-22 were electrical machinery and equipment. This was followed by pharmaceutical products (14.7%), machinery and mechanical appliances (9.3%), iron and steel (7.4%), and organic chemicals (7.1%) **(Table 5.2).** At a disaggregated level, major exported products in 2021-22 were medicines for retail sale; telephones for cellular networks or for other wireless networks; frozen shrimps and prawns; black tea (fermented) and other partly fermented tea; and mucilages and thickeners, from locust bean and guar seeds.

Table 5.2: India's Major Exported Commodities to Russia

(US$ million)

Commodity	2011-12	2020-21	2021-22
India's Exports to Russia	**1,778.3**	**2,655.5**	**3,254.7**
Electrical machinery, equipment, and parts	236.0	301.8	518.6
Pharmaceutical products	401.1	470.0	479.5
Machinery, mechanical appliances, and parts	73.5	227.0	302.5
Iron and steel	70.5	137.9	239.8
Organic chemicals	35.5	267.4	231.0
Vehicles other than railway or tramway rolling stock, and parts	57.5	88.8	128.0
Fish and crustaceans, molluscs, and other aquatic invertebrates	20.8	83.1	120.0
Coffee, tea, and spices	139.4	103.0	94.2
Miscellaneous chemical products	15.6	63.0	90.5
Lac; gums, resins and other vegetable saps and extracts	63.7	32.9	63.3
Miscellaneous edible preparations	86.8	39.1	59.5
Plastic and articles	45.6	41.3	58.9
Ceramic products	4.2	40.5	57.8
Rubber and articles	23.0	37.6	55.1
Cereals	5.2	63.0	50.6

Source: Department of Commerce, Ministry of Commerce & Industry, GOI

With respect to India's imports from Russia, over 53% of India's imports are mineral fuels and oils, followed by pearls, precious and semi-precious and stones (12.7%), fertilizers (7.8%), project goods (5.3%), animal or vegetable fats and oils (5%), and paper and paperboard (1.5%) during 2021-22 **(Table 5.3).**

Table 5.3: India's Major Imported Commodities from Russia

(US$ million)

Commodity	2011-12	2020-21	2021-22
India's Imports from Russia	**4,764.3**	**5,485.8**	**9,870.0**
Mineral fuels, oils, and products of distillation	307.9	2,110.7	5,250.1
Pearls, precious or semiprecious stones and metals	1,263.0	953.2	1,253.4
Fertilizers	734.0	596.0	773.5
Project goods	9.0	362.2	520.5
Animal or vegetable fats and oils	7.3	293.0	494.1
Paper and paperboard	159.6	121.3	147.1
Rubber and articles	245.3	102.5	145.8
Iron and steel	636.6	99.6	140.1
Inorganic chemicals; organic or inorganic compounds of precious metals, rare-earth metals	66.9	125.2	125.8
Salt, sulphur, plastering materials, lime, and cement	138.9	104.8	121.4
Plastic and articles	43.3	90.9	115.7
Machinery, mechanical appliances, and parts	101.4	84.1	100.2
Pharmaceutical products	2.6	0.7	95.4
Printed book and products of printing industry	5.4	70.0	86.0
Organic chemicals	70.8	62.5	73.2

Source: Department of Commerce, Ministry of Commerce & Industry, GOI

At a disaggregated level, major imported products in 2021-22 were crude oil; other petroleum oil; coal; unworked non-industrial diamonds; project goods and crude sunflower and safflower oil. In 2021-22, Russia was the 9th largest supplier of crude oil (HS 2709) to India (2% share in India's crude oil imports); 5th largest source of coal (HS 2701) to India (5.2% share in India's coal imports); 5th largest source of unworked non-industrial diamonds (HS 710231) to India (4.2% share in India's imports of the product); largest source of project goods (HS 9801) to India (38.4% share), and 2nd largest source of sunflower, safflower or cotton seed oil (HS 1512) to India (16.3% of imports) during 2021-22. Russia was also the 5th largest source of fertilizers to India (6.1% share).

India's Trade with Ukraine

The total trade between India and Ukraine increased from US$ 3 billion in 2011-12 to US$ 3.4 billion in 2021-22. India's exports to the country remain relatively stable throughout the last decade. During 2021-22, India's exports to Ukraine was US$ 472.7 million, lower than US$ 491.2 million recorded in 2011-12. On the other hand, India's imports from Ukraine witnessed an increase from US$ 2.5 billion in 2011-12 to US$ 2.9 billion in 2021-22, increasing by an AAGR of 4.2%. As is the case with Russia, India has been recording a trade deficit with the country which stood at US$ 2.4 billion in 2021-22, increasing from US$ 2 billion recorded in 2011-12 **(Table 5.4).**

Table 5.4: India's Merchandise Trade with Ukraine

(US$ million)

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
India's Exports to Ukraine	**491.2**	**519.8**	**481.3**	**348.9**	**259.1**	**310.2**	**330.1**	**390.8**	**463.8**	**451.0**	**472.7**
Ukraine's Share in India's Exports	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%
India's Imports from Ukraine	**2,463.7**	**2,657.5**	**1,804.8**	**2,239.0**	**1,751.1**	**2,481.5**	**2,356.0**	**2,341.0**	**2,060.8**	**2,139.9**	**2,913.6**
Ukraine's Share in India's Imports	0.5%	0.5%	0.4%	0.5%	0.5%	0.6%	0.5%	0.5%	0.4%	0.5%	0.5%
Total Trade	**2954.9**	**3177.3**	**2286.0**	**2587.9**	**2010.2**	**2791.6**	**2686.1**	**2731.8**	**2524.6**	**2590.8**	**3386.3**
Trade Balance	**-1972.5**	**-2137.7**	**-1323.5**	**-1890.1**	**-1492.0**	**-2171.3**	**-2025.9**	**-1950.2**	**-1597.0**	**-1688.9**	**-2440.9**

Source: Department of Commerce, Ministry of Commerce & Industry, GOI

Pharmaceutical products remain the major exported commodities from India to Ukraine, accounting for over 30% of India's exports to the country in 2021-22. It was followed by plastics and articles (5.5%), machinery and appliances (5.3%), iron and steel (5.1%), miscellaneous chemical products (4.9%), and electrical machinery and equipment (4.2%) **(Table 5.5).**

Table 5.5: India's Major Exported Commodities to Ukraine

(US$ million)

Commodity	2011-12	2020-21	2021-22
India's Exports to Ukraine	**491.2**	**451.0**	**472.7**
Pharmaceutical products	135.6	173.7	142.6
Plastic and articles	12.6	20.6	26.1
Machinery, mechanical appliances, and parts	17.2	14.4	25.0
Iron and steel	70.8	11.4	23.9
Miscellaneous chemical products	2.0	14.9	23.0
Electrical machinery, equipment, and parts	55.0	20.9	19.8
Rubber and articles	5.3	10.8	18.9
Miscellaneous edible preparations	16.6	10.0	16.1
Ceramic products	0.4	12.7	13.4
Organic chemicals	13.8	16.0	13.4
Cereals	1.9	14.0	12.2
Coffee, tea, and spices	8.1	12.5	12.2
Fish and crustaceans, molluscs, and other aquatic invertebrates	1.0	8.1	12.0
Vehicles other than railway or tramway rolling stock, and parts	44.1	16.6	11.9
Oil seeds and olea. Fruits; industrial or medicinal plants	23.8	18.9	10.3

Source: Department of Commerce, Ministry of Commerce & Industry, GOI

Animal or vegetable fats and oils (sunflower seed oil in particular) accounted for almost 3/4th of India's imports from Ukraine. This was followed by fertilizers (12.7% of imports), inorganic chemicals (7.6%), project goods (1.2%), and wood and articles (1.1%) **(Table 5.6).** Ukraine remains India's largest source of sunflower seed, safflower, or cotton seed oil (HS 1512), accounting for over 71% of India's global imports of the product in 2021-22. Ukraine was also the 9th largest source of fertilizers to India.

