Impacts of Russia's war of aggression against Ukraine on the shipping and shipbuilding markets

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Russia's war of aggression against Ukraine has impacted the shipping and shipbuilding markets

- The Russian Federation's (hereafter "Russia") war of aggression against Ukraine has had both a significant direct impact on the maritime sector notably by disrupting maritime activities in the area. The war is likely to have further structural impacts on maritime trade routes and maritime decarbonisation.
- The war has directly affected maritime transport in the Black and Azov seas, including a halt of the activities in Ukrainian ports and the export of agricultural products through the Black Sea. After a complete halt of Ukraine maritime activities in the Black Sea, the implementation of the Black Sea Grain Initiative in early August 2022 created an export corridor for certain agricultural products and allowed for the partial resumption of shipping activities from Ukraine. The deal was terminated in July 2023 and the seaborne trade of Ukrainian products continues to be strongly affected.
- The war has also indirectly impacted the maritime sector through the international sanctions against Russia and Belarus. The sanctions imposed on the Russian government and individuals targeted Russian shipowners and shipbuilders. They also led to restrictions for Russian ships to enter ports in various OECD countries and more broadly to maritime transport to and from Russia. These sanctions may require Russia to try to reduce its reliance on foreign suppliers, noting that the Russian shipbuilding industry is highly dependent on the military sector, which accounts for about 80% of Russian shipbuilding production.
- Orders taken by Russian ship owners to yards located in OECD countries have been put on hold because of sanctions. In addition, the sanctions also led to a reduction of new orders and vessels completions in Russian yards. Between 2015 and 2021, Russian shipyards saw on average 28.7 new orders, compared to 2.5 new orders, on average, between 2022 and 2023. Russia accounted for 0.36% of global vessel completions in 2019. Nevertheless, neither global seaborne trade volumes nor global ship demand, which is driven by global seaborne trade expansion, have, so far, been significantly affected by the war in Ukraine.

- Longer-term impacts can be expected, such as changes in trading routes, a consequence from the war and of its sanctions, and changes in energy demand and costs. For instance, the war has contributed to longer shipping routes and, an increasing demand for LNG-carriers, due to the interruption of gas supply via pipelines from Russia to Europe, while significantly increasing the operating cost of LNG-fuelled vessels following the increase in gas prices in 2022. This may also impact the further decarbonisation of the maritime sector. Finally, the war contributed to an increase in the number of ships that operate as a "dark fleet", vessels with unclear ownership, no insurance and with maintenance which is below standards.

What are the impacts?

This document provides an overview of the impacts of the large-scale war of aggression by Russia against Ukraine on shipping and shipbuilding markets. These impacts are both direct (for instance, direct impact of war on shipping routes in the Black Sea) and indirect (consequences of sanctions imposed in response to the war and for world trade and shipping on the medium to long terms).

