

# NAVIGATING TROUBLED WATERS

## IMPACT TO GLOBAL TRADE OF DISRUPTION OF SHIPPING ROUTES IN THE RED SEA, BLACK SEA AND PANAMA CANAL

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# Navigating troubled waters

## Impact to global trade of disruption of shipping routes in the Red Sea, Black Sea and Panama Canal

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UNCTAD supports developing countries to access the benefits of a globalized economy more fairly and effectively by providing economic and trade analysis, facilitating consensus-building and offering technical assistance to help developing countries use trade, investment, finance and technology for inclusive and sustainable development.



# Impact of disruption in key global waterways

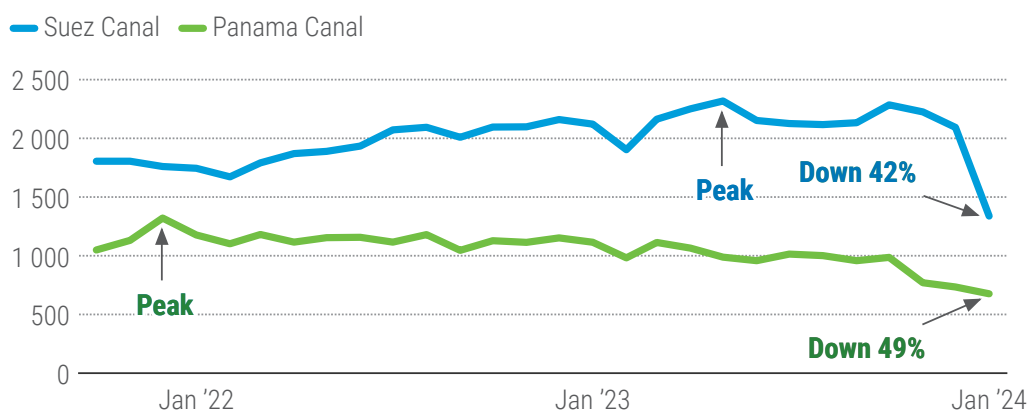
Disruptions that affect international shipping have the potential to reshape global maritime networks and reconfigure the world trading map.

Two months into 2024, the Red Sea and Suez Canal disruption that began in November 2023 continues to unfold, putting at risk the free movement of goods and interwoven global supply chains. The Red Sea disruption comes on top of disruptions that are already constraining vessel crossing in the Panama Canal and the war in Ukraine affecting activity in the Black Sea. If sustained, these disruptions of key international maritime waterways could cause greater upheaval in global supply chains.

The drop in monthly transits underscores the magnitude of overlapping disruptions and their impact on both the Suez Canal and the Panama Canal (figure 1). In both canals, transits are currently down by more than 40 per cent – almost 50 per cent for Panama – compared to their peaks. In the Suez Canal, most of the decline in transits occurred over the last two months, while transits through the Panama Canal have been decreasing over the last two years.