Table 5.6: India's Major Imported Commodities from Ukraine

(US$ million)

Commodity	2011-12	2020-21	2021-22
India's Imports from Ukraine	**2,463.7**	**2,139.9**	**2,913.6**
Animal or vegetable fats and oils	958.6	1,607.1	2,110.0
Fertilizers	453.0	279.5	368.8
Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals	73.1	66.8	222.4
Project goods	32.6	2.3	35.2
Wood and articles of wood	15.8	25.0	33.5
Machinery, mechanical appliances, and parts	37.8	23.8	31.0
Ores, slag and ash	45.6	15.0	21.2
Railway or tramway locomotives, rolling stock and parts	0.4	0.3	13.7
Salt, sulphur, plastering materials, lime, and cement	15.3	9.3	13.2
Plastic and articles	0.8	29.5	10.2
Iron and steel	480.0	24.0	8.7
Articles of iron or steel	8.4	7.8	8.7
Mineral fuels, oils, and products of distillation	228.5	2.7	6.5
Organic chemicals	12.6	6.0	4.5
Electrical machinery, equipment, and parts	20.0	8.3	3.2

Source: Department of Commerce, Ministry of Commerce & Industry, GOI

6. IMPACT OF RUSSIA-UKRAINE CONFLICT ON THE INDIAN ECONOMY

Russia's special operations in Ukraine and the set of punitive sanctions imposed on Russia by the US and its allies, especially the European Union countries, have the potential to impact India through multiple channels. The impact of Russia-Ukraine conflict on India's overall trade flows are expected to be lesser, owing to low share of India's direct trade with Russia and Ukraine. While Russia's share in India's merchandise trade stood at 1.3% in 2021-22 (exports - 0.8%; imports - 1.6%), Ukraine's share in India's total trade in 2021-22 stood at 0.3% (exports - 0.1%; imports - 0.5%).

However, an escalation in the Russia-Ukraine conflict is expected to have a significant impact on India, especially through rise in oil prices. India is a major consumer of oil, heavily dependent on imported oil for meeting its domestic demand. Other than energy, the sectors which would be impacted by soaring prices include edible oils, agricultural products, and metals. Additionally, the impact of higher oil prices could reflect on various macroeconomic variables. Ukraine, though not a major export destination for India, India's dependence on Ukraine for sunflower oil and fertilizers would compel India to find alternative suppliers like Argentina, Turkey and Netherlands for sunflower oil and Canada, Jordan, Lithuania, Israel, and Germany for fertilizers, though imports from these alternative suppliers may not be as cost effective, as compared to imports from Russia and Ukraine. Net impact of the ongoing conflict on Indian economy would vary by sectors.

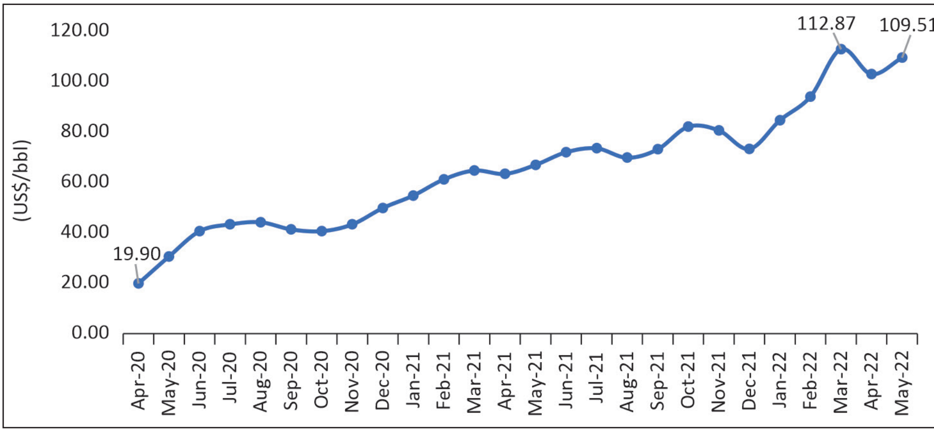
Surge in Input Costs and Impact on Macroeconomic Variables

The ramifications of the Russia-Ukraine war on the domestic economy will be felt through higher global commodity prices, which will push India's import bills higher for items such as mineral oils and gas, gems and jewellery, edible oils and fertilizers, thus leading to worsening of its external position.

The resultant commodity price surge due to the conflict is expected to lead to a severe increase in input costs, leading to increasing product prices for exports and goods for domestic consumption. The impact of higher crude oil prices, especially over US$ 100/barrel for a prolonged period, on India’s macroeconomic fundamentals could be severe, affecting through various channels such as GDP growth, inflation, savings, exchange rate of rupee, interest rates, trade, current account and finally on India’s fiscal deficit. While the share of Russia in India’s imports of crude oil is a marginal 2%, Russia exports around 9% of mineral fuels globally, curtailment of which would cause a global supply shortage. The spot price of Brent crude has skyrocketed above US$ 130/barrel from US$ 97/barrel before the conflict.

According to Goldman Sachs, Brent crude prices could reach US$ 175/barrel in 2022 if two-thirds of Russia’s seaborne oil exports are curtailed over its conflict with Ukraine, with the global economy facing one of the largest energy supply shocks ever. Without a corresponding increase in retail fuel prices, oil marketing companies would be making severe losses. With domestic petrol pump prices being raised, public is bearing the rise in costs. This oil price shock could put a limit on India’s positive growth outlook, especially as the country is slowly recovering from the COVID-19 pandemic. Crude oil prices (Indian basket) rose by 69% from May 2021 to May 2022 **(Chart 6.1)**.

Chart 6.1: Crude Oil FOB Prices (Indian Basket)



Note: The Indian basket of Crude Oil represents a derived basket comprising of Sour grade (Oman & Dubai average) and Sweet grade (Brent Dated) of Crude oil processed in Indian refineries in the ratio of 75:62:24.38 during 2019-20.

Source: Petroleum Planning & Analysis Cell

Sectors such as chemicals and paints, which use crude oil-linked derivatives as their primary feedstock are also affected by the rise in crude oil price. This would lead to squeezing the margins of these sectors, once the inventories previously bought at lower prices run out.

With oil prices at a record high, value of India's oil imports would be higher. A high crude price directly maps into a high trade deficit and in turn a high current account deficit (CAD). At the same time, being an important input for the aggregate economy, a crude price shock also leads to a spike in domestic inflation. Once the government decides on the level of pass-through of this price shock to the domestic consumers and industry, it may lead to decrease in the inflation in the short run, but at the cost of increase in fiscal slippage.

In 2019, a Reserve Bank of India (RBI) research paper[20] highlighted that, as a rule of thumb, every US$ 10/barrel increase in crude prices will lead to a 43-basis points (bps) rise in current account deficit to GDP; 49 bps rise in inflation and 43 bps rise in fiscal deficit as percentage of GDP. The actual inflation and fiscal

[20] The Impact of Crude Price Shock on India's Current Account Deficit, Inflation and Fiscal Deficit, Mint Street Memo No. 17, Saurabh Ghosh and Shekhar Tomar, RBI, January 2019

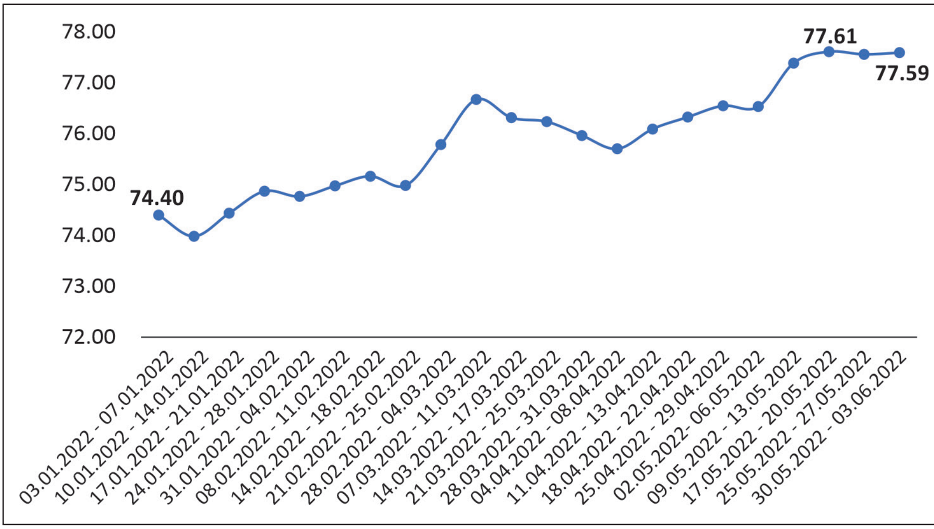
deficit will finally depend on the level of government intervention (changes in tax and subsidy) in the domestic oil market.