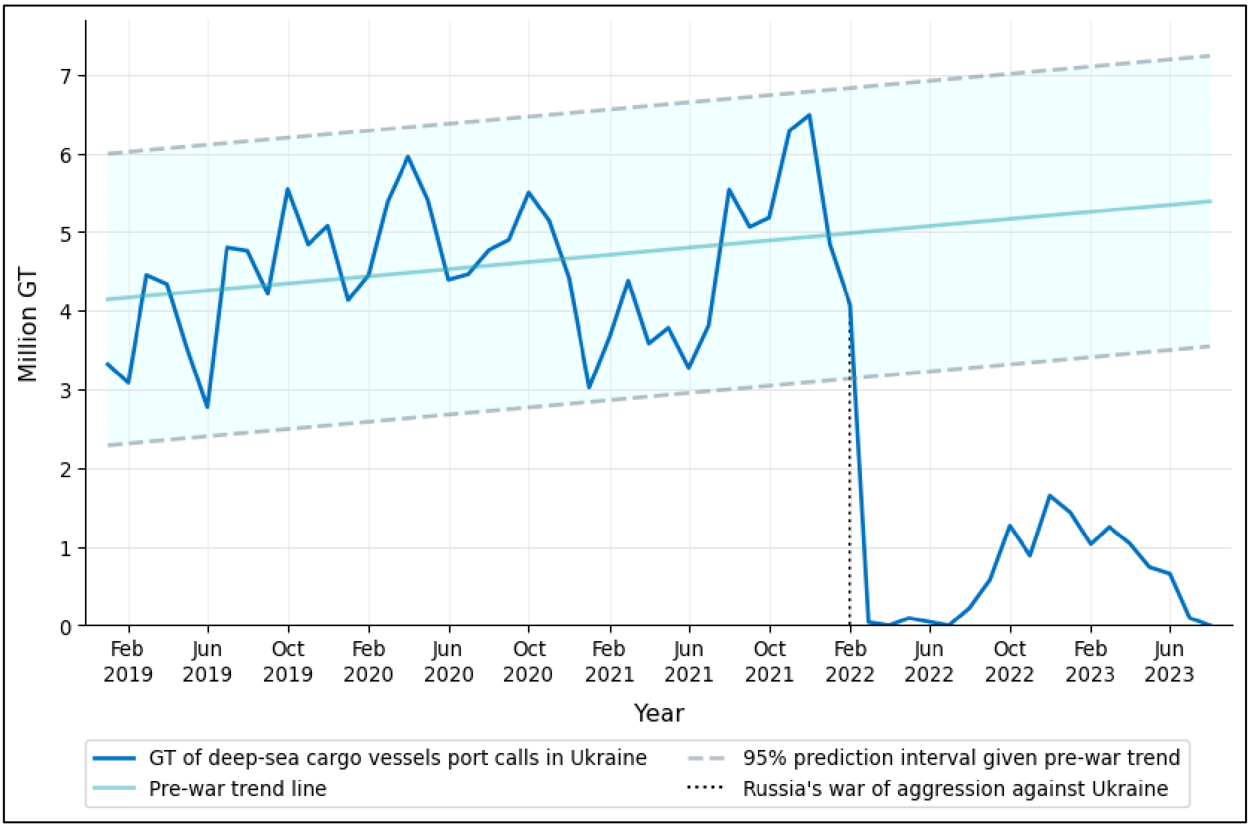
Direct Impacts

Three main direct impacts have been identified, namely the disruption of shipping activities in the Black and Azov Seas, the increased use of the Danube River ports in Ukraine and an increase of shipping activities in neighbouring countries.

In the Black Sea and in the Azov Sea, port infrastructure and ships have been hit by projectiles causing extensive damage. This has provided enormous obstacles for shipping since the start of the war. After close to 6 months of shipping standstill for Ukraine, the Black Sea Grain initiative brought, for the duration of one year, some relief for seaborne agriculture trade. According to the International Maritime Organization (IMO) about 60 merchants vessels were still stranded, unable to leave Ukraine harbours as of early 2023 (International Maritime Organization (IMO), 2023[1]) (Osler, 2023[2]).

The operation of Ukrainian ports has been suspended and the activity in the Black Sea is also disrupted. There has been a significant decrease of port calls of deep-sea cargo vessels, explained first by a standstill of activity followed by a slight increase of activity due to the Black Sea Grain Initiative. From January 2019 until February 2022, the gross tonnage in port calls was on average about 4 million (Figure 1). This was followed by an important drop in March 2022, reaching a recorded all time low, which remained stable until August 2022, in line with the Black Sea Grain Initiative, where the recorded amount of gross tonnage saw an increase, however still far below previous gross tonnage levels. During the first quarter of 2023, thanks to the Initiative, the gross tonnage of port calls of deep-sea cargo vessels was between 0.5 and 1.7 million. The variations in the quantity of gross tonnage could be explained, for instance, by the pace of the inspections in the Joint Coordination Centre (JCC) and, by the renewal of the initiative for a set amount of time. On 17 July 2023, the initiative was terminated, close to a year after its implementation, leading to a drop of the number of Ukraine's port calls and GT traded.