**Figure 1** Transits almost cut in half in the two international canals

Number of monthly transits in Suez and Panama Canals, October 2021–January 2024



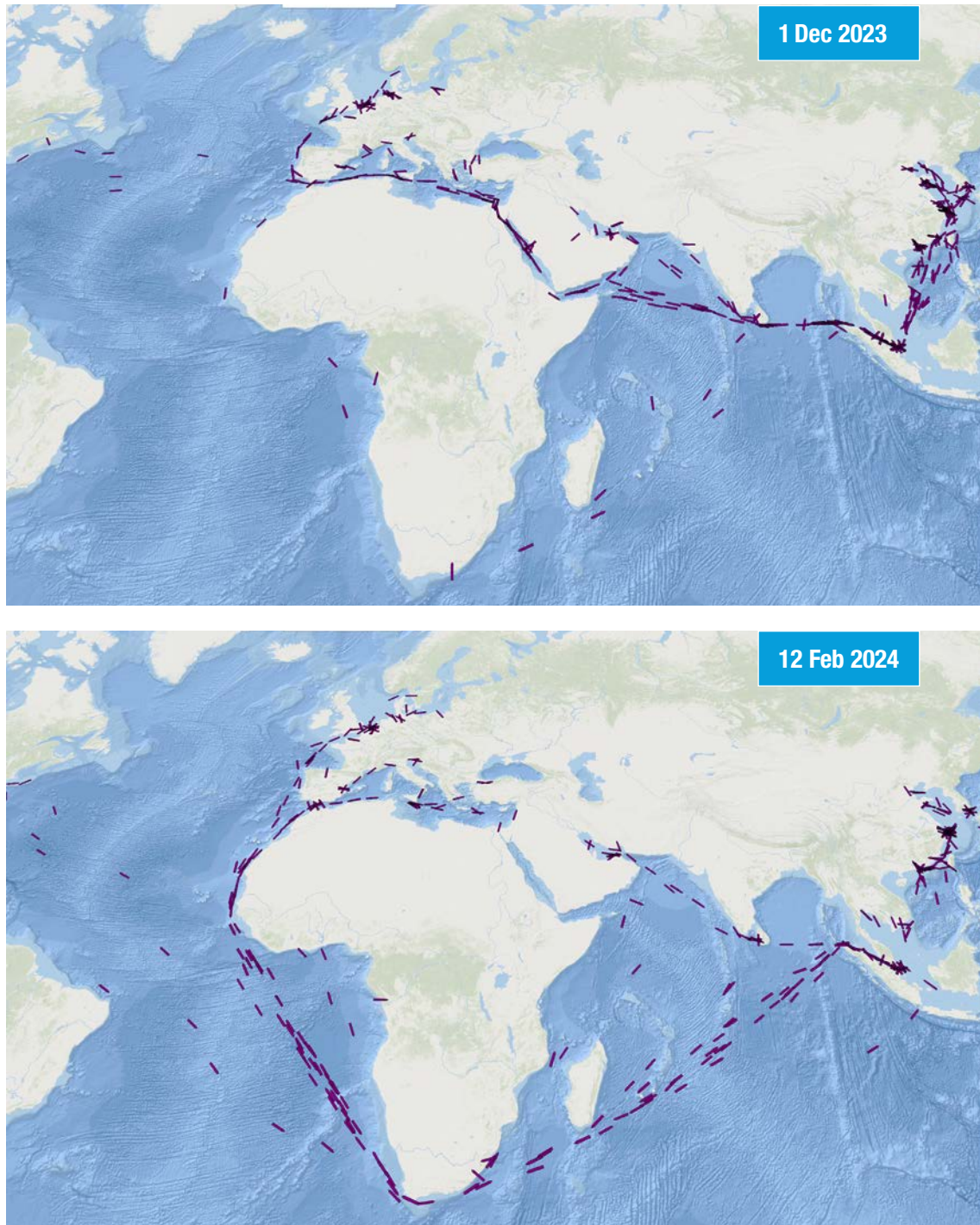
Source: UNCTAD calculations, based on data from Clarksons Research.



## Disruption in the Suez Canal

The Suez Canal is one of the most important global choke points and maritime waterways. It enables the passage of energy, commodities, consumer goods and components to and from the Indian Ocean and to the Mediterranean and the Atlantic. Trade exposure to the Suez Canal disruptions depends on the extent of its reliance on this strategic maritime passage. As container trade flows dominate the Canal's traffic, the response has been immediate, with container ships shunning the Suez and rerouting around the Cape of Good Hope. By the first half of February 2024, container tonnage crossing the Canal fell by 82 per cent (figure 2).

**Figure 2** Shift in container ship routes from the Suez Canal to the Cape of Good Hope



Source: Marine Benchmark.

Note: Container ships of 13500 TEU (twenty foot equivalent unites) and above.

In 2023, around 26,000 vessels crossed the Suez Canal. Bulk carriers accounted for 28 per cent of the total traffic, followed by oil tankers (24 per cent) and container ships (23 per cent per cent). In terms of gross tonnage, container ships accounted for the largest share at 43 per cent, followed by oil tankers (23 per cent) and bulk carriers (19 per cent).<sup>1</sup>

In 2023, 22 per cent of global seaborne container trade is estimated to have transited through the Canal.<sup>2</sup> Volumes carried by liquified natural gas carriers, oil tankers, liquified petroleum gas carriers and bulkers amounted to 10 per cent, 9 per cent, 7 per cent and 4 per cent, respectively.<sup>3</sup> Car carriers are also main users of the Suez Canal.

Today, there is no ideal alternative to the Suez Canal, especially for Asia–Europe and Asia–North Africa trade. For Asia–East Coast of North America, the Suez Canal competes with the Panama Canal.

## Attacks on shipping in the Red Sea and industry response

The drop in transits reflects the response by many shipping companies to the new security threat. Many have opted to divert ships to alternative routes, notably around the Cape of Good Hope.

Ship tonnage entering the Gulf of Eden declined by over 70 per cent between the first half of December 2023 and the first half of February 2024. Meanwhile, vessel tonnage passing through the Cape of Good Hope increased by 60 per cent. By 18 February 2024, some 621 container ships have been rerouting through the Cape of Good Hope.<sup>4</sup>



<sup>1</sup> Clarksons Research, January 2023.

