

MARITIME TRADE DISRUPTED

THE WAR IN UKRAINE AND ITS EFFECTS ON MARITIME TRADE LOGISTICS

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The war in the Ukraine is stifling trade and logistics of Ukraine and the Black Sea region. The search for alternate trade routes for Ukrainian goods has rapidly increased the demands on land and maritime transport infrastructure and services.

For Ukraine's trading partners, many commodities now have to be sourced from further away. This has increased global vessel demand and the cost of shipping around the world.

Grains are of particular concern given the leading role of the Russian Federation and Ukraine in agrifood markets, and its nexus to food security and poverty reduction.

Grain prices and shipping costs have been on the rise since 2020, but the war in Ukraine has exacerbated this trend and reversed a temporary decline in shipping prices. Between February and May 2022, the price paid for the transport of dry bulk goods- such as grains- increased by nearly 60 per cent. The concomitant increase of grain prices and freight rates would lead to a nearly 4 per cent increase in consumer food prices globally. Almost half of this impact is due to higher shipping costs.

The Russian Federation is a giant in the global market for fuel and fertilizer, which are key inputs for farmers worldwide. Disruptions in their supply can lead to lower grain yields and higher prices, with serious consequences for global food security, particularly in vulnerable and food-import dependent economies.

The Russian Federation is also a leading oil and gas exporter. Confronted with trade restrictions and logistical challenges, the cost of oil and gas has increased as alternative sources of supply, often at more distant locations, are called upon.

Higher energy costs have led to higher marine bunker prices, increasing shipping costs for all sectors. By the end of May 2022, the global average price for very low sulphur fuel oil (VLSFO) had increased by 64 per cent with respect to the start of the year.

Taken altogether, these increased costs imply higher prices for consumers and threaten to widen the poverty gap.

Global trade depends on a complex system of ports and ships that connect the world. If global trade is to flow more smoothly, it must be ensured that Ukrainian ports are open to international shipping and that collaboration among transport stakeholders continues to provide services. Alternative ways of transport must also be pursued. And investment in transport and trade facilitation should be fostered as well as the support for the most vulnerable economies.

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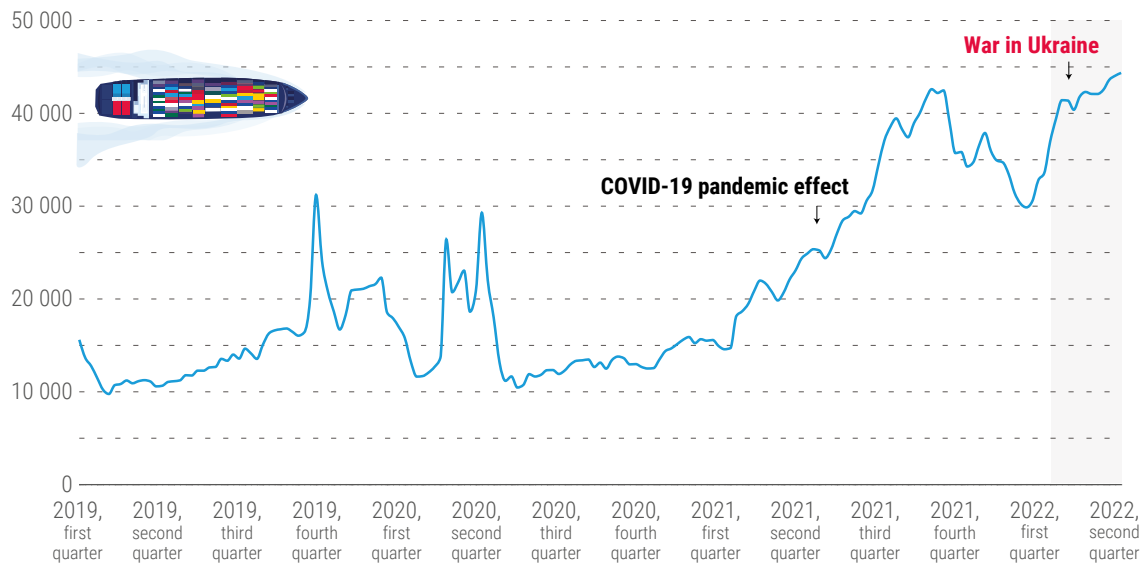
1 Shipping costs are rising