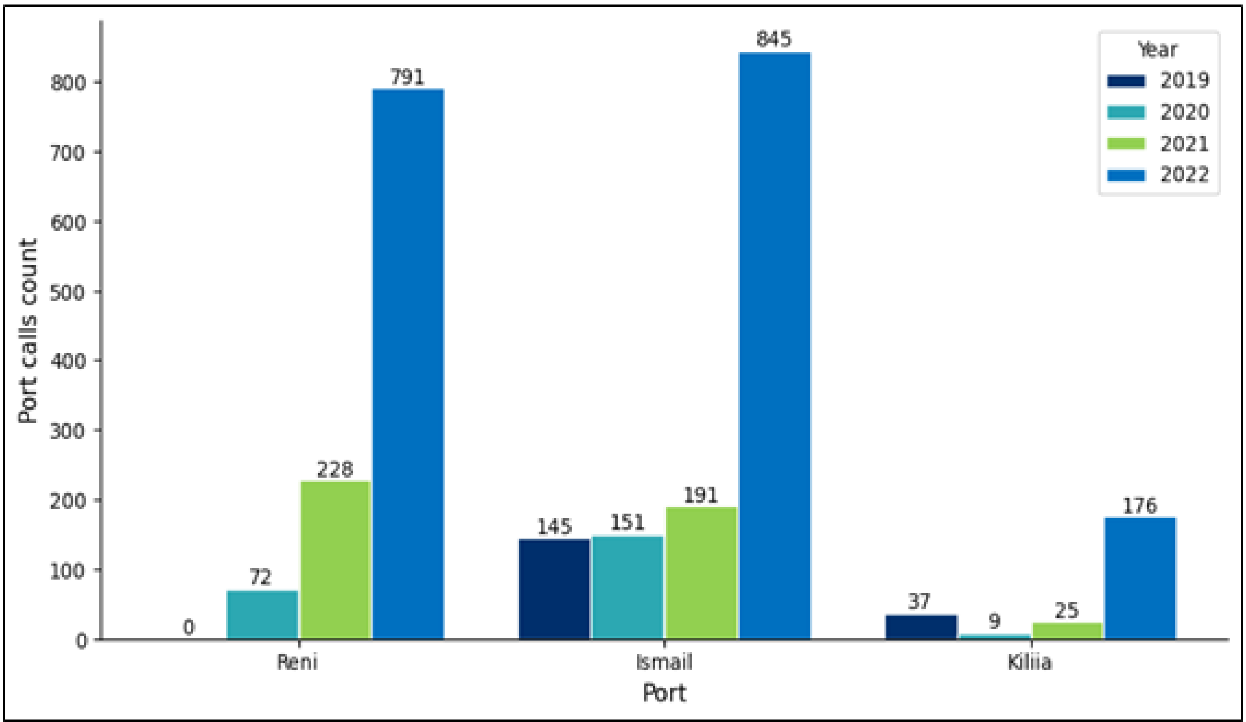
Figure 1. Decrease of gross tonnage (GT) in port calls of deep-sea cargo vessels in Ukrainian ports, 2019-2023



Note: Deep-sea cargo vessels include oil tankers, bulk carriers, containerships, LNG carriers, PCTCs and VLGCs. Data exclude port calls to Ukrainian ports in Crimea, under Russian occupation since 2014.
Source: OECD calculations based on Clarkson Research Services Limited

The blockade of the Black Sea has led to the increased use of three government-run ports on the Danube River to continue trade efforts: Reni, Izmail and Kiliia (Diakun, 2023[3]). These three river ports at the border with Romania have seen a significant rise in number of port calls between 2021 and 2022 (Figure 2). They were the only operational ones up until the Black Sea Grain Initiative and after its termination, and are the only ones which are not under restrictions. However, these river ports are limited by the vessel size that they can accommodate and the wait times. Projects have been undertaken to improve the logistics of these Danube River ports and Ukraine's Ministry for Communities, Territories and Infrastructure Development plans to increase their capacity. For instance, the U.S Agency for International Development (USAID) has partnered with Grain Alliance, Kernel and Nibulon to increase grain export operations, including by constructing and renovating berths in Reni and expanding the operation capabilities of the port of Izmail (USAID, 2023[4]). In the months following the termination of the Black Sea Grain Initiative the ports of Reni and Izmail were subject to drone attacks, impacting vessel movements (Diakun, 2023[5]).

