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Russia invades Ukraine: The economic fall-out and consequences for energy markets

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The Ukrainian pipeline system

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On 24 February 2022, Russia invaded Ukraine, starting the first major war in Europe in nearly thirty years. Russian President Vladimir Putin's decision has been interpreted as an attempt to recreate an empire and suggests a return to the Cold War. This edition of *Iqtisadi* examines the economic consequences of the war and implications for energy markets.

The Russian invasion of Ukraine was considered so threatening that the US and EU reacted in unprecedented ways. NATO and EU countries have imposed massive sanctions on Russia; Germany has announced plans to increase defense spending by \$110 billion and for the first time is sending weapons abroad, to Ukraine.² Denmark and neutral Sweden are increasing defense spending while Switzerland abandoned its neutrality and joined the sanctions effort for the first time. In addition to other sanctions, the US and UK have banned imports of oil and gas from Russia.³

The most significant measures came from the EU: it announced plans to reduce imports of Russian gas by two thirds within a year and to make Europe independent from Russian fossil fuels well before 2030, starting with gas. The EU will diversify gas supplies, by increasing liquefied natural gas (LNG) and pipeline imports from non-Russian suppliers, as well as by increasing production and imports of bio-methane and renewable hydrogen production. It also plans to accelerate programs to boost energy efficiency, increase renewables and electrification, and tackle infrastructure bottlenecks so as to more quickly reduce the use of fossil fuels in homes, buildings, industry, and the power grid.⁴

Full implementation of the Commission's 2021 "Fit for 55" proposals would have reduced annual fossil gas consumption by 30 percent, equivalent to 100 billion cubic meters (bcm) by 2030. With the new measures called "REPowerEU", it could remove at least 155 bcm of fossil gas use, equivalent to the volume imported from Russia in 2021. Nearly two thirds of that reduction can be achieved within a year, ending the EU's overdependence on a single supplier.

The EU has been reliant on fossil fuel (gas, oil and coal) imports for an average of 57 - 60 percent of its gross energy consumption during the past five years. Although domestic production of renewable energy sources has increased significantly, lower production of coal, lignite and gas has meant that the EU remains dependent on imports

for gas (90 percent of consumption), oil (97 percent) and hard coal (70 percent). In the hard coal sector, even though import volumes have declined in recent years, Russia also remains the leading supplier (46 percent), followed by US (15 percent) and Australia (13 percent).

In 2021, Russia provided about 45 percent of EU's total gas imports. The other main gas suppliers to the EU were Norway (23 percent), Algeria (12 percent), the United States (6 percent) and Qatar (5 percent). Russia was also the largest supplier of EU crude oil imports (27 percent), followed by Norway (8 percent), Kazakhstan (8 percent) and the USA (8 percent).⁵

The G7 - the US, UK, Canada, France, Germany, Italy and Japan - has said that it will end Russia's "most favored nation" (MFN) status under World Trade Organization (WTO) rules. This means imposing tariffs – border taxes paid by importers – on Russian products. The US currently only excludes two countries from "permanent normal trading relations," Washington's version of MFN status: Cuba and North Korea. Currents US tariffs levels on Russian goods are about 3 percent on average; the border tax would increase to more than ten times that level.⁶

Following the invasion of Ukraine, the change of mood in Japan has also been dramatic. Japan has wooed Russia in recent years, partly to counterbalance China but also in the hope of settling the problem of the Kiril Islands, seized by the Soviet Union at the end of World War II. Abe Shinzo, the former prime minister, met President Putin 27 times. Now, under Prime Minister Fumio Kishida, Japan has frozen the share of Russia's central bank reserves held in the country. Japan has frozen the assets of dozens of Russians and prohibited exports to 81 Russian organizations.