Disrupted regional logistics, the halting of port operations in Ukraine, the destruction of important infrastructure, trade restrictions, increased insurance costs, and higher fuel prices, have all contributed to the logistical hurdles arising in the Black Sea region. They have also contributed to a more costly and unpredictable global trading and shipping environment. Many countries have had to look further afield for suppliers of oil, gas and grain. Consequently, shipping distances increased, along with transit times and costs.

It is not possible to associate all developments in global shipping with a specific cause. The war in Ukraine is one of several major issues currently affecting international maritime transport, compounding other challenges such as the COVID-19 pandemic, port congestion, the need to switch to low carbon fuels, to name but a few. Nevertheless, it is clear that the disruptions and the higher ton-mile demand caused by the war in Ukraine contribute strongly to higher shipping costs (figure 1).

Figure 1. The price of shipping is rising again
Clarksea index in dollars/day, all shipping markets



Source: UNCTAD, based on data provided by Clarksons Research Shipping Intelligence Network.
Note: The series tracks average vessel earnings across the major shipping sectors, including tankers, bulkers, containerhips and gas carriers, weighted by the number of ships in each segment.

Higher energy prices exacerbate the challenges faced by shippers. The Russian Federation is a leading oil and gas exporter. However, trade restrictions and shifts in trading patterns resulting from the war have led to a surge in ton-mile demand. Daily rates for smaller-size tankers, which are key for regional oil trading in the Black Sea, Baltic Sea and Mediterranean Sea regions, have dramatically increased.

The higher energy costs have also led to higher marine bunker prices, raising shipping costs for all maritime transport sectors. By the end of May 2022, the global average price for very low sulphur fuel oil (VLSFO) reached over \$1,000 per ton, a 64 per cent increase with respect to the start of the year – and the average fuel surcharges charged by container shipping lines have risen close to 50 per cent since the beginning of the war.

2

Fewer grain shipments over longer distances lead to higher food prices

The Russian Federation and Ukraine are prominent players in agrifood markets, including animal feed. Together, they account for 53 per cent of global trade in sunflower oil and seeds, and 27 per cent of wheat.¹

A total of 36 countries import more than 50 per cent of their wheat from the Russian Federation and Ukraine alone.² Ukraine exported around 50 million tons of grain in 2021. Before the war, estimates projected a growth of 3 per cent in global sea exports of grain. Now, however, they are projected to shrink by 3.8 per cent in 2022. Global shipments of fertilizer and its inputs such as potash are projected to drop by 7 per cent in 2022.³

Reduced grain exports from Ukraine are partly offset by increased shipments from other suppliers. For example, Brazil is expected to increase its wheat and coarse grain exports by an impressive 37 per cent in 2022. Together, the United Kingdom of Great Britain and Northern Ireland and the European Union are set to expand their exports by 8 per cent during the same year. Soybean exports are expected to increase from Argentina, Brazil and the United States of America.⁴ In the medium term, Australia, Brazil and the United States can be expected to compensate for reduced grain exports into North Africa and the Middle East.

Despite the overall reduction of volumes for shipping, the demand for transport work – i.e. ton-miles – for the food-importing countries is likely to increase, as the alternative cargos are sourced from further away.