Figure 2. Evolution of port calls, at selected Ukrainian ports on the Danube River, 2019-2022



Note: Missing data for the port of Reni in 2019.
Source: Clarkson Research Services Limited 2023

The suspension of the activities of Ukrainian Black Sea ports has also led to an **increase in seaborne activities of neighbouring countries** including Romania, the Republic of Moldova as well as Georgia (Diakun, 2022[6]). The port of Constanta, Romania, was at 98% capacity in March 2022, and has seen an increase of about 25% in number of port calls between 2021 and 2022 (Meade, 2023[7]), going from 4,010 port calls in 2021 to 5,033 in 2022.

Indirect Impacts

Russia's war against Ukraine has also **led to indirect impacts on shipping and shipbuilding markets**, for example through sanctions imposed by the international community and an increasing use of the black fleet.

International sanctions against Russia

International sanctions against Russia have a strong maritime focus. Ships with links to Russia are targeted by international sanctions which have been implemented by most OECD countries. A significant number of Western container shipping companies have halted bookings to and from Russia. For instance, the European Union (hereafter 'EU') banned **all Russian vessels from accessing EU ports**. Table 1 illustrates this maritime focus of sanctions.

International sanctions also led to a reduction in new orders and completions at Russian yards. Russia accounted for 0.36% of global vessel completions in 2019. The Clarkson's shipping intelligence network estimates the Russian owned fleet totals about 3,000 ships (6,448 vessels including vessels controlled by Russian interests according to Lloyds List) of 18.1m gross tonnes and 1.2% of global tonnage. Over half of the tonnage is oil and gas tankers representing 2.4% of global tankers and 2.1% of the LNG fleet. 0.8% of the global fleet is under Russian Register and 0.6% under Russian flag. The Russian shipbuilding industry is highly dependent on the military sector, which accounts for about 80% of Russian shipbuilding production. The sanctions may incentivise Russia to be more self-sufficient vis-a-vis foreign suppliers. Several superyachts owned by Russian oligarchs have been seized.

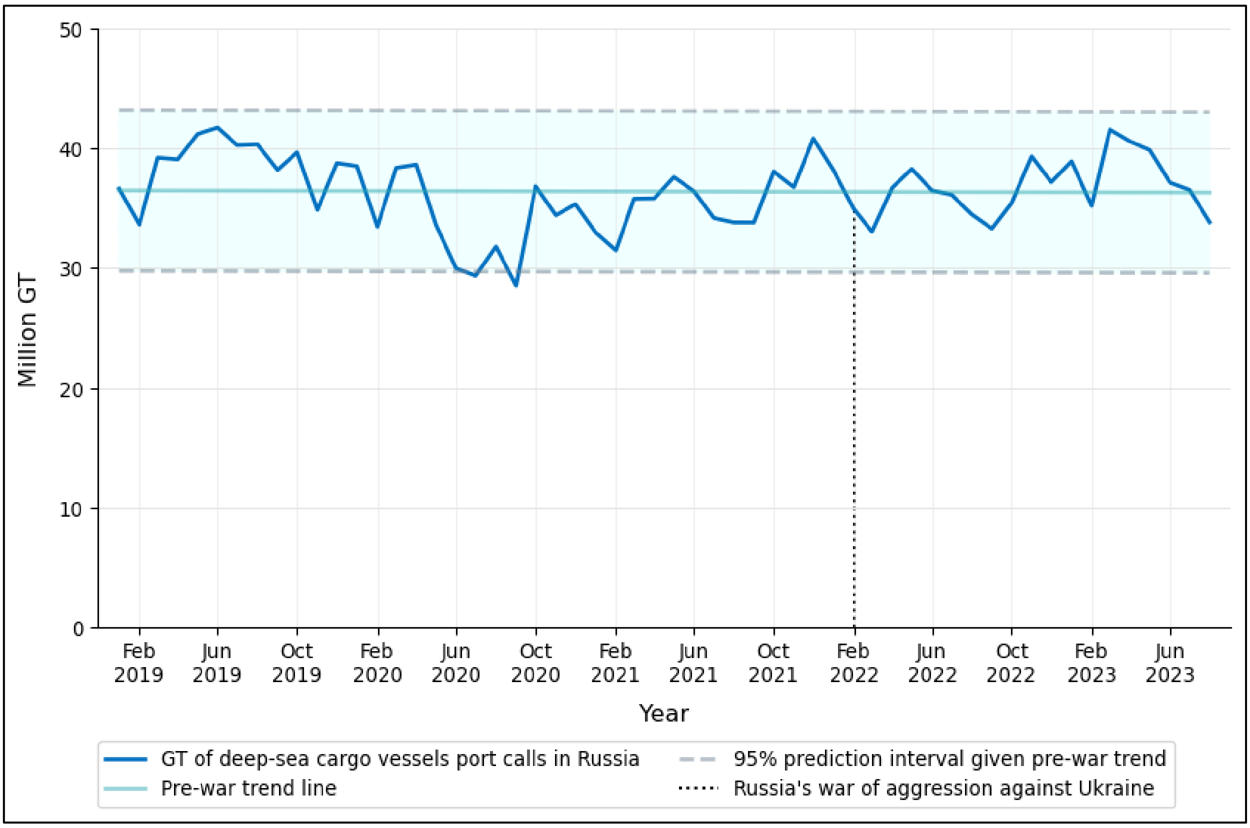
Sanctions also affected shipbuilding operations in OECD countries: for instance, sanctions on the Russian bank VTB and shipowner Sovcomflot following the full-scale invasion of Ukraine have put new building contracts worth several billions of dollars at shipyards located in OECD countries at risk.