On a similar note, HSBC Global Research[21] has estimated in March 2022 that, if oil averages US$ 100/barrel for a prolonged period, India's GDP growth could fall by 0.9%, inflation to rise by around 1.05%, savings to fall by 0.2% of GDP; and the CAD would widen by 1.2% of GDP. It would lead to hardening of domestic interest rates, depreciation of Indian rupee, widening current account deficits, and increasing fiscal deficits, requiring higher market borrowing requirements, leading to further pressure on interest rates. This would call for heavy intervention by the RBI especially in the foreign exchange market to pull rupee from its record lows.

Exchange Rate: High oil prices and volatility prevailing in global markets have resulted in Rupee coming under significant pressure. Higher oil prices would result in higher trade deficits and leading to Rupee depreciation. Till May end rupee has depreciated by around 4.3% since the begnning of the conflict. Widening trade deficits due to increased import bill and continued selling by foreign portfolio investors (FPIs) are putting severe pressure on Indian Rupee **(Charts 6.2 & 6.3)**. Over the past few months, the RBI has taken several measures to enhance foreign exchange flows to the country, attract fresh overseas capital to Indian market and rein in the value of the rupee. The RBI has undertaken two US$ 5 billion US$/INR sell/buy swap in March and April 2022 to manage volatility in the forex market, in addition to monetary policy measures including raising policy rates. Exchange rate is likely to remain volatile due to the uncertainties related to the conflict, risk aversion tendencies, spike in Brent crude oil prices and policy tightening by the Federal Reserve.

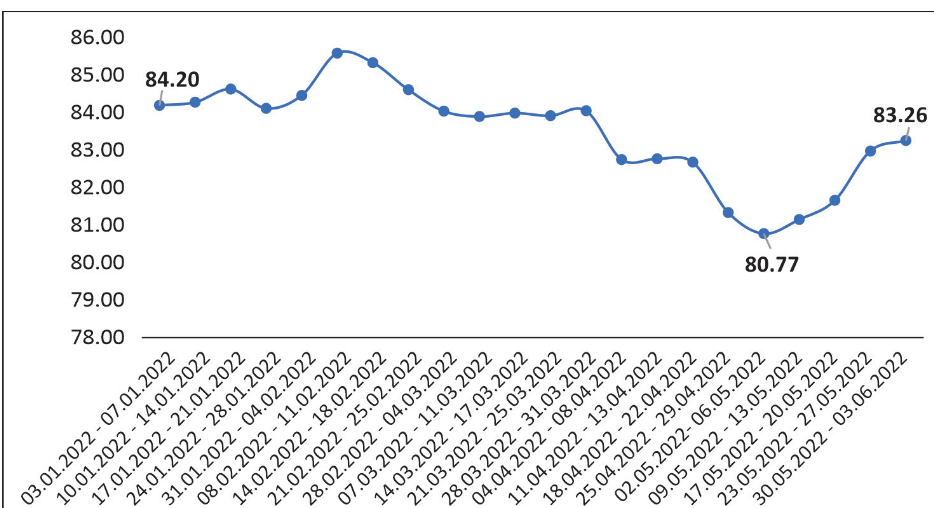
[21] India - Who will bear the burden of oil?, HSBC Global Research, March 2022

Chart 6.2: Rupee-Dollar Weekly Exchange Rates



Source: Foreign Exchange Dealer's Association of India (FEDAI)

Chart 6.3: Rupee-Euro Weekly Exchange Rates



Source: Foreign Exchange Dealer's Association of India (FEDAI)

Inflation: A rise in global crude prices and heightened uncertainties would increase the domestic price of crude products and increase domestic inflation. The continuous hardening in crude oil prices exacerbated by the ongoing Russia-Ukraine conflict, other geo-political concerns, and its impact on the

Indian Rupee pose the biggest risk to the Indian inflation trajectory in the coming quarters. This impact of crude on consumer price index (CPI) comes from two channels. First, the direct channel where crude products themselves appear as constituents in the CPI. In the short run, a change in prices of crude products will affect the CPI directly due to their weighted contribution in the index. Secondly, over time the retail prices of all other commodities manufactured using crude as an input will also increase due to this shock and in turn affect the CPI again, which is the indirect effect. The net impact of the crude price increase on inflation is thus given by the sum of both direct and indirect effects. The impact of rising crude oil prices on WPI and CPI inflation would be influenced by the extent of pass through to domestic retail prices of fuels.

According to the economic outlook report of India Ratings, a 10% increase in petroleum product prices without factoring in currency depreciation will lead to a 42 bps increase in retail inflation and 104 bps in wholesale inflation. Similarly, a 10% increase in price of sunflower oil without factoring in currency depreciation will lead to 12.6 bps increase in CPI and 2.48 bps in wholesale inflation. A 10% increase in prices of these two commodities alone can push retail and wholesale inflation upwards by 55 bps and 109 bps, respectively, affecting consumer sentiments and purchasing power.

Thus, with expected rise in inflation owing to higher crude and essential product prices, the RBI's initial estimates of 4.5% inflation in FY 2022-23 remain optimistic. The CPI headline inflation registered a sharp increase to 7% in March and 7.8% in April 2022, above the upper tolerance level of 6%. Accordingly, the RBI in April raised the retail inflation target for FY 2022-23 to 5.7% on the back of rising global prices amidst the ongoing geo-political tensions, along with raising the policy rates to support the domestic currency and control inflationary pressures.

Financial Services: Flight to safety has resulted in capital outflows from emerging economies, including India. According to Depositories data, Foreign Portfolio Investors (FPIs) pulled out around Rs. 46,571.5 crores from Indian markets in the first 10 days of March 2022[22]. FPI flows are expected to continue

[22] Daily Trends in FPI Investments, FPI Monitor, NSDL (https://www.fpi.nsdl.co.in/web/Reports/Monthly.aspx)

to remain volatile due to Russia-Ukraine conflict and its fallout in the form of sanctions, high inflation and expected increase in interest rate by the Federal Reserve. Stocks of Indian companies having exposure to Russia and Europe have witnessed a fall.

Moreover, the credit worthiness of Indian companies having exposure in Europe and Russia have also come under scrutiny. A noted case is that of Nayara Energy Limited (formerly Essar Oil Ltd), a refining company operating under Indian law, owned by Rosneft Singapore Pte Limited, a subsidiary of Russian oil major Rosneft Oil Company (stake of 49.13%) and Kesani Enterprises Company Limited, a consortium comprising Trafigura and United Capital Partners ((UCP)-having a stake of 49.13%). Rosneft is one of the world's largest public oil and gas companies in terms of reserves and production of the liquid hydrocarbons. Rosneft is the leader in Russian oil refining sector, owning 13 major refineries in key regions of Russia and ownership stakes in a number of refineries outside Russia, as well as a wide range of retail sites in 66 regions of Russia, Abkhazia, Belarus and Kyrgyzstan. The UCP investment group is one of the largest financial investment groups in Russia.

Nayara's key shareholder, Rosneft is subject to limited US, the UK, and the EU sanctions. The US also imposed sanctions on exports of technologies to Russia's refineries and the Nord Stream 2 gas pipeline[23]. On March 5, 2022, Indian Rating Agency, CARE Ratings has placed the long-term ratings of Nayara on 'credit watch with negative implications' on account of Russia-Ukraine conflict and the resultant economic sanctions being placed on Russia and certain Russian entities and persons. However, as per CARE Ratings, at present, Nayara Energy does not have any major operational dependence on Russia or any of Russian entities including Rosneft, as it sources crude oil from countries such as Iraq, Egypt, countries in Middle East and Latin America, while its major export destinations include Netherlands and Far East. On March 17, 2022, CARE Ratings revised long term ratings assigned to the bank facilities and debt instruments of Nayara Energy Limited (Nayara) to 'Credit watch with developing implications'.[24]

[23] OFAC

[24] Press Release on Nayara Energy Limited on March 05, 2022 and March 17, 2022, CARE Ratings

Continuous FPI outflows and heavy selling in domestic equities could weigh on the equity markets and India's market valuations. Indian companies having exposure to Russia, Ukraine and other European companies would come under the scanner, with chances of stress in their financial conditions.