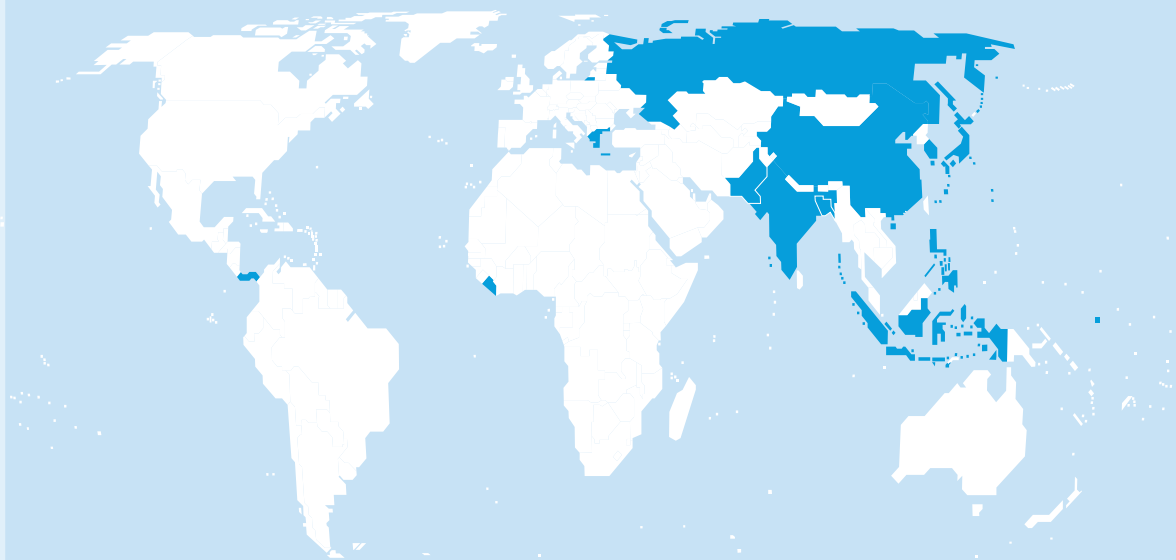
<sup>2</sup> MDS Transmodal, January 2024

<sup>3</sup> Clarksons Research, January 2023.

<sup>4</sup> Clarksons Research, 20 February 2024.

## A single attack on commercial shipping has worldwide impacts

Shipping is a highly international business. A typical ship may be built in the Republic of Korea, crewed by Filipino seafarers recruited through a crewing agency based in Cyprus, owned by a German investment fund, technically inspected by an Indian classification society, registered under the flag of the Marshall Islands, insured by a protection and indemnity club in Norway, fuelled at a bunkering station in Singapore and operated by liner shipping company in Denmark. The ship may carry consumer goods, food, medical items and industrial spare parts for several thousands of importers and exporters from around the world.



Country	Building (2022)	Ownership (2023)	Registration (2023)	Recycling (2022)	Seafarers (2021)
Bangladesh	0	0	0	38	0
China	47	13	5	2	7
Greece	0	17	3	0	2
India	0	1	1	31	6
Indonesia	0	1	1	0	8
Japan	17	11	2	0	1
Liberia	0	0	17	0	0
Marshall Islands	0	0	13	0	0
Pakistan	0	0	0	17	1
Panama	0	0	16	0	1
Philippines	1	0	0	0	13
Republic of Korea	29	4	1	0	1
Russian Federation	0	1	0	0	10

Source: UNCTADstat database, <http://stats.unctad.org/maritime>.

## Climate-change-induced drought creating disruption in the Panama Canal

Current developments in the Red Sea come at a time when Panama Canal transits are also under pressure. The Panama Canal has been facing low water levels caused by drought. To save on water, the Panama Canal Authority has reduced the number of vessels that can transit.

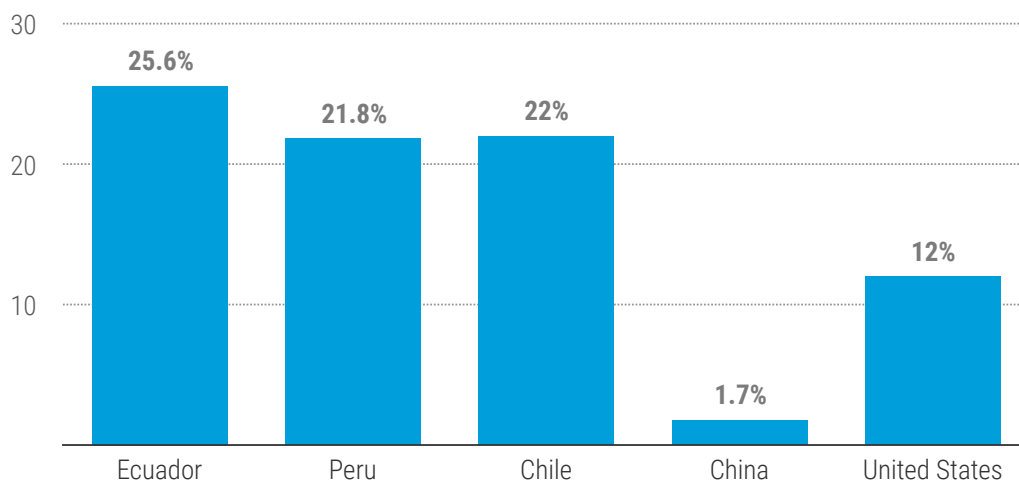
Container shipping dominates Panama Canal traffic both in terms of number of crossings and net ship tonnage. Other important traffic, in descending order, includes dry bulk carriers, gas and chemical carriers. The car carrier segment is also an important client.