Table 1. Selected sanctions affecting Russia's shipping and shipbuilding industries following its large-scale aggression against Ukraine

Economy	Description of sanctions
European Union	- **25 February 2022 (2nd package of sanctions)** The EU has prohibited the sale, supply, transfer or export to Russia of specific goods and technologies in oil refining and has introduced restrictions on the provision of related services. **- 15 March 2022 (4th package of sanctions)** Trade restrictions for iron, steel and luxury goods **- 8 April 2022 (5th package of sanctions)** Bans on imports from Russia of coal and other solid fossil fuels; **on all Russian vessels from accessing EU ports**; imports of other goods such as wood, cement, seafood and liquor **- 3 June 2022 (6th package of sanctions)** Ban on the purchase, import or transfer of crude oil and certain petroleum products from Russia into EU. **- 6 October 2022 (8th package of sanctions)** Price cap related to the maritime transport of Russian oil for third countries additional restrictions on trade and services with Russia **- 4 February 2023** The EU agrees on level of price cap for Russian petroleum products. **- 23 June 2023 (11th package of sanctions)** Vessels which engage in ship-to-ship transfers, in breach with the Russian oil import ban, are prohibited from accessing EU ports
Korea	**- 26 March 2022** Export control on non-strategic items including marine equipment
United Kingdom	**- 1 March 2022 (2022 No. 203)** Prohibition of the registration of ships owned, controlled, chartered, or operated by designated persons or persons connected with Russia on the UK Ship Register **- 15 July 2022 (2022 No. 792)** The export of maritime goods for the placing on board of Russian-flagged vessels is prohibited
United States	**- 8 March 2022** Bans on import of Russian crude oil and certain petroleum products. **- 21 April 2022** Prohibition of Russian-affiliated vessels (flagged, owned, or operated) from entering U.S ports

Still, the overall port calls of deep-sea cargo vessels to Russia have not seen a significant change in gross tonnes (GT) since the beginning of the war (Figure 3). While there had been an initial decrease in the beginning of 2022, the overall number of port calls was mostly above the pre-war trend form January 2019 until February 2022.