Public Services: Moreover, the impact of higher oil prices would affect India's expenditure budget, leading to fiscal targets going awry. Impact of high crude oil prices on government finances could lead to Government of India cutting back on capital outlays. Imports of defence equipment currently underway could also be impacted.

Trade Channel and Impact on Current Account

Trade and Banking Sanctions on Russia could affect India's trade in terms of both exports and imports with Ukraine, and Russia.

On the export front, since pharmaceutical products, being necessary goods, are currently exempted from sanctions, India's pharmaceutical exports which are the largest exports from India to Ukraine and second largest exports to Russia, are expected to witness only a marginal impact. India is the second largest exporter of pharmaceutical products to Ukraine, after Germany, and the 7^{th} largest exporter to Russia, in value terms. A number of Indian pharma companies have their representative offices in Russia and Ukraine. India's pharmaceutical exports to Russia and Ukraine account for only about 3.2% of India's global exports of pharma products.

Russia and Ukraine are also major destinations of Indian tea exports, and the crisis is expected to create an over-supply of tea in the domestic market, leading to falling tea prices. At the same, a depreciating Indian Rupee is expected to benefit India's export-oriented sectors to some extent by making exports competitive (especially those sectors with a low import dependency).

On the other hand, foreign demand for India's exports is expected to be affected due to the economic costs of Russia-Ukraine conflict on European countries. The growth in Euro area is expected to slow down on the back of weakening euro area trade growth and production cuts due to increased gas and oil prices. In the first week of March 2022, the European Central Bank reduced its growth forecast for the euro area to 3.7%, down by 0.7 percentage points from December 2021 estimates. Disruptions in supply chains, along with rise in export insurance costs and shipping freights are also expected to raise the trading costs of Indian exporters.

As regards imports, India's import costs would rise owing to higher prices of crude, fertilizers, metals, and edible oil. India's external sector remains highly vulnerable to global crude oil price movements and is expected to continue to remain so in the near future. India imports more than 85% of its oil requirements, with petroleum imports amounting to 24% of India's gross imports in 2021-22.[25] On the global front, India is the third largest crude oil importer after China and the US. In 2021, India accounted for 10.1% of total global oil imports, with a crude oil import bill of US$ 106.4 billion. Russia is the 9th largest supplier of crude oil to India. Spot prices of natural gas, which are linked to crude, are also expected to rise. Crude oil and its derivatives are also used in making detergents, soaps and cosmetics. Cement, paint, airline and tyre companies will also be impacted by surging crude oil prices.

The conflict and resultant sanctions are also expected to impact the sectors sourcing key raw materials such as crude sunflower oil, fertilizers and rough diamonds. Ukraine and Russia are India's largest suppliers of sunflower-seed, safflower or cotton-seed oil. India is the world's largest importer of edible oil in 2021, especially sunflower oil. Around 10% of India's edible oil consumption is sunflower based, of which over 87% is imported from Ukraine and Russia. Worsening of the conflict would lead to disruption in sunflower oil supplies and any supply disruption will raise the price.

Russia is a major diamond producer globally – both rough diamonds and industrial diamonds. Russia, with a 4% share, is the 5th largest supplier of non-industrial diamonds (jewellery) unworked or simply sawn, cleaved to India. Disruptions in trade could result in these unworked diamonds becoming costlier, affecting the diamond polishers.

[25] Petroleum Planning and Analysis Cell, Ministry of Petroleum and Natural Gas, Government of India

Similarly, India depends heavily on imports for meeting its **fertilizer** needs. India is the world's third largest importer of fertilizers, after Brazil and the US in 2021, while Russia is the world's largest exporter of fertilizers. Russia is the fifth largest supplier of fertilizer to India, after China, Saudi Arabia, Oman and Morocco in 2021. India's fertilizer imports from Russia comprised four categories—urea, DAP (diammonium phosphate), MOP (muriate of potash) and NPK (nitrogen, phosphorous and potassium). Similarly, India imports large quantities of urea and ammonia from Ukraine. Belarus is also an important source of potash fertilizers for India, and India's potash requirement is almost fully met by imports from Belarus and Russia. Although urea makers, which use it as feedstock, could pass on the higher prices initially, in case of worsening of situation, domestic availability of urea could affect the farm sector as around 11% of the urea requirement is imported from Russia and Ukraine. Possibility of changing the sourcing of these products would be limited in the short run. Thus, the ongoing conflict is expected to push up fertilizer prices, and limiting its availability in India, affecting Indian agricultural sector. Hence, the current conflict and resultant sanctions would affect India especially in these major import dependent sectors.

On the other hand, rise in commodity prices may prove favourable in case of sectors such as steel and aluminium, leading to higher realisations for domestic primary steel makers and aluminum smelters. However, it would have negative impact on the construction, real estate, and automobile sectors which are the end users of these products. Russia currently contributes around 6% of global primary aluminum production. There also has been sharp jump in nickel prices, which is mainly used to make stainless steel.

According to Crisil Research, input costs required for domestic steel production has been rising on account of the geopolitical uncertainties, along with increased prices of international coking coal (fob Australia) due to the flooding of mines amid high demand from countries that traditionally imported from Russia. The international coking coal (fob Australia) price rose by around 47% to US$ 670 per tonne in three weeks from US$ 455 per tonne in late February 2022. This has resulted in domestic steel prices increasing to an all-time high of over INR 76,000, which is around 95% over March 2020 levels. Accordingly, on

May 21, 2022, Government of India hiked the duty on exports of iron ore by up to 50% and for a few steel intermediaries to 15%, while waiving customs duty on the import of some raw materials, including coking coal and ferronickel, used by the steel industry.

Ukraine is the world's biggest producer of neon, a key material used in the gas-phase lasers used in chipmaking. With Russia and Ukraine producing around 75% of the neon gas (Ukraine alone about 70%) used to manufacture semiconductors, disruptions are expected in the automobile sector which is already undergoing disruptions from the semiconductor shortages. Russian sanctions are expected to further curtail semiconductor production. With Russia being one of the largest producers and suppliers of palladium, globally, there has been a significant increase in the price of palladium amidst uncertainties surrounding Russian sanctions. The metal, palladium is increasingly being used in vehicle catalytic converters designed to reduce harmful emissions for engines still using petroleum. India extensively uses palladium to manufacture mobile phones and automotive exhaust systems. The aerospace industry also relies on Ukraine and Russia for titanium. Titanium dioxide is used as raw materials in paint, coating and plastics industries.

Since the import dependency of India's major trading partners such as China, the US and the EU on Russia and Ukraine for various products is very high, India could expect supply chain disruptions from these countries, leading to constraints in the production capacity which would further lead to higher prices.

Thus, an expected increase in import bills due to elevated food, fuel, and fertilizer prices; moderation in domestic demand in major trading partners and growing uncertainty surrounding capital inflows may further widen India's current account deficit and impacting reserves in the short term.

Heightened Defence Spending

Another long-term implication of Russia-Ukraine conflict for India would be on the age-old defence trade between India and Russia. Russia is the world's second-largest arms exporter, behind the US. Russia exports arms to over

45 countries and has accounted for around 20% of global arms sales since 2017.[26] On the other hand, India is the third largest military spender globally, accounting for 3.6% of global military expenditure in 2021[27]. The current Union Budget has allotted Rs. 525,166 crores towards defence expenditure, which is around 10% higher than the previous budget allocation.