Changing port calls and logistical challenges

The shift in grain trading patterns is reflected in port calls by dry bulk vessels in the Black Sea. Black Sea ports normally served more than 90 per cent of Ukrainian overseas grain shipments. With port operations suspended, overseas grain dispatches have been limited to deliveries via western borders, by rail, as well as through the small ports of Reni and Izmail on the Danube River. These alternatives are not sufficient to compensate for the lost capacity normally provided by Ukrainian Black Sea ports.

Since the start of the war, weekly port calls have gone from 60 to almost zero in Ukraine, and declined somewhat in the Russian Federation and Türkiye since the start of the war. Meanwhile, dry bulk vessel calls have seen small increases at ports in Bulgaria and Romania, reflecting the re routing of some of the trade from Ukraine (figure 2).

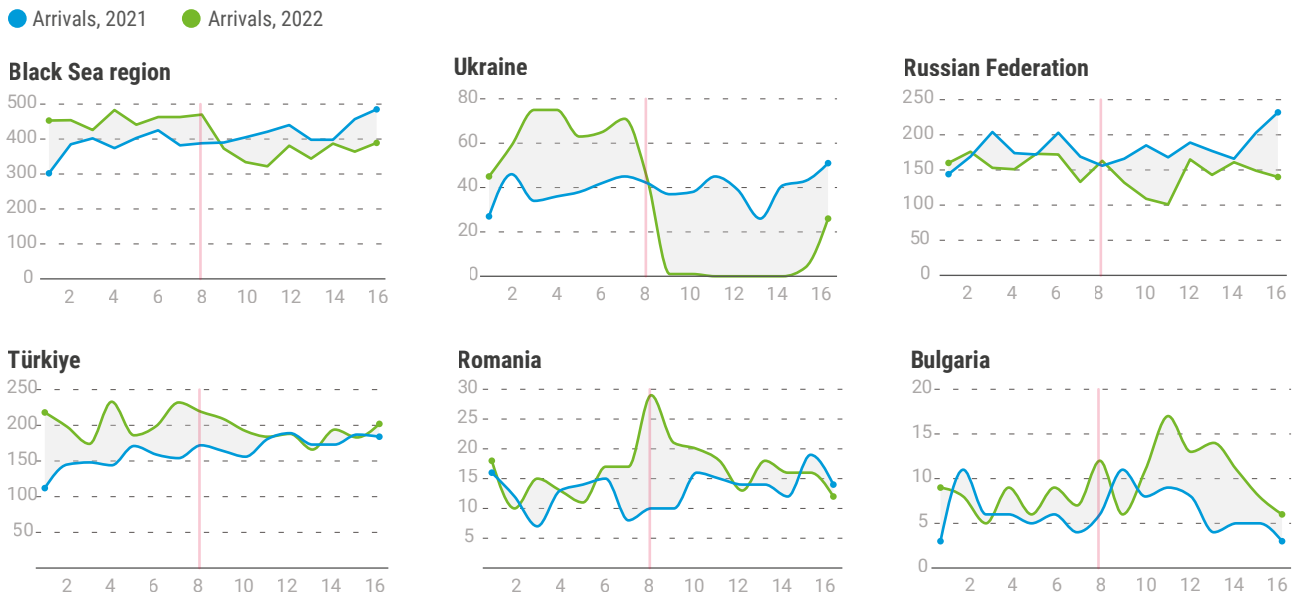
¹ UNCTAD (2022). The impact on trade and development of the war in Ukraine. UNCTAD Rapid Assessment. 16 March. https://unctad.org/system/files/official-document/osginf2022d1_en.pdf.

² UNCTAD (2022). Global Impact of war in Ukraine on food, energy and finance systems. Briefing Note No. 1. 13 April.

³ Clarksons Research Studies, Dry Bulk Trade Outlook, Volume 28, No. 4, April 2022.

⁴ Ibid.

Figure 2: The changing pattern of port calls of dry bulk in the Black Sea region
 Number of port calls of dry bulk in the Black Sea region, by week, 2021 and 2022



Source: UNCTAD, based on data provided by Marine Traffic.