Figure 3. Russian port calls of deep-sea cargo vessels, 2019-2023



Note: Deep-sea cargo vessels include oil tankers, bulk carriers, containerships, LNG carriers, PCTCs and VLGCs
Source: OECD calculations based on Clarkson Research Services Limited

Other Indirect impacts

Effects on shipping routes, freight rates and insurance costs

Due to the war, many countries were required to import gas, oil and grain supplies from more distant destinations, increasing shipping distances, transit times and expenses. Consequently, marine bunker prices and freight rates have surged, with global average bunker prices of very low sulphur fuel oil (VLSFO) reaching a peak of over USD 1,100 per tonne in June 2022— a 75% increase compared to the beginning of the year. Hesitation to commit to Russian ports and cargoes has also been a factor in tanker market tightening. The increase of bunkering costs and freight rates supported earnings premiums for 'eco' and scrubber-fitted tonnage. In addition, the insurance cost of shipping across the Black Sea have significantly increased, war risk premiums have increased by more than 20% (Corbett, 2023[8]).

The seaborne trade of some commodities has been affected

Before the war, Russia and Ukraine accounted for 34% of wheat global market share (Jospeh Glauber, 2023[9]). Russia, one of the World's top three crude oil producer, accounted for 14% of the world's total supply in crude and condensed oil (International Energy Agency, 2022[10]) and 8% of LNG global supply. The disruptions of shipping in the Black Sea and the international sanctions led to major shifts in the seaborne trade of these products notably by increasing the distance in trading routes.

Increase use of the dark fleet

There has been an increase in the number of ships that operate under the "dark fleet". An estimated 10% of tankers which are trading internationally are characterised as dark fleet ships (Lloyd's List, 2023[11]), a fleet which has doubled in size in the last 18 months. These ships are defined as having unclear ownership, no insurance, have not been inspected recently and have maintenance which is below the standards. They operate outside of the Western scope of sanctions and are, thus, a way to avoid the cost of the sanctions when continuing trade with Russia. While there has been a significant increase in the size of the dark fleet since the first quarter of 2022, these types of vessels were already used to avoid sanctions in the Bolivarian Republic of Venezuela (hereafter 'Venezuela') and in the Islamic Republic of Iran (hereafter 'Iran'). For an estimated 1000 dark fleet tankers operating in the oil market, in April 2023, 509 of them were involved in Russian trade, with the rest operating in Iran, Venezuela and other countries (Peachey, 2023[12]). With the increased usage of these ships, and their ship-to-ship oil transfers, there is an increase in the risk of oil spills which would have negative environmental impacts (Corbett, 2023[13]).

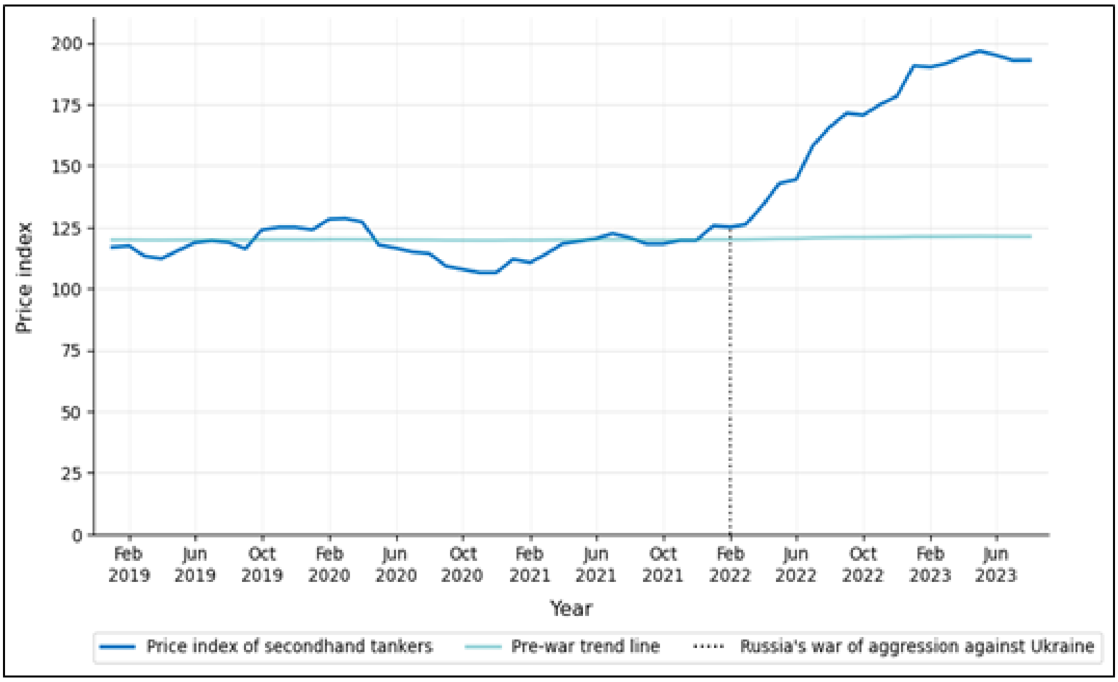
Impact on storage capacities due to containership being stranded