India's present military arsenal is heavily stocked with Russian-made or Russian-designed equipment, purchased mostly under government-to-government contract. Since 2010, Russia has been the source of nearly two-thirds (62%) of all Indian arms imports and India has been the largest Russian arms importer and has accounted for nearly one-third (32%) of all Russian arms exports. Between the last five years, India accounted for nearly one-quarter (23%) of Russia's total arms exports and Russia accounted for roughly half (46%) of Indian imports. An advantage of purchasing from Russia is its willingness to include joint-development and technology sharing as part of its arms sales, along with continuous arms repair facility. However, over 2017-2021, there had been a 47% drop in arms exports to India partly owing to a fast-developing domestic arm industry in India and India's increased efforts to diversify its arms supplier base.[28]

Due to Russia-Ukraine conflict, India's reliance on Russia for arms imports are expected to come down. However, this would lead to India diversifying its import sources, leading to increased defence spending for the country. On the other hand, increased efforts by Government of India to increase the domestic production of defence equipment would reduce India's dependency on Russian based defence products and divert part of its huge defence budget to meeting development needs and other priority sectors.

Exposure of Indian Banks in Russia

Western sanctions on Russia's financial sector are affecting Banks having exposure in Russia and Ukraine, posing potential risks to economic outlook and prospects of higher interest rates. However, there is just one Indian bank

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[26] Stockholm International Peace Research Institute (SIPRI), April 2022

[27] ibid

[28] ibid

operating in Russia - Commercial Indo Bank LLC ((JV of SBI (60%) and Canara Bank (40%))[29], which came into existence in 2003 and conducts operations with Indian companies doing business in Russia. Commercial Indo Bank LLC operates like a local bank accepting local deposits and also offering term loans, export credit, LCs, housing loans etc. It raises bulk of its resources especially deposits from the local Russian market.

The Indian banks do not have any subsidiaries, branches or representative offices in Russia, and trade finance businesses for Indian banks are relatively less because of the limited trade size between India and Russia. State Bank of India, the largest Indian commercial Bank's exposure in Russia is reported to be less than US$ 10 million. The banks were given 10 days to complete the processing of payments already in the system to avoid near-term problems for businesses and trade. According to reports, due to the worsening geopolitical situation, Indian banks decided not to process any transactions involving Russian entities due to global sanctions. Indian banks are currently exploring ways to circumnavigate the sanctions placed on Russian trade. Thus, implications of the current conflict on Indian banks are expected to be limited.

India as an Alternative Supplier of Products

According to Dun & Bradstreet[30], there are 14,745 Tier 1 and 7.6 million Tier 2 supplier relationships with Russian entities globally. At least 374,000 businesses worldwide rely on Russian suppliers and at least 241,000 businesses across the world rely on Ukrainian suppliers, which are mostly based in the US. There are at least 390 businesses globally with critical suppliers in Russia. Hence, the ripple effect of sanctions imposed by West and allies is having severe impact on global supply chain.

A positive possible benefit of the ongoing crisis is that India could emerge as an alternative supplier for several of products which were being supplied by Russia and are currently facing supply disruptions. For instance, Russia is a major exporter of steel and India could emerge as a major supplier of

[29] Country-wise branches of Indian Banks at Overseas Centres as on October 31, 2021, RBI

[30] Russia-Ukraine Crisis Implications for the global economy and businesses, Dun & Bradstreet

steel products, especially to the European Union. Ukraine was the 5th largest exporter of iron ore (HS 2601), in 2021, while India was the 7th largest and Russia 9th largest exporter, globally. Hence, the conflict presents opportunities for Indian iron ore producers to expand exports of the product.

Similar is the case with Indian agriculture exports. Though Government of India banned wheat exports on May 19, 2022, due to sharp rise in global wheat prices, domestic supply concerns and the resulting food security risks to India, and imposed restrictions on sugar exports from June 1, 2022, there are several other agriculture commodities offering export potential to India. In case of maize, Ukraine was the third largest exporter, while Russia the 11th largest exporter, globally, together accounting for over 12% of global exports in 2021. India stood at 9th position in 2021. There would be similar opportunities for millet, processed food, nuts, confectionery, fruits and fruit juices, pulses and cereal preparations. Indian exporters of these commodities could perhaps benefit from increased global demand for these commodities, emerging as alternative supply sources. The crisis has boosted India's competitiveness in these sectors, creating new opportunities for Indian exporters. However, harnessing these opportunities require quick establishment of buyer-seller market and enhancing the freight infrastructure.

Towards Greener Energy and Increased Investment in Renewables

In 2015, Government of India set a target to cut India's oil imports by 10% by 2022 by focusing on measures like increasing domestic production of oil and gas, promoting the use of biofuel and energy conservation. However, the achievement in this front has been relatively less, with 85% of crude oil demand still being met through imports. Using unconventional energy in the place of crude, along with increased used of electric vehicles (EVs) could help India to reduce its heavy dependence on imported fuel, while cushioning the country from similar oil price shocks. The present scenario is perhaps ideal for India to invest more on renewables and alternative fuels and increase renewable energy consumption in the coming years, paving way for greener energy in the country.

7. SANCTIONS AND PAYMENT RELATED ISSUES

Economic sanctions are a critical element of the foreign policy toolkit of both national governments and international bodies. The US sanctions, even if limited to restrictions placed on US persons and institutions, can have a major impact beyond their specific remit, including US allies. Penalties for violations of the US sanctions laws include civil and criminal penalties of up to twenty years imprisonment and US$ 1,000,000 in fines per violation. In addition, foreign parties that engage in activities that undermine or circumvent the US sanctions laws may themselves be subject to sanctions liability.

The sanction has led to several problems on India's export front, which is largely related to payment issues due to the sanctions in the banking system, along with leading shipping lines suspending deliveries to and from Russia, resulting in sending fresh consignments difficult. The issue of credit guarantees has also become another problem to exporters. Due to the rising risk in the region, the Export Credit Guarantee Corporation (ECGC) has decided to approve credit guarantees to Russia only on a case-by-case basis, impacting exports to Russia.[31] Russian rouble has depreciated sharply against the US dollar post the Ukraine conflict, which made it difficult to set up fresh contracts.

Government of India is seeking possibilities of other payment channels, such as rupee-rouble transaction facilities through selected banks, which is already in place for several of India's defence transactions with Russia. A further expansion of the rupee-rouble facility would ease payment issues for Indian exporters and importers. However, this requires extensive arrangements to avoid the possibilities of sanctions on India.

[31] ECGC Circular dated February 28, 2022, on Revised ECGC Underwriting Policy on Russia

Alternative Payment Mechanism - Settlements of Payments in National Currencies

The US and its allies have imposed financial sanctions on Russia by blocking several Russian banks from accessing SWIFT, an international payment messaging system, which impedes Russia's ability to do business in major currencies. As a solution, an alternative payment mechanism could be established for engaging in economic and commercial relations with Russia.

Under the "rupee-rouble" exchange scheme which existed prior to 1991, prices and payments of goods were designated in roubles and rupees according to a mutually agreed rate of exchange, but accounts were settled in goods. The goods traded were, however, specified and restricted, and purchases and transactions were conducted under the supervision of the Reserve Bank of India. Moreover, trade was favourable for India as then rouble was significantly overvalued against the US dollar than the rupee. However, presently the rouble is significantly undervalued vis-a-vis the US dollar than the rupee.

India and Russia could work on promoting mutual settlements of payments in national currencies as an initiative for significantly increasing volume of bilateral trade in the context of current sanctions. Central Banks of both countries could work out the modalities, especially pegging the rupee - rouble exchange rate for bilateral trade in consultation with both governments.

Similarly, finding an alternative to bank transactions such as SWIFT would also support a move away from dollar-based trade. For instance, Structured Financial Messaging System (SFMS), a secure messaging standard developed by the IDRBT (Institute for Development and Research in Banking Technology) Hyderabad to serve as a platform for intra-bank and inter-bank applications may be promoted globally and use for cross-border transactions. The SFMS is built on the lines of SWIFT, with several advantages and additional utilities.

There are also possibilities of countertrade mechanism where Russian banks and companies opening accounts with a few public sector banks in India, which are having limited foreign exposure, for trade settlement. This would also require public sector banks in both countries opening branches in the other country. Funds in such accounts could act as a guarantee of payment for trade exchanged between two countries, while the parties' barter commodities from each other to offset the sum. However, there are only a handful of Russian banks operating in India (JSC VTB Bank, Sberbank, VEB. RF, and Gazprombank)[32], while in Russia there is just one Indian bank operating (Commercial Indo Bank LLC, JV of SBI (60%) and Canara Bank (40%))[33]. Alternatively, Government of India may identify an Indian Bank which would be able to enter into a rupee trade mechanism with banks in Russia, similar to India's Rupee Payment Mechanism with Iran.