Note: Russian Federation and Türkiye include ports outside the Black Sea region. Figures for the Black Sea region include Georgia and the Republic of Moldova. The vertical lines at week 8 indicate the beginning of the war in 2022.

Some of the Ukrainian grains are transported by rail and trans-shipped at ports in Bulgaria and Romania. However, existing grain storage capacity is already committed to last year's harvest, leading to concerns that the new harvest cannot be stored and, therefore, will be damaged.

Box 1: Logistical challenges for the Ukrainian harvest

In Ukraine, due to the hostilities, many grain elevators are unable to take pest control measures, protect grain from rainfall, or stir it to prevent self-heating, thus, increasing risks of quality deterioration. If export transport capacity continues to be limited, next year's crops become uncertain, further aggravating the food shortage spectre. Even an immediate re-opening of Ukrainian seaports would still be too late for some of the 2022 harvest season, as logistics and human resources may not be arranged in time.

Nearly all of Ukraine's grain exports are carried out through seaports on the Black Sea and the Sea of Azov. Commercial vessels, including those loaded with grains and other agricultural commodities, are prevented from leaving the ports. The military action and damage to logistics and infrastructure in Ukraine has immediate and potentially long-term consequences on global grains and oilseeds trade and supplies to susceptible regions, including Africa, Asia and the Near East.

It is important to restore safe access for Ukrainian farmers and producers to fields and infrastructure related to the production and transportation of grains. With the imminent start of winter wheat harvesting and spring grains and oilseeds planting, the next few months will be a crucial period for farmers in Ukraine. Safe access to fields and adequate supply of seeds, fuel and fertilizers are among the main factors needed in Ukraine to achieve a successful harvest in order to ensure domestic food security and contribute to the global food balance.

There is a need to combine additional mobile storage facilities in Ukraine and in neighbouring countries with the use of the railway, road and waterway networks. Logistical challenges remain a key obstacle however, with different rail gauges and transit procedures undermining the smooth flow of trade. Competing demands from neighbouring countries' producers and traders, insurance costs, congestion and lack of pilots for waterway transport, further compound the logistical crunch.

Source: UNCTAD, based on information provided by the International Grains Council, www.igc.int.

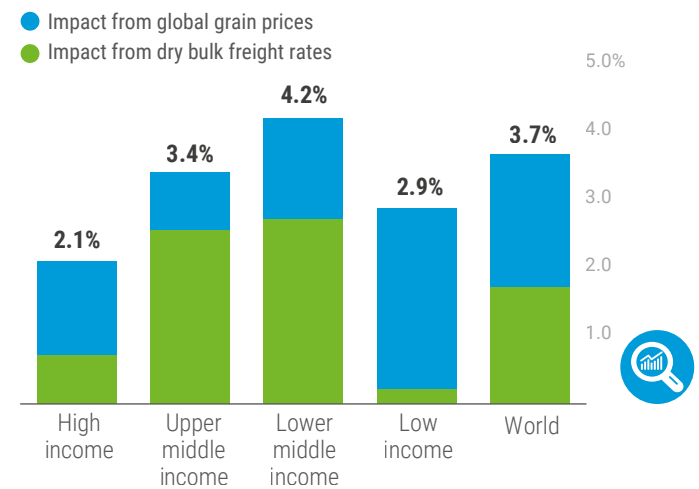
Higher freight rates and higher food prices

Between February 2022 and May 2022, the Baltic Dry Index - a global benchmark for dry bulk freight rates – increased by 59 per cent. This could lead to an additional increase of 3.7 per cent in consumer food prices globally. Almost half of this increase is due to higher transport costs, resulting from higher freight rates and longer distances (figure 3).

Middle-income economies are expected to experience slightly higher food prices increases as their food imports depend on dry bulk shipping more than the global average (figure 4). The impact of the dry bulk freight rate surge on low-income economies is expected to be smaller. Their food imports are concentrated on processed rather than primary food products (figure 5), partly due to their low capacity to process food.