Meanwhile, the world continues to experience COVID and in some regions the situation is deteriorating. On 27 March, 0.5 million new cases were registered adding to the 60 million active cases worldwide.⁷ Rapid economic recovery from COVID induced shut-downs has put pressure on supply chains resulting in sharp increases in prices.⁸ The war has added new pressures because Russia is a major exporter of oil and gas while Ukraine and Russia are major suppliers of grain. Ukraine's exports have stopped while Russia's are being disrupted by sanctions.⁹

The conflict in the Black Sea has disrupted the flow of grains from the region and caused great uncertainty in global grain trade. Ukraine has suspended port operations for commercial activities while Russian grain movement through the Black Sea is affected by very high insurance premiums for vessels. In addition, sanctions make commercial transactions challenging. In response, grain prices have soared for all major exporters. Ukraine accounted for 10 percent of global wheat exports and Russia for 16 percent in marketing year 2021/22, which began in July. Ukraine accounts for 14 percent of world corn exports and Russia for two percent. Ukraine also accounts for 17 percent of world barley exports and Russia for 13 percent.

Global wheat prices have made unprecedented moves higher in both cash and futures markets as importers search for new wheat supplies. Egypt which is the largest wheat importer in the world, regularly purchases large volumes of Russian and Ukrainian wheat. In the first half of the trade year, nearly 80 percent of its imports were supplied by Ukraine or Russia. This included private sector purchases, which accounted for nearly half of total annual wheat imports. Egypt's state buyer, General Authority for Supply Commodities (GASC), purchases wheat through international tenders and a large portion is directed towards its food subsidy program that distributes bread to vulnerable populations. While GASC normally purchases from Russia, Romania and Ukraine have become top suppliers this year as global prices climbed. Following Russia's invasion of Ukraine, however, GASC is attempting to diversify its wheat suppliers. Turkey is also largely dependent upon these two countries for imports. While Turkey produces wheat, output in 2021/22 was down by more than 10 percent over the previous year. Food price inflation has been a key concern in Turkey where the consumer price index in February rose by 54.4 percent over February 2021.¹⁰

Imports are likely to rise to offset tighter domestic supplies. To facilitate this, the government made imports duty-free in September 2021. Due to proximity and competitive prices, Turkey has come to depend heavily upon Black Sea wheat, particularly from Russia. Russia has consistently been Turkey's largest supplier, while Turkey has been Russia's first- or second-largest export market for the past several years. Ukraine has been the second-largest supplier to Turkey.¹¹

There are increasing fears that Russia may use food exports as an economic weapon. While there are no EU or US sanctions on Russian commodities exports, the West

has shut down Russia’s access to banking and technology. The Kremlin will become more protectionist and make it difficult for the private sector to export wheat, corn, and fertilizer. Russia has announced a ban on wheat to its neighbors in the Eurasian Economic Union and another ban on exports of potash and phosphates - essential ingredients in fertilizer.¹²

Table 1 - Russia and Ukraine: Basic Data, 2020

	Russia	Ukraine
GDP (\$ billions)	1,480	155
Population (millions)	144	44
GDP/capita (\$)	10,278	3,523
Natural resources as share of GDP (%)	13.1	1.8
Fuel as a share of exports (%)	42.0	1.0

Source: World Bank Data

In 2019, Russia produced 11.7 million barrels a day (mb/d) of crude oil and refined oil products. This was equal to 12.3 percent of world production. In that year Russia exported 5.7 mb/d of oil (12.8 percent of world exports) and 3.4 mb/d of oil products (13.3 percent of world exports).

In 2019, it produced 443 billion cubic meters (bcm) of natural gas (11.3 percent of world production). It exported 271.2 bcm through pipelines and 39.4 bcm in the form of liquefied natural gas (LNG). Its total share of world exports was 8.3 percent. The largest market for Russian gas was Europe, which accounted for 87 percent of sales. Germany was Russia’s largest importer, accounting for 55.6 bcm, followed by Italy with 20.7 bcm.¹³

The costs of the war are huge and current assessments are only interim. In mid-March the IMF said that Ukraine’s GDP may fall by 25-35 percent in 2022.¹⁴ The Ukrainian government estimated war damage in the first two weeks was at least \$100 billion.¹⁵ The Institute for International Finance expects that as a result of sanctions, Russian GDP in 2022 will fall by 15 percent.¹⁶