The Canal normally sees more than 13,000 transits per year and accounts for almost 5 per cent of global trade. Yet, the number of transits across the Panama Canal were reduced from a daily average of 36 transits, to 22 transits. At the end of October 2023, it was announced that the number of transits would be reduced in stages to 18 per day by February 2024, around half of the average. To avoid long waiting times, vessels were rerouted through the Suez Canal when cargo originates from Asia. As a result, Suez transits increased while Panama Canal transits declined – until end of 2023 when the Red Sea disruption started to take hold.

The disruption in the Panama Canal affects large and smaller economies that depend on this waterway.

The United States is the largest client of the Panama Canal, accounting for 72 per cent of the volume of cargo transiting through the Canal in 2021 (figure 3).<sup>5</sup> This volume corresponds to approximately 12 per cent of the country's total trade volume in tons (21.3 per cent of exports, and 5.7 per cent of imports).<sup>6</sup> The second most important Panama Canal user is China, accounting for 22.5 per cent of the Canal's cargo volumes. For China, this represents 3 per cent of exports and 1.5 per cent of imports, and a total of 1.7 per cent of all Chinese foreign trade in tons.

**Figure 3 Importance of Panama Canal for selected countries**  
Share of trade volume, in tons, going through the Panama Canal, 2021



Source: UNCTAD estimates, based on data from the Panama Canal Authority and UNCTAD trade volume statistics.

<sup>5</sup> Panama Canal Authority, see <https://pancanal.com/>. Data for 2021, for volume (in tons), not value.

<sup>6</sup> UNCTAD calculations, based on Panama Canal transit data from the Panama Canal Authority, and UNCTAD Transport Cost Data Set, 2021. Shares reflect foreign trade volume, all transport modes included.



The Panama Canal is particularly important for the foreign trade of countries on the West Coast of South America. Approximately 22 per cent of total Chilean foreign trade volumes depend on the Canal (19 per cent of imports and 24 per cent of exports). For Peru, almost 22 per cent of total foreign trade volumes are channelled through the Panama Canal (14 per cent of exports and 32 per cent of imports). Ecuador is relatively more dependent on the Canal with 26 per cent of its foreign trade volumes crossing the Canal (18 per cent of its exports and almost 39 per cent of its imports).<sup>7</sup>

In the United States, demand for rail transport services has surged as a result in recent weeks, as shippers no longer have the option of going through the Suez Canal as an alternative to the Panama Canal. The land bridge, which connects the ports of Los Angeles and Long Beach in the United States by rail with the wider North American hinterland, is the other main competitor for the Panama Canal.



<sup>7</sup> UNCTAD calculations, based on Panama Canal transit data from the Panama Canal Authority, and UNCTAD trade data from the Transport Cost Data Set (a joint project by UNCTAD and the World Bank). Data for 2021. Note that these shares are for all foreign trade by volume, not only seaborne trade.



# 2



## Interruption of trade in the Red Sea and Suez Canal Impacts and implications

The Red Sea crisis is largely affecting cargo moving on routes between Asia and Europe, which has the potential to disrupt supply chains of industries, such as construction, automotive, chemicals and machinery, that rely on intermediate imports from the Asia–Pacific region. The disruption could also affect energy supply and security, food security and environmental sustainability.

### Countries are impacted differently by disruption of trade in the Suez Canal

The Suez Canal is a large source of foreign currency revenue for Egypt, contributing \$9.4 billion in the previous fiscal year,<sup>8</sup> equivalent to 2.3 per cent of GDP in 2023. The Red Sea crisis has reportedly triggered a 40 per cent drop in Suez Canal revenues.<sup>9</sup> A deteriorating situation in Egypt could have negative spillover effects for other countries in the region, such as Ethiopia and the Sudan.