Most shipping lines have stopped serving Russia and Ukraine. Part of the cargo which was destined for Russia is now stored, stranded in various harbours such as in Hamburg, Germany, Istanbul, Republic of Türkiye, or Rotterdam, Netherlands (UNCTAD, 2022[14]). This has put pressure on the storage capacities and warehousing of these ports.

The war has an impact on the demand for ships, specifically on second-hand tankers

The price for second-hand tankers has significantly increased worldwide since March 2022, an estimated value increase of 34% (Peachey, 2023[15]), reaching the highest-level prices in the last 25 years (Figure 4). This increase in value is due to the increase of both the distances of routes of ships to and from EU and Russia, in which need to use longer haul trade routes, as well as due to decarbonisation factors.

Figure 4. Evolution of the price index for second-hand tankers, 2019-2023



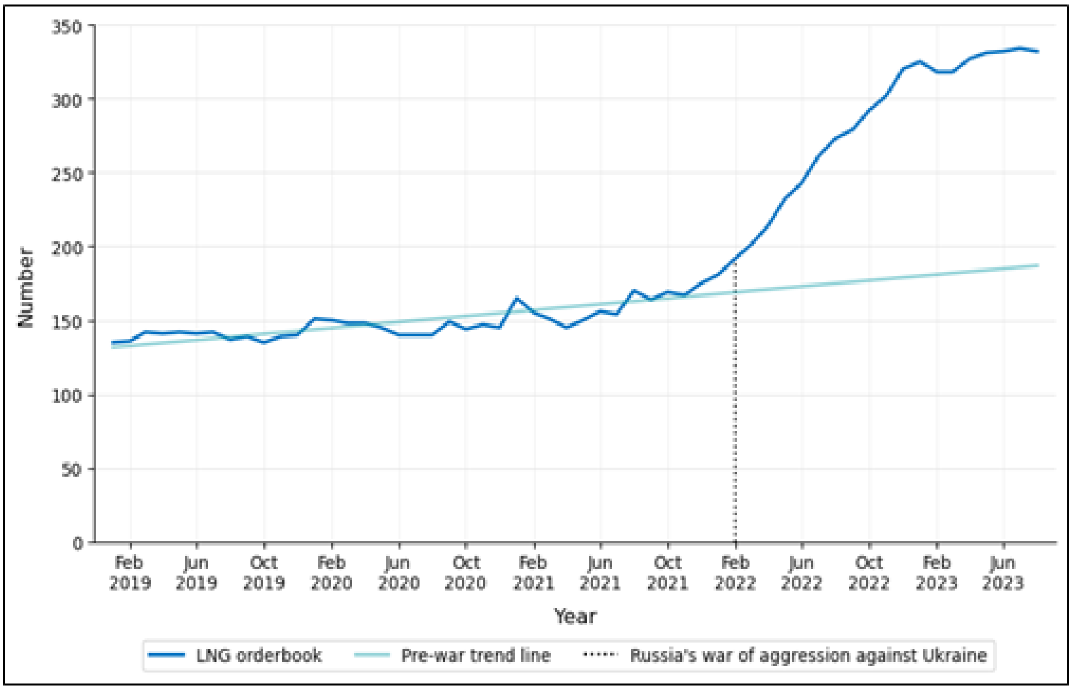
Source: Clarkson Research Services Limited 2023

What is the outlook?