The EU's economy will also be significantly affected. The main immediate risks to the European economy arise from the supply shock triggered by the increase in oil and gas prices, from Europe's dependence on Russian energy, and from the impact of geopolitical threats on household confidence and investor sentiment. Europe is accepting millions of Ukrainian refugees and providing them with emergency assistance. In 2022, a preliminary estimate of the direct budgetary impact is €175 billion (\$192 billion), or 1¼ percent of EU GDP, if not more.¹⁷

Oil prices have risen sharply since the beginning of 2021. The loosening of tight restrictions designed to limit the effects of the COVID epidemic released pent up demand in many economies. This led to large increases in the need for energy sources and other commodities. As a result, prices of oil (and gas) rose. Middle Eastern producers have been subject to pressure by the US and the UK to increase supplies so as to reduce the pressure on markets. Sanctions against Russia have included bans on purchases of oil and this is adding to pressure. In recent weeks the spread of the Omicron variant has forced the Chinese government to introduce economic restrictions and this has affected the demand for oil, putting downward pressure on prices.

In 2022, volatility from the Ukraine conflict is affecting oil markets and OPEC is likely to have its largest annual export revenues in eight years. Even if prices ease from their current levels, revenues will climb to their highest level since 2014, and could reach \$1 trillion. In 2020 OPEC's export revenues sank to a 17-year low of \$321 billion. Saudi Arabia's oil export revenues could rise from \$207 billion in 2021 to \$210-380 billion; the UAE from \$50 billion to \$80-100 billion.¹⁸

Table 2 (below) shows how world oil production and reserves in 2019 were concentrated in six countries, all of which have, at present, difficult relations with the US. Should Russian oil be boycotted – and that is NATO and the EU's aim, then the other five countries listed will need to pick up the shortfall. They all have totalitarian regimes reliant on oil and gas exports. This poses a dilemma for consuming countries: they will be concerned about swapping reliance on one totalitarian regime with that on another.

The International Energy Agency (IEA) has stated that surging commodity prices and international sanctions levied against Russia following its invasion of Ukraine will depress global economic growth. As a result, it revised down its forecast for world oil

demand by 1.3 mb/d for the second to fourth quarters of 2022, resulting in 950 kb/d slower growth for 2022 on average. Total demand is now projected at 99.7 mb/d in 2022, an increase of 2.1 mb/d from 2021.¹⁹

The prospect of large-scale disruptions to Russian oil production is creating a global oil supply shock. The IEA estimates that from April, 3 mb/d of Russian oil output could be shut in as sanctions take hold and buyers shun exports. The OPEC plus Russia group is, at present, maintaining its agreement to increase supply by modest monthly amounts. Only Saudi Arabia and the UAE hold substantial spare capacity that could immediately help to offset Russian sanctions.

The IEA therefore recommended an energy saving program. This would help rebalance energy markets and would make a significant contribution to meeting zero net emissions by 2050. It made a series of recommendations that could be implemented immediately including a reduction of speed limits on highways by at least 10 km/hour; working from home up to three days a week where possible; car-free Sundays in cities; making the use of public transport cheaper. If fully implemented in developed economies, these measures would lower oil demand by up to 2.7 mb/d within four months – equivalent to the oil consumed by all the cars in China. This would significantly reduce potential strains at a time when a large share of Russian supplies may no longer reach the market and the peak demand season of July and August is approaching. The measures would have an even greater effect if adopted in part or in full in emerging economies as well.²⁰

Table 2 shows how oil production and reserves (excluding the US) are concentrated in countries with totalitarian regimes. Requests by the US and the UK that Saudi Arabia and the UAE increase production have not been accepted and they bring back memories of the boycott and price rises of 1973. The creation of the International Energy Agency in 1974 was an attempt by consumers to protect themselves against OPEC's cartel power. OPEC+ includes Russia since 2016 and is an attempt to expand the cartel and its power.