[32] Foreign banks in India as on October 31, 2021- Branch/WOS form of presence, RBI

[33] Country-wise branches of Indian Banks at Overseas Centres as on October 31, 2021, RBI

ANNEXURE 1: ALTERNATE SUPPLIERS FOR INDIA'S SELECT KEY IMPORTS FROM RUSSIA AND UKRAINE

Potential import sources are those that are among the top global exporters of the select items, while India's share in their global exports of the respective items is modest or negligible (less than 10%).

Table 1: Potential Sources for Import of Oil Seeds[34]

S. No.	Exporters	Exported Value in 2021 (US$ mn)	India's Import in 2021 (US$ mn)	Share of India in the Country's Exports (%)	Share of the Country in India's Imports (%)
Total	**World**	**130839.3**	**829.6**	**0.6**	**100.0**
1	Brazil	39157.7	11.4	0.0	1.4
2	USA	33061.7	13.4	0.0	1.6
3	Canada	8661.1	0.3	0.0	0.0
4	Netherlands	4839.7	21.6	0.4	2.6
5	Argentina	3871.0	0.0	0.0	0.0
6	Paraguay	3117.1	0.0	0.0	0.0
7	Australia	3084.1	10.3	0.3	1.2
8	China	2954.8	8.0	0.3	1.0
9	France	2700.2	9.3	0.3	1.1
10	Germany	1795.8	7.3	0.4	0.9
11	Romania	1791.4	0.2	0.0	0.0
12	Spain	1123.2	0.7	0.1	0.1
13	Bulgaria	1008.6	2.3	0.2	0.3
14	Belgium	975.9	1.4	0.1	0.2
15	Sudan	879.0	20.9	2.4	2.5

Note: "0.0" indicates negligible imports
Source: ITC Trade Map and India Exim Bank Analysis

Potential countries for import of oilseeds are Brazil, the US, Canada, Netherlands, Argentina, and Paraguay, among others (as highlighted in the **Table 1** above).

[34] Oilseeds include HS 12

Table 2: Potential Sources for Import of Edible Oils[35]

S. No.	Exporters	Exported Value in 2021 (US$ mn)	India's Import in 2021 (US$ mn)	Share of India in the Country's Exports (%)	Share of the Country in India's Imports (%)
Total	**World**	**112551.0**	**17073.7**	**15.2**	**100.0**
1	Indonesia	29550.7	3965.9	13.4	23.2
2	Malaysia	16014.6	4190.8	26.2	24.5
3	Argentina	7848.0	3047.2	38.8	17.8
4	Spain	4952.9	37.7	0.8	0.2
5	Canada	4453.9	0.0	0.0	0.0
6	Netherlands	3838.5	248.6	6.5	1.5
7	Germany	2599.2	18.0	0.7	0.1
8	Italy	2306.9	12.5	0.5	0.1
9	Brazil	2203.9	668.8	30.3	3.9
10	Turkey	1683.4	71.8	4.3	0.4
11	USA	1527.6	36.7	2.4	0.2
12	France	1409.6	0.3	0.0	0.0
13	Philippines	1404.2	7.2	0.5	0.0
14	Thailand	1151.5	597.3	51.9	3.5
15	UAE	1078.5	55.6	5.2	0.3

N*ote: "0.0" indicates negligible imports*

Source: ITC Trade Map and India Exim Bank Analysis

Potential countries for import of edible oil are Spain, Canada, Netherlands, Germany, and Italy, among others (as highlighted in the **Table 2** above).

[35] Edible Oil includes
HS 1507 - Soya-bean oil and its fractions, whether or not refined (excluding chemically modified)
HS 1508 - Groundnut oil and its fractions, whether or not refined, but not chemically modified
HS 1509 - Olive oil and its fractions obtained from the fruit of the olive tree solely by mechanical or other physical means under conditions that do not lead to deterioration of the oil, whether or not refined, but not chemically modified
HS 1511 - Palm oil and its fractions, whether or not refined (excluding chemically modified)
HS 1512 - Sunflower-seed, safflower or cotton-seed oil and fractions thereof, whether or not refined, but not chemically modified
HS 1513 - Coconut "copra", palm kernel or babassu oil and fractions thereof, whether or not refined, but not chemically modified
HS 1514 - Rape, colza or mustard oil and fractions thereof, whether or not refined, but not chemically modified

Table 3: Potential Sources for Import of Potash[36]

S. No.	Exporters	Exported Value in 2021 (US$ mn)	India's Import in 2021 (US$ mn)	Share of India in the Country's Exports (%)	Share of the Country in India's Imports (%)
Total	**World**	**48527.1**	**4804.6**	**9.9**	**100.0**
1	China	6836.9	1215.8	17.8	25.3
2	Canada	5872.6	206.2	3.5	4.3
3	Morocco	5157.0	708.9	13.7	14.8
4	USA	4632.8	3.4	0.1	0.1
5	Saudi Arabia	2009.8	1196.9	59.6	24.9
6	Belgium	1681.6	17.7	1.1	0.4
7	Jordan	1308.1	251.7	19.2	5.2
8	Israel	1166.2	119.6	10.3	2.5
9	Netherlands	1123.8	3.4	0.3	0.1
10	Spain	970.9	4.6	0.5	0.1
11	Lithuania	718.4	93.7	13.0	2.0
12	South Korea	587.8	25.9	4.4	0.5
13	Poland	541.6	0.4	0.1	0.0
14	Chile	463.2	5.0	1.1	0.1
15	France	443.6	1.9	0.4	0.0

Note: "0.0" indicates negligible imports
Source: ITC Trade Map and India Exim Bank Analysis

Potential countries for import of potash are Canada, the US, Belgium, Netherlands, Spain, and South Korea, among others (as highlighted in the **Table 3** above)

[36] Potash includes
HS 3104 – Mineral or chemical potassic fertilizers (excluding those in tablets or similar forms, or in packages with a gross weight of <= 10 kg)
HS 2815 – Sodium hydroxide "caustic soda", potassium hydroxide "caustic potash"; peroxides of sodium or potassium
HS 3105 - Mineral or chemical fertilizers containing two or three of the fertilising elements nitrogen, phosphorus and potassium; other fertilizers (excluding pure animal or vegetable fertilizers or mineral or chemical nitrogenous, phosphatic or potassic fertilizers); animal, vegetable, mineral or chemical fertilizers in tablets or similar forms or in packages of a gross weight of <= 10 kg

Table 4: Potential Sources for Import of Iron and Steel[37]

S. No.	Exporters	Exported Value in 2021 (US$ mn)	India's Import in 2021 (US$ mn)	Share of India in the Country's Exports (%)	Share of the Country in India's Imports (%)
Total	**World**	**557528.6**	**11680.0**	**2.1**	**100.0**
1	China	66984.7	1178.1	1.8	10.1
2	Japan	34789.6	978.8	2.8	8.4
3	Germany	32813.4	282.0	0.9	2.4
4	South Korea	27937.1	2452.4	8.8	21.0
5	Belgium	21572.1	216.7	1.0	1.9
6	Indonesia	20949.8	928.8	4.4	8.0
7	Italy	19085.7	119.6	0.6	1.0
8	USA	18557.2	466.8	2.5	4.0
9	France	18038.2	163.7	0.9	1.4
10	Turkey	17075.7	83.3	0.5	0.7
11	Netherlands	16436.6	240.1	1.5	2.1
12	Brazil	14263.1	105.1	0.7	0.9
13	Taiwan	12774.0	245.0	1.9	2.1
14	Spain	10680.5	37.0	0.3	0.3
15	Canada	10476.0	139.0	1.3	1.2

Source: ITC Trade Map and India Exim Bank Analysis

Potential countries for import of iron and steel are Japan, Germany, Belgium, Indonesia and Italy, among others (as highlighted in the **Table 4** above).