Figure 3: Higher freight rates and grain prices mean higher food prices

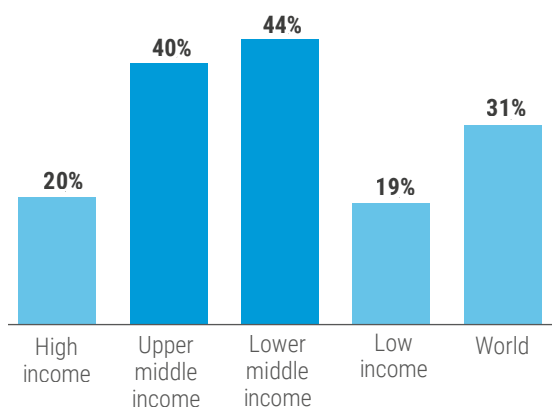
Impact of higher dry bulk freight rates and global grain prices on consumer food prices, selected country groupings



Source: UNCTAD, based on data provided by Clarksons Research Shipping Intelligence Network, IMF, International Financial Statistics, Direction of Trade Statistics and Consumer Price Index, UNCTAD Statistics and the World Bank, World Integrated Trade Solutions, Commodity Price Data and A Global Database of Inflation.

Figure 4: Middle-income economies are more dependent on ships to import grains

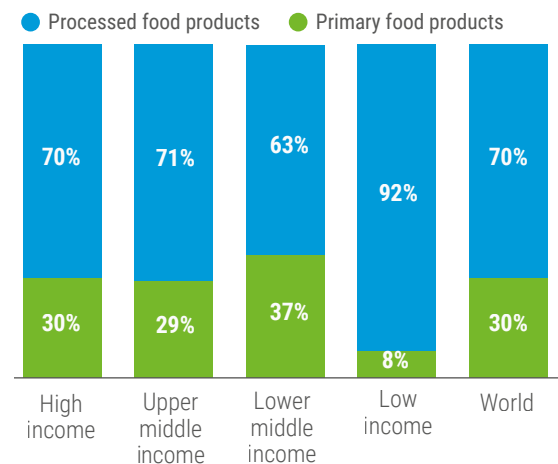
Share of grains imported by dry bulk ships in total food imports, selected country groupings, 2019



Source: UNCTAD, based on data provided by Sea/Live (<https://www.sea.live/>) and the Food and Agriculture Organization of the United Nations, food balances.

Figure 5: Low-income countries depend more on processed than primary food products in food imports.

Share of primary and processed food products in food imports mainly for household consumption, selected country groupings, 2020



Source: UNCTAD, based on data provided by Sea/Net and FAO and World Bank Integrated Trade Solutions.

⁵ Ha, Jongrim, M. Ayhan Kose and Franziska Ohnsorge (2021). "One-Stop Source: A Global Database of Inflation." Policy Research Working Paper 9737. World Bank, Washington, D.C.

⁶ Scenario with a 59 per cent dry bulk freight rate increase and a 19 per cent global grain price increase compared to no increase (i.e. same freight rate and grain price levels as February 2022) as a percentage of the consumer food price level. The assumptions are based on a 59 per cent increase in the Baltic Dry Index between February 2022 and May 2022 and a 19 per cent increase in the global grains price index between February 2022 and April 2022. The simulation methodology is similar to the one used in chapter 3 of *Review of Maritime Transport 2021* (<http://unctad.org/RMT>).