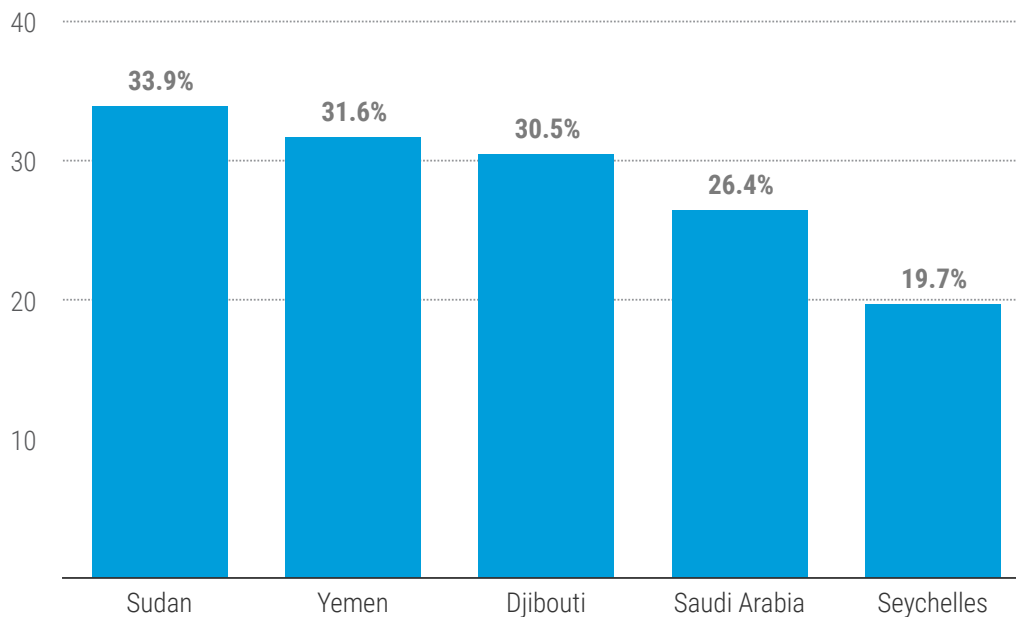
Foreign trade for several East African countries is highly dependent on the Suez Canal (figure 4). Approximately 31 per cent of foreign trade by volume for Djibouti is channelled through the Suez Canal (6 per cent of exports and 31 per cent of the country's exports). Equivalent shares for Kenya and the United Republic of Tanzania are, respectively, around 15 per cent (12 per cent of exports and above 15 per cent for imports) and 10 per cent (8 per cent of exports, and 11 per cent of imports). Among East African countries, foreign trade for the Sudan depends the most on the Suez Canal, with about 34 per cent of trade volume crossing the Canal (28 per cent of exports and almost 36 per cent of imports). By comparison, although more important in absolute terms, only 7 per cent of foreign trade by volume for Germany is channelled through the Suez Canal.

<sup>8</sup> See <https://www.reuters.com/world/africa/suez-canal-annual-revenue-hits-record-94-bln-chairman-2023-06-21/>

<sup>9</sup> See <https://www.porttechnology.org/news/red-sea-crisis-triggers-40-per-cent-drop-in-suez-canal-revenues/>.

**Figure 4 Importance of Suez Canal for selected countries**

Share (as a percentage) of trade volume, in tons, going through the Suez Canal, 2022



Source: UNCTAD calculations, based on data from MDS Transmodal

Notes: The Suez Canal does not publish transit statistics based on countries of origin or destination. UNCTAD estimated the shares of foreign trade volumes that pass through the Suez Canal, based on origin and destination trade data (by volume, not value) sourced from MDS Transmodal. The estimated shares are for total foreign trade and not only maritime.

## Rerouting ships increases distance and causes operational shifts

The Suez Canal saves considerable time and distance to ships. For example, an oil tanker going from the port of Ras Tanura in Saudi Arabia to Rotterdam in the Kingdom of the Netherlands will have to travel 10,358 km through the Suez Canal. The alternative journey via the Cape of Good Hope would be 17,975 km. This cuts the journey length by 42 per cent. Similarly, a container shipped from Singapore to Rotterdam sees the journey cut by 29 per cent when using the Suez instead of the Cape of Good Hope.