[37] Iron and Steel – HS 72

Table 5: Potential Sources for Import of Mineral Fuels[38]

S. No.	Exporters	Exported Value in 2021 (US$ mn)	India's Import in 2021 (US$ mn)	Share of India in the Country's Exports (%)	Share of the Country in India's Imports (%)
Total	**World**	**1692498.0**	**141843.2**	**8.4**	**100.0**
1	USA	164002.6	12340.3	7.5	8.7
2	UAE	113558.5	13422.8	11.8	9.5
3	Canada	99515.0	712.3	0.7	0.5
4	Iraq	81043.2	26405.5	32.6	18.6
5	Australia	53751.3	11228.1	20.9	7.9
6	Netherlands	53345.3	149.7	0.3	0.1
7	Kuwait	49574.1	6997.6	14.1	4.9
8	Norway	47279.2	1110.2	2.3	0.8
9	Singapore	41557.0	1910.1	4.6	1.3
10	Brazil	37872.6	2026.8	5.4	1.4
11	South Korea	37024.2	1301.3	3.5	0.9
12	Nigeria	36317.2	8188.4	22.5	5.8
13	China	33992.0	509.8	1.5	0.4
14	Oman	32855.0	3020.2	9.2	2.1
15	Belgium	32451.9	70.7	0.2	0.0

Note: "0.0" indicates negligible imports

Source: ITC Trade Map and India Exim Bank Analysis

Potential countries for import of mineral fuels are the US, Canada, Netherlands, Norway, and Singapore, among others (as highlighted in the **Table 5** above).

[38] Mineral fuels include
HS 2709 - Petroleum oils and oils obtained from bituminous minerals, crude
HS 2701 - Coal; briquettes, ovoids and similar solid fuels manufactured from coal
HS 2710 - Petroleum oils and oils obtained from bituminous minerals (excluding crude); preparations containing

Table 6: Potential Sources for Import of Precious Metals[39]

S. No.	Exporters	Exported Value in 2021 (US$ mn)	India's Import in 2021 (US$ mn)	Share of India in the Country's Exports (%)	Share of the Country in India's Imports (%)
Total	**World**	**543892.4**	**84183.3**	**15.5**	**100.0**
1	Switzerland	90353.4	27083.9	30.0	32.2
2	Hong Kong	51540.9	3285.5	6.4	3.9
3	UK	45899.5	1265.9	2.8	1.5
4	USA	45317.5	6730.4	14.9	8.0
5	UAE	41916.9	15767.4	37.6	18.7
6	Australia	17904.9	1124.7	6.3	1.3
7	Canada	17413.2	81.4	0.5	0.1
8	Singapore	16340.4	1801.5	11.0	2.1
9	Belgium	14247.5	5358.1	37.6	6.4
10	South Africa	9815.5	5024.0	51.2	6.0
11	Japan	9775.4	141.9	1.5	0.2
12	China	9163.8	121.5	1.3	0.1
13	Israel	8782.5	1185.7	13.5	1.4
14	Germany	8370.2	27.8	0.3	0.0
15	Peru	7950.8	2275.8	28.6	2.7

Note: "0.0" indicates negligible imports

Source: ITC Trade Map and India Exim Bank Analysis

Potential countries for import of precious metals are Hong Kong, UK, Australia, Canada, and Japan, among others (as highlighted in the **Table 6** above).

[39] Precious metals include
HS 7108 - Gold, incl. gold plated with platinum, unwrought or not further worked than semi manufactured
HS 7102 - Diamonds, whether or not worked, but not mounted or set (excluding unmounted stones for pick-up)
HS 7106 - Silver, incl. silver plated with gold or platinum, unwrought or in semi-manufactured forms

Table 7: Potential Sources for Import of Machinery and Mechanical Appliances[40]

S. No.	Exporters	Exported Value in 2021 (US$ mn)	India's Import in 2021 (US$ mn)	Share of India in the Country's Exports (%)	Share of the Country in India's Imports (%)
Total	**World**	**2484583.0**	**48414.6**	**1.9**	**100.0**
1	China	547585.4	18796.3	3.4	38.8
2	Germany	268562.3	3862.5	1.4	8.0
3	USA	209284.6	3230.9	1.5	6.7
4	Japan	147382.0	2738.9	1.9	5.7
5	Italy	108057.2	1697.6	1.6	3.5
6	Hong Kong	95090.2	2168.1	2.3	4.5
7	Netherlands	90145.6	762.0	0.8	1.6
8	Mexico	85268.6	108.6	0.1	0.2
9	South Korea	76018.2	1861.6	2.4	3.8
10	Singapore	69218.5	2979.3	4.3	6.2
11	UK	68849.9	1009.5	1.5	2.1
12	France	62745.3	775.4	1.2	1.6
13	Taiwan	57602.5	993.6	1.7	2.1
14	Thailand	44861.1	1478.3	3.3	3.1
15	Czech Republic	43085.3	158.8	0.4	0.3

Source: ITC Trade Map and India Exim Bank Analysis

Potential countries for import of machinery and mechanical appliances are Germany, the US, Japan, Italy, and Hong Kong, among others (as highlighted in the **Table 7** above).

[40] Machinery and mechanical appliances include HS 84

ANNEXURE 2: ALTERNATE DESTINATIONS FOR INDIA'S SELECT KEY EXPORTS TO RUSSIA AND UKRAINE

Table 8: Potential Destinations for Export of Pharmaceutical products[41]

S. No.	Importers	Imported Value in 2021 (US$ mn)	India's Export in 2021 (US$ mn)	Share of India in the Country's Imports (%)	Share of the Country in India's Exports (%)
Total	**World**	**855109.2**	**19460.5**	**2.3**	**100.0**
1	USA	149499.5	6617.2	4.4	34.0
2	Germany	79263.0	316.0	0.4	1.6
3	Belgium	69469.3	249.6	0.4	1.3
4	Switzerland	42213.4	18.8	0.0	0.1
5	China	41858.4	55.4	0.1	0.3
6	Japan	37308.4	83.5	0.2	0.4
7	France	33976.7	390.3	1.1	2.0
8	Italy	30530.1	48.4	0.2	0.2
9	UK	26945.4	638.6	2.4	3.3
10	Netherlands	25592.5	279.0	1.1	1.4
11	Spain	24675.7	91.8	0.4	0.5
12	Canada	18555.9	363.7	2.0	1.9
13	Ireland	11282.5	17.9	0.2	0.1
14	Brazil	11006.2	375.4	3.4	1.9
15	Australia	10758.2	343.1	3.2	1.8

Source: ITC Trade Map and India Exim Bank Analysis

Potential countries for export of pharmaceutical products are Germany, Belgium, Switzerland, China, and Japan, among others (as highlighted in the **Table 8** above).

[41] Pharmaceutical products include HS 30

Table 9: Potential Destinations for Export of Electrical Machinery Equipment and Parts[42]

S. No.	Importers	Imported Value in 2021 (US$ mn)	India's Export in 2021 (US$ mn)	Share of India in the Country's Imports (%)	Share of the Country in India's Exports (%)
Total	**World**	**3594456.6**	**18836.2**	**0.5**	**100.0**
1	China	668657.2	986.9	0.1	5.2
2	USA	415975.9	3373.5	0.8	17.9
3	Hong Kong	403454.0	359.1	0.1	1.9
4	Germany	180070.9	913.6	0.5	4.9
5	Singapore	137964.1	303.6	0.2	1.6
6	Taiwan	120664.6	62.4	0.1	0.3
7	Vietnam	115535.4	257.0	0.2	1.4
8	South Korea	114789.6	116.3	0.1	0.6
9	Japan	113466.1	336.9	0.3	1.8
10	Mexico	101161.2	173.4	0.2	0.9
11	Netherlands	79358.3	714.3	0.9	3.8
12	Malaysia	71457.8	153.3	0.2	0.8
13	France	64231.9	551.9	0.9	2.9
14	UK	61737.2	885.6	1.4	4.7
15	Thailand	53072.8	172.3	0.3	0.9

Source: ITC Trade Map and India Exim Bank Analysis

Potential countries for export of electrical machinery, equipment and parts are China, Hong Kong, Germany, Singapore, and Taiwan, among others (as highlighted in the **Table 9** above).