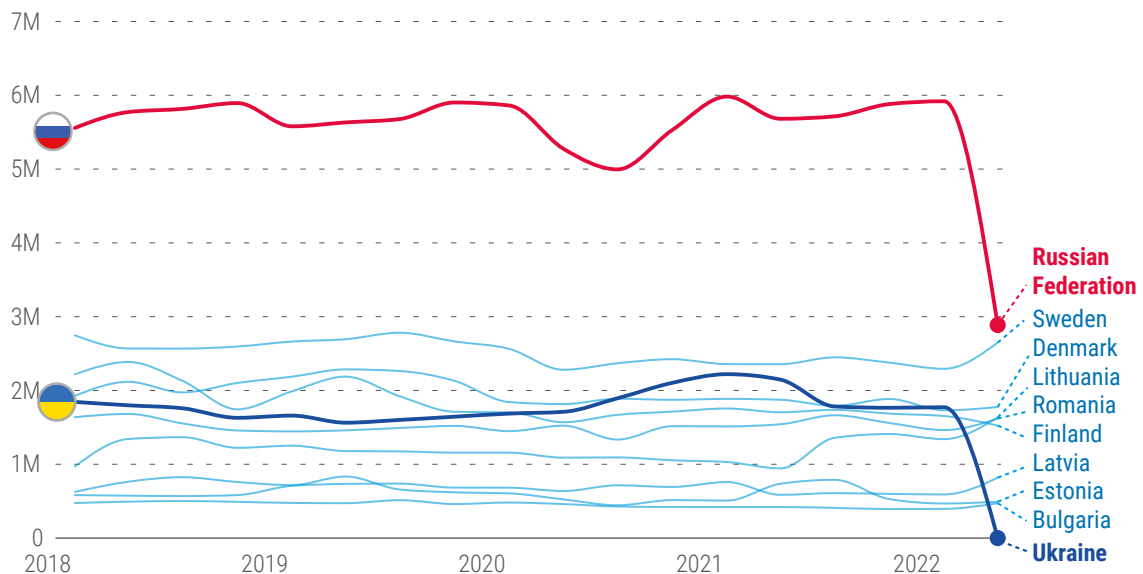
3

Container shipping and global value chains are disrupted too

Although the Russian Federation and Ukraine are not deeply integrated into global container shipping and value chain networks, the conflict and trade restrictions have also affected this shipping segment. Container carriers cut ship carrying capacity assigned to the Russian Federation, and suspended operations at Ukrainian seaports (figure 6). Several neighbouring countries saw ship capacity deployed in their ports increase slightly.

As ports closed and carriers discontinued shipping services to the Russian Federation and Ukraine, ships and containers had to re route. Cargo destined for the Russian Federation and Ukraine is now piling up at ports, including Hamburg, Germany; Rotterdam, Netherlands; Constanța, Romania; and Istanbul, Türkiye. Shippers are facing delays and can be expected to see an increase in detention and demurrage charges at ports. Russian Federation cargo is also being stranded at ports e.g. in Europe. This adds pressure on warehousing and storage capacity and drives costs upward. Freight rates had surged since the pandemic and the need to reposition ships and containers during the war adds to upward pressures on freight rates.

Figure 6: Going down: container shipping deployment for the Russian Federation and Ukraine
Container shipping fleet deployment, selected countries, in TEU capacity.



Source: UNCTAD, based on data provided by MDST Transmodal.
Note: TEU capacity is the annualized vessel carrying capacity in twenty-foot equivalent units.

The UNCTAD simulation concludes that the high container freight costs observed in 2021–2022 will be passed on and lead to an additional increase in consumer prices by 1.6 per cent globally. It also suggests that global import price levels will increase on average by 11.9 per cent as a result of sustained freight rate increases.⁷

⁷ “Sustainable and resilient transport and trade facilitation in times of pandemic and beyond: Key challenges and opportunities”, UNCTAD, Geneva, 2022, <https://unctad.org/meeting/multi-year-expert-meeting-transport-trade-logistics-and-trade-facilitation-ninth-session>.