While it is still too early to predict the mid- to long-term consequences of Russia's war against Ukraine on shipping and shipbuilding, several developments should be considered.

LNG seaborne trade and investment across the LNG sector are expected to increase. Due to limited availability of pipeline gas coming from Russia and efforts to diversify away from Russian gas, several European countries are prioritising alternative supply sources, notably from the Middle East and the United States. Consequently, high global LNG demand and growing competition for cargoes between Europe and Asia are increasing LNG prices as well as demand for LNG carriers, prices for LNG carrier new buildings and LNG charter rates. According to Clarksons' Shipping Intelligence Network, new building orders reached a record number of at least 91 vessels in the first half of 2022 (Figure 5). By April 2023 LNG tanker charter rates had risen to US$120,000 per day for an annual charter, compared to US$80,000 a year ago, and are forecasted to further increase. The continued global energy shortage and countries' focus on energy security are expected to further increase LNG's importance as a transition fuel in the global energy mix, with Clarksons Research indicating trade in LNG might reach 600mt by 2030. At the same time, elevated prices for natural gas and LNG incentivise gas-to-oil switching, raising concerns over the commercial attractiveness of LNG as a bridging fuel and less-carbon intensive alternative to heavy fuel oil.

Figure 5. Orderbook of LNG carriers, 2019-2023



Source: OECD calculation based on Clarkson Research Services Limited 2023

A shift of trade patterns has already started. Following trade restrictions imposed by Western countries, Russia is exporting more fuel oil to Asia, involving a more structural change in maritime transportation. Trade and cooperation in shipbuilding activity between Russia and emerging market economies, including China and India, are also expected to increase. This shift in trade patterns will be reflected by an increase in a shipping distance, for instance in a shift from short-haul voyages from Russia to the European Union (EU) to long-haul voyages to other parts of the World (Miller, 2023[16]).

The re-shaping of the trade of some goods (oil, coal, refined products) led to new seaborne trading routes. There has also been a development of the middle corridor trade route. The container logistics company A.P. Møller-Mærsk started developing this trade route in March 2022 (MAERSK, 2022[17]). The middle corridor route passes through the Caspian Sea, via the ports of Aktau, Kazakhstan and Baku, Azerbaijan, where containers are loaded on barges and, via the Black Sea which involves the use of feeder vessels between the port of Constanta, Romania and Poti, Georgia (Bachmann, 2022[18]).

Increase in the need for compliance, a lasting effect of the sanctions. The shipping market will have to continue to adapt itself to sanctions and potential additional ones. For instance, compliance will take a more important role in the industry (Meade, 2023[19]). It is necessary to well identify vessels concerned by sanctions to ensure compliance in an industry where sanctions have an impact on various parts of the supply chain, such as in the insurance of ships, the banking activities of companies, or even the ownership of the ships, their flags and the origin of the cargo on board.

What are the key considerations for policy makers?

- Russia's war of aggression has devastated part of Ukraine's maritime infrastructure. Well-functioning maritime transportation routes will be key for Ukraine's recovery. Recovery support should therefore include a substantial maritime angle.
- The disruption of maritime trading routes and markets due to the war also has broader and more indirect impacts. The severe impact on world food supply underlines the importance of maintaining open and resilient maritime transportation routes for essential products and global cooperation to achieve this. Policy makers should also closely monitor the medium- and longer-term consequences of the war on ship demand, cargo and decarbonisation efforts to ensure the sustainable development of the maritime industry.
- An increasing number of vessels are being used as part of the dark fleet to circumvent Western sanctions. These vessels take part in dangerous activities such as ship-to-ship transfer which increase the risk oil spills and collisions. Policy makers should continue to work against sanctions circumvention.
- More generally, the war should not hamper the efforts made by the maritime sector to reduce its environmental footprint notably its current large scale expected decarbonisation.

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