[42] Electrical machinery, equipment and parts include HS 85

Table 10: Potential Destinations for Export of Machinery, Mechanical Appliances, and Parts[43]

S. No.	Importers	Imported Value in 2021 (US$ mn)	India's Export in 2021 (US$ mn)	Share of India in the Country's Imports (%)	Share of the Country in India's Exports (%)
Total	**World**	**2549866.3**	**24165.8**	**0.9**	**100.0**
1	USA	428828.7	5246.2	1.2	21.7
2	China	231210.9	1036.5	0.4	4.3
3	Germany	176014.9	1314.3	0.7	5.4
4	France	84358.7	608.3	0.7	2.5
5	Hong Kong	82708.1	75.2	0.1	0.3
6	UK	79638.1	1062.7	1.3	4.4
7	Mexico	79134.7	294.7	0.4	1.2
8	Netherlands	72292.4	280.7	0.4	1.2
9	Japan	71197.8	535.3	0.8	2.2
10	Canada	70744.1	195.2	0.3	0.8
11	South Korea	69100.1	247.2	0.4	1.0
12	Singapore	59954.8	865.0	1.4	3.6
13	Taiwan	57863.1	66.8	0.1	0.3
14	Italy	53894.8	564.0	1.0	2.3
15	Poland	40553.7	382.9	0.9	1.6

Source: ITC Trade Map and India Exim Bank Analysis

Potential countries for export of machinery, mechanical appliances, and parts are China, Germany, France, Hong Kong, and UK, among others (as highlighted in the **Table 10** above).

[43] Machinery, mechanical appliances, and parts include HS 84

Table 11: Potential Destinations for Export of Organic Chemicals[44]

S. No.	Importers	Imported Value in 2021 (US$ mn)	India's Export in 2021 (US$ mn)	Share of India in the Country's Imports (%)	Share of the Country in India's Exports (%)
Total	**World**	**530687.8**	**21184.1**	**4.0**	**100.0**
1	USA	64425.0	2972.2	4.6	14.0
2	China	60215.9	2522.2	4.2	11.9
3	Belgium	42051.0	786.2	1.9	3.7
4	Germany	40353.4	833.8	2.1	3.9
5	Italy	18992.6	483.2	2.5	2.3
6	Netherlands	17163.9	908.2	5.3	4.3
7	Japan	16793.6	706.8	4.2	3.3
8	France	16541.3	313.5	1.9	1.5
9	South Korea	15972.9	500.1	3.1	2.4
10	Spain	14207.9	585.4	4.1	2.8
11	Brazil	13209.2	645.0	4.9	3.0
12	Ireland	12212.4	220.5	1.8	1.0
13	UK	11734.7	245.6	2.1	1.2
14	Mexico	10704.0	396.6	3.7	1.9
15	Taiwan	10578.1	317.4	3.0	1.5

Source: ITC Trade Map and India Exim Bank Analysis

Potential countries for export of organic chemicals are Belgium, Germany, Italy, Netherlands, and Japan, among others (as highlighted in the **Table 11** above).

[44] Organic chemicals include HS 29

Table 12: Potential Destinations for Export of Tea[45]

S. No.	Importers	Imported Value in 2021 (US$ mn)	India's Export in 2021 (US$ mn)	Share of India in the Country's Imports (%)	Share of the Country in India's Exports (%)
Total	**World**	**7377.7**	**687.9**	**9.3**	**100.0**
1	Pakistan	596.5	0.3	0.0	0.0
2	USA	531.8	67.3	12.6	9.8
3	Iran	386.2	96.8	25.1	14.1
4	UK	307.4	42.5	13.8	6.2
5	UAE	277.0	62.4	22.5	9.1
6	Hong Kong	262.1	1.2	0.5	0.2
7	Germany	244.8	44.7	18.2	6.5
8	Egypt	221.1	1.1	0.5	0.2
9	Morocco	207.4	0.1	0.0	0.0
10	Vietnam	203.2	0.1	0.1	0.0
11	Saudi Arabia	188.9	17.2	9.1	2.5
12	China	184.7	16.7	9.1	2.4
13	France	175.5	2.8	1.6	0.4
14	Japan	174.1	18.6	10.7	2.7
15	Iraq	170.8	20.2	11.9	2.9

Source: ITC Trade Map and India Exim Bank Analysis

Potential countries for export of tea are Pakistan, Hong Kong, Egypt, Morocco, and Vietnam, among others (as highlighted in the **Table 12** above).

[45] Tea include HS 0902

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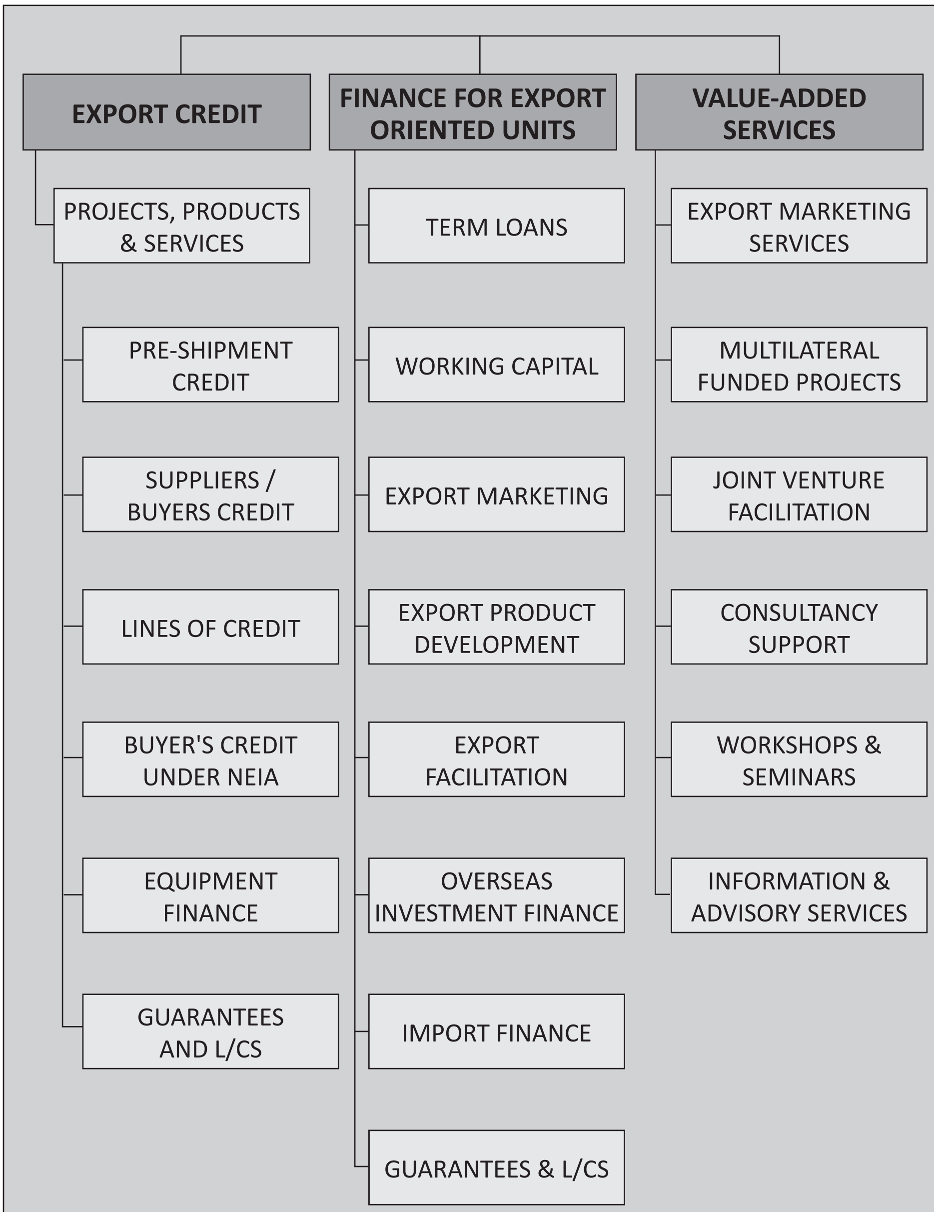

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