Small island developing States (SIDS) will be hardest hit with an increase of 8.1 per cent. SIDS import prices can face a cumulative increase of 26.7 per cent. SIDS generate small trade volumes, face stark trade imbalances (i.e. ships tend to be empty on their return voyages), are served by only a few shipping companies and are highly dependent on energy and consumer goods imports. Their transport expenditure for imports is two to three times higher than the world average. Not only do SIDS already pay higher transport costs but they also see a higher impact on their economies when transport costs increase.⁸

Box 2: Inflationary pressures resulting from higher freight rates

The COVID-19 pandemic led to a sudden dip in international seaborne trade. But by late 2020 there had been a swift rebound mainly in container and dry bulk shipping. The asymmetric maritime trade recovery, mainly on East–West containerized trade lanes, increased pressure on supply chains, ports, shipping and trade. The surge in e-commerce, capacity constraints, equipment shortages and renewed virus infections in some parts of the world put supply chains under pressure in 2021. Pressure continued in 2022 so far still exhibiting high port congestion and constrained logistics and transport networks. Median waiting time in ports for container ships increased by almost 20 per cent between pandemic times and the end of 2021.

Freight rates surged, surcharges proliferated and service reliability declined while delays and dwell times went up. By the end of 2020, container rates were over five times higher than their 2019 levels; although declining, they remain elevated. New disruptions such as the closing of manufacturing activities and ports in China in the first half of 2022 due to new cases of COVID-19 infections have further disrupted the system. Increased costs are a challenge for all traders and supply chains, particularly smaller shippers who are less able to absorb the additional expense and disadvantaged when they are negotiating rates and booking space on ships.

Source: “Sustainable and resilient transport and trade facilitation in times of pandemic and beyond: Key challenges and opportunities”, UNCTAD, Geneva, 2022, <https://unctad.org/meeting/multi-year-expert-meeting-transport-trade-logistics-and-trade-facilitation-ninth-session>.

⁸ See “UNCTAD Assessment of the Impact of the IMO Short-Term GHG Reduction Measure on States”, UNCTAD, Geneva, 2021, <https://unctad.org/news/vulnerable-countries-need-help-adjust-carbon-cuts-maritime-transport>.

What can be done?

If global trade is to flow more smoothly in future, and ports and maritime transport are to thrive and navigate through the historic disruption caused by the pandemic, this will require policy action. Considering the issues discussed in this briefing note, UNCTAD makes the following six key recommendations as regards maritime transport challenges:



There will be no effective solution to the food crisis without reintegrating Ukraine's food production, as well as the food and fertilizer produced by the Russian Federation into world markets – despite the war.



Ensure that Ukrainian ports are open to international shipping to allow Ukrainian grain to reach overseas markets, at lower shipping costs.



Lower transaction cost for the food and fertilizer exports of the Russian Federation.



Ensure collaboration among vessel flag States, port States and industry continue to provide all necessary services, including bunkering supplies, health services for sailors, and certification of regulatory compliance. This will help to keep the negative impacts on costs, insurance premiums and operations to a minimum.



Ease the transit and movement of transport workers, albeit temporarily, to lessen the pressure on cross-border trade and transit.



Invest in transport services, as well as trade and transit facilitation even more than in pre-war times. Trading partners and transit countries should focus on key determinants of international transport costs such as trade facilitation and digitalization, infrastructure, economies of scale, imbalances and ensuring competition.⁹



Support developing countries (including MICS), especially the most vulnerable economies such as SIDS, LDCs and net food importers. The war in Ukraine adds to the challenges posed by the COVID-19 pandemic and the climate crisis. The international community's support is needed to provide financial and technical assistance related to transport and trade facilitation.¹⁰

⁹ See UNCTAD, 2015, *Review of Maritime Transport*, for a detailed assessment of determinants of maritime transport costs <https://unctad.org/webflyer/review-maritime-transport-2015>

¹⁰ See Rebeca Grynspan, "Weathering a 'perfect storm' of cascading crises", <https://unctad.org/news/blog-weathering-perfect-storm-cascading-crises>

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