The rerouting involving longer distances also increases the requirement for more vessels and ship carrying capacity. A round trip between India and Europe, for instance, takes 56 days and 8 vessels. If the trip extends to 63 days, an extra vessel will be required.<sup>10</sup>

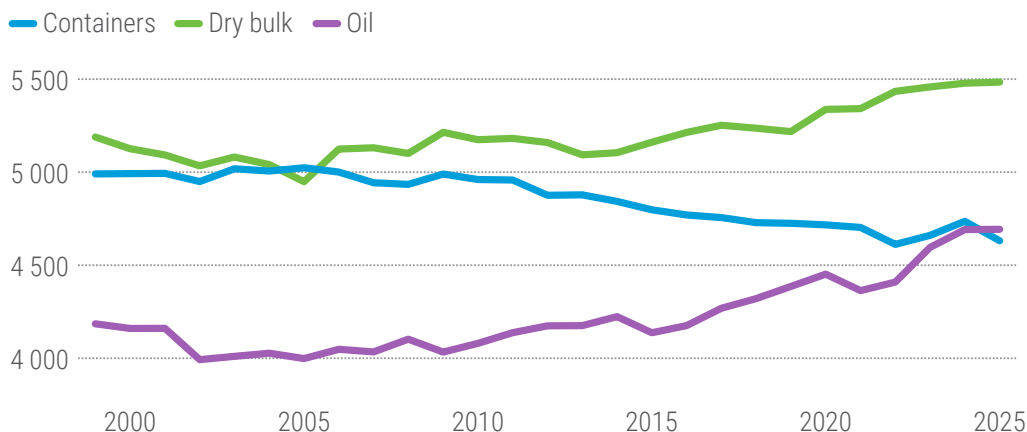
Distances travelled by maritime cargo increased over the years, with shifts in the global geography of trade and evolving globalization trends. Current events in the Red Sea are expected to reinforce this trend, which has also been exacerbated by the war in Ukraine as regards particularly oil and grain trade. For example, grain to Egypt is now sourced from Brazil or the United States instead of Ukraine, while Russian oil shipments are destined for India and China instead of Europe (figure 5).<sup>11</sup>

<sup>10</sup> See <https://economictimes.indiatimes.com/industry/transportation/shipping/-/transport/saving-suez-canal-as-red-sea-attacks-threaten-global-trade-what-it-means-for-india/articleshow/106238746.cms?from=mdr>.

<sup>11</sup> UNCTAD (2023). *Review of Maritime Transport 2023*.

**Figure 5 Distances go up due to Black Sea, Red Sea and Panama Canal disruptions**

Average distance travelled, in nautical miles



Source: UNCTAD, based on data from Clarksons Research.

Note: 2024 and 2025 are forecasts

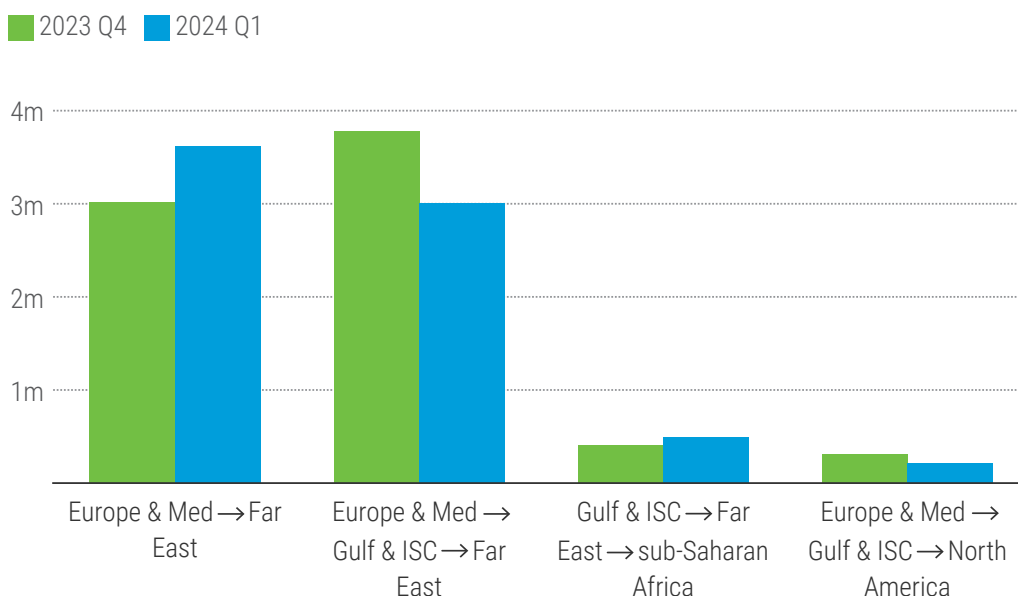
Rerouting vessels away from the Suez Canal and around the Cape of Good Hope has affected container ships the most. By the second week of February 2024, 586 container vessels had been rerouted.<sup>12</sup>

The extra miles and days translate into additional costs such as fuel costs and lost value of time-sensitive cargo. Other additional costs arise from the prevailing security considerations, including the risk of piracy (off the Horn of Africa). These conditions generate a surge in insurance and legal claims from companies whose vessels are delayed, shipments are disrupted, ships damaged and cargo spoiled.