Russian oil exports are estimated at 7 mb/d; 4.8 mb/d go to countries that have implemented sanctions and 2.3 mb/d to those that have not, including China with 1.6 mb/d.²¹ Half of its oil exports, almost three quarters of its gas exports and almost a third of its coal exports went to European countries in the OECD. The Netherlands, Germany and

Poland were the largest single oil importers and Germany, Turkey, Italy and France were the largest gas importers.²²

Table 2 - World Oil Production and Reserves, 2019

	Production (mb/d)	Reserves (trillion barrels)
Russia	11.7	107.8
Saudi Arabia	11.8	297.6
Iran	3.4	157.8
Iraq	4.7	145.0
UAE	4.0	97.8
Venezuela	0.9	303.8
Total of the six	36.5	1,109.8
Total as share of world (%)	38.4	64.0

Source: BP.COM

The oil producers are aware that attempts to reduce carbon emissions will reduce the demand for hydrocarbons. Moves in this direction are being hindered by the shortage of gas in Europe that preceded the war in Ukraine. The increase in demand for fuel that followed the economic recovery in 2021 has resulted in massive rises in oil export revenues. The war has also accelerated rises in the prices of other commodities including wheat and other grains. In the Middle East these trends will repeat a dangerous pattern: the rich oil producers will get rich while the poor, large food importing countries, most notably Egypt, will become even poorer.

Ukraine is an important transit country for Russia's natural gas supplies to countries throughout Europe. (See map above) It has the world's largest natural gas transit infrastructure because of its proximity to Russia. European markets have received 2.9 trillion cubic feet (tcf) to 3.3 tcf of Russian natural gas per year through Ukraine. This continues despite the war and Ukraine receives transit fees on the gas that transits through its territory.²³ Numerous countries receive Russia's natural gas partly or exclusively

through Ukraine, including Austria, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, France, Germany, Greece, Hungary, Italy, Moldova, Poland, Romania, Serbia, Slovakia, Slovenia, and Turkey. In the past, disputes between Russia and Ukraine over natural gas supplies, prices, and debts have caused interruptions to Russia's natural gas exports through Ukraine.

The recently completed TurkStream and nearly complete Nord Stream 2 pipelines were expected to replace pipelines that pass through Ukraine, which are currently used to transit 68 percent of the total gas flow from Russia to Europe. (Nordstream 2 was an expanded version of Nordstream 1 which took gas from Russia to the German coast through the Baltic) The decrease in flows of Russia's natural gas through Ukraine would diminish Ukraine's critical role as a transit country for natural gas flows from Russia to Europe.²⁴

In February 2022, the German government suspended certification of Nord Stream 2 following Russia's recognition of the Donetsk and Luhansk republics and the deployment of troops in those regions and elsewhere in Ukraine. Nord Stream 2 AG filed for bankruptcy on 1 March 2022 and laid off all its employees.²⁵

This war has already resulted in tens of thousands of deaths. Millions of Ukrainians have been forced to flee from their homes, many to neighboring countries in the West. The physical destruction is enormous and increasing daily. The Russian decision to invade Ukraine has restarted the Cold War, albeit with different ideological overtones. Russia's reputation as a conventional military power has been badly damaged by the failures of its army, but its ability and willingness to kill civilians has been demonstrated once again on a massive scale.

The effects on the Middle East will be an increase in the gaps between the oil rich states which benefit from higher oil prices and the poorer states that need to finance higher costs of grain imports without the rise in oil incomes. This will pose a severe strain on their socio-economic cohesion and political stability.

NATO and the EU were shocked by Russia's invasion of Ukraine after years in which they failed to react to Russian atrocities in Chechnya, Georgia and Syria and have acted with unprecedented sanctions. They now understand the dangers of relying on Russia for fuel and will begin a complex and painful reorientation of their energy policies.

In the short term this will clash with environmental policies designed to reduce carbon emissions. Germany's signing of the contract to import gas from Qatar is the first evidence of this.²⁶ High oil and gas prices have increased the income, power and influence of those producers that are not subject to Western sanctions. In the medium to long term, the new energy policies now being implemented will enhance consuming countries security and reduce carbon emissions. The war in Ukraine will accelerate the move away from hydrocarbons and will ultimately weaken the power of oil and gas producers including those in Middle East.

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