The latest data for the first quarter of 2024 container shipping fleet deployment show how container shipping capacity is being redeployed away from the Gulf regions and introducing more services, including from and to Africa (figure 6).

**Figure 6 Companies are rerouting their ships to avoid the Middle East**

Fleet deployment, 2023 Q3 and 2024 Q1  
(20-foot equivalent units, TEU)



Source: UNCTAD calculations, based on data from MDS Transmodal.

Note: The figure presents selected routes, where a significant percentage change in fleet deployment is seen.

<sup>12</sup> Clarksons Research, 12 February 2024.



Increased distances lead to significant additional ton-mile demand. For example, for container shipping and in a scenario in which 100 per cent of container trade on a Far East/Middle East/Indian subcontinent and Europe route (in both directions) was diverted away from the Suez Canal, this could add 10 per cent to global container TEU-mile trade. This means that more container ships and more carrying capacity will be required.

As regards other shipping markets, more oil tankers are now also rerouting around the Cape of Good Hope. Practically no liquified natural gas carrying vessels are using the Suez Canal at present, as all have been diverted away from the Red Sea. Bulk trade, which is not that dependent on the Suez route and has low exposure to its disruptions, has seen limited market impacts so far, although bulker ship capacity has also been diverted. Grain and soyabean flows especially have been affected by rerouting.

The number of specialized car-carrying ships using the Red Sea was cut by more than half in December 2023, as compared with December 2022.

Other impacts include growing complexities regarding the repositioning of vessels and equipment. Vessel prices and charter rates have also begun to increase since December 2023.



## Vessel speed and shipping carbon emissions increase

For over a decade, the shipping industry had adopted reduced sailing speeds to cut fuel costs and curb greenhouse gas emissions from ships. Since January 2023, compliance with new technical and operational measures adopted under the auspices of the International Maritime Organization and aiming to cut the shipping sector's emissions has become mandatory for ships operating in international shipping.

The disruption in the Red Sea and Suez Canal, combined with factors linked to the Panama Canal and the Black Sea and leading to rerouting vessels through longer routes are causing vessel sailing speeds to increase. This is a means for ship operators to ensure schedule integrity and manage the fleet capacity. Speed among container ships has increased since the onset of the Red Sea disruption (figure 7).

Yet, ship fuel consumption also increases with rapid sailing speed and longer distances. For a large container ship, a 1 per cent speed increase typically results in 2.2 per cent rise in fuel consumption. An increase from 14 to 16 knots, for example, would increase ship consumption per mile by 31 per cent. In this context, longer distances travelled due to rerouting away from the Suez and through the Cape of Good Hope imply that GHG emissions for a round trip (from Singapore to Northern Europe) would rise by over 70 per cent per trip. These trends could erode the environmental gains that had been achieved through slow steaming.

**Figure 7 Spiking vessel sailing speed at the start of the Red Sea crisis and easing in early 2024**  
(In knots, seven-day moving average)



Source: UNCTAD calculations, based on data from Marine Benchmark.

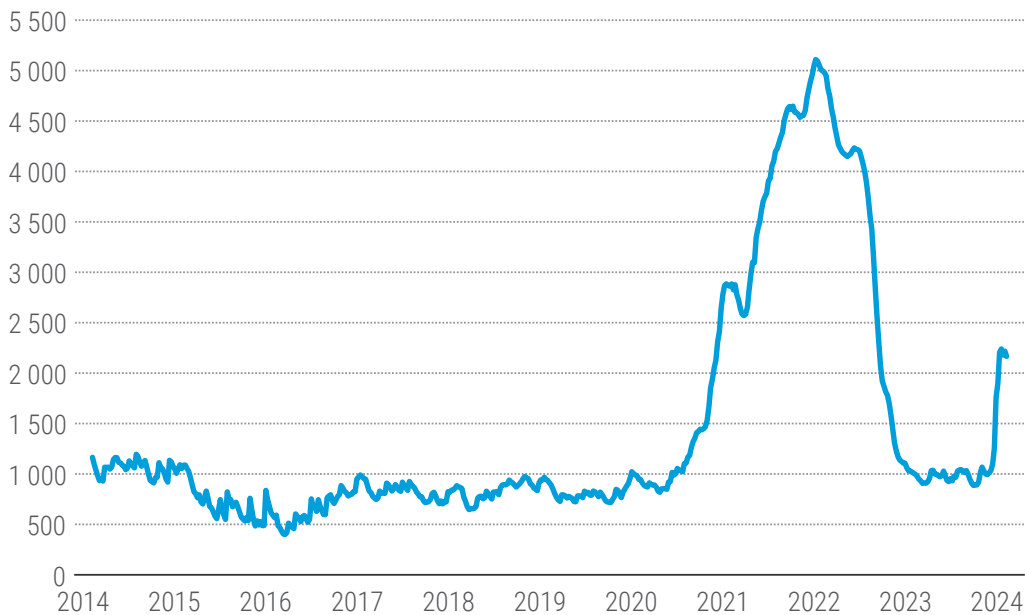
Note: Container ships of 13500 TEU and above.

## Shipping costs and rates impacted

Impacts on freight rates varied by market segments with the container shipping market handling consumer and manufactured goods being affected the most. In February 2024, the impact on bulk freight rates was mixed, with tanker rates rising sharply over the second half of January, while dry bulk, liquified natural gas and liquified petroleum gas freight rates being less affected.

Container rates on Asia–Pacific to Europe routes increased significantly since November 2023. In the last week of December 2023, average container spot freight rates surged by \$500. This was the highest ever weekly increase. Average container spot rates from Shanghai more than doubled (+122 per cent) between early December 2023 and early February 2024 (figure 8).

**Figure 8** Container freight rates are on the rise again



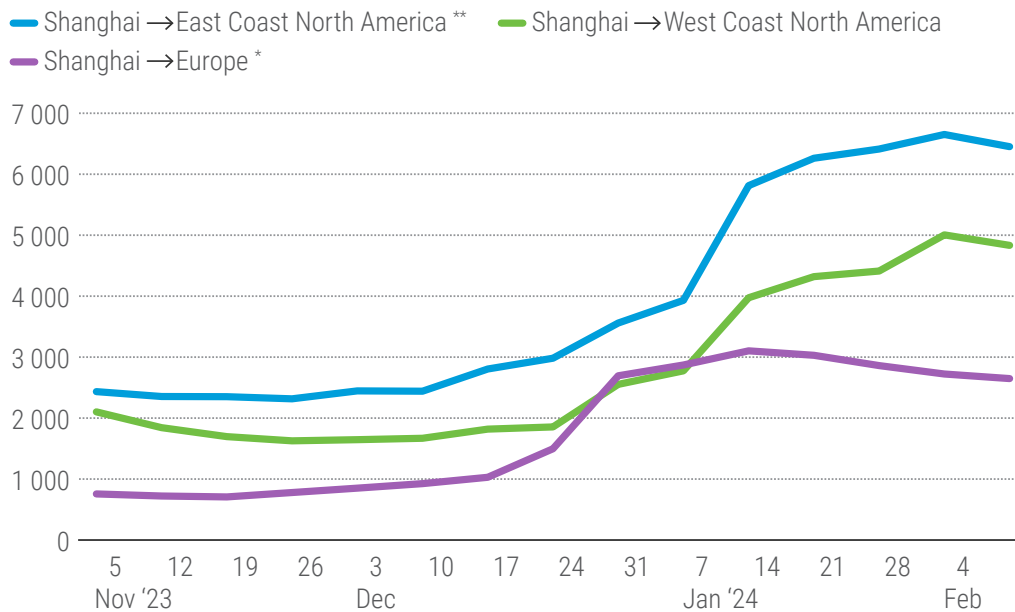
Source: UNCTAD calculations, based on Clarksons Research and <https://en.sse.net.cn/indices/scfinew.jsp>.

The rates from Shanghai to Europe jumped by 256 per cent, i.e. more than tripling. Spot freight rates as captured by the Shanghai Container Freight Index (SCFI) for Shanghai–Northern Europe route stood at \$2,648 per TEU on 9 February 2024, three and a half times the early November 2023 figure.

While the rise in freight rates is relatively more significant on routes crossing the Suez (figure 9), ripple effects were felt in distant locations such as Asia to the United States West Coast routes. Rates to the United States West Coast increased by 130 per cent since early November 2023, although the route does not go through Suez. Spot freight rates from/to the West Coast of North America surged as the West Coast provides a land bridge (rail) alternative for cargo destined to locations in central and eastern United States. Freight rates from Shanghai to other destinations have seen lower increases.



**Figure 9 Freight on the Suez Canal route sees the highest surge in rates**



Source: UNCTAD calculations, based on data from Clarksons Research and <https://en.sse.net.cn/indices/scfinew.jsp>

\*Route goes normally through the Suez Canal.

\*\*Route goes normally through the Suez Canal or the Panama Canal.

## Cost of insurance and coverage impacted

War risk premiums for vessels transiting through the Red Sea have increased while the Joint War Committee<sup>13</sup> on 18 December 2023 expanded its listed areas in the Indian Ocean, Gulf of Aden and Southern Red Sea region.

According to some sources, war prices jumped in the final weeks of 2023, with a transit through the Red Sea now attracting a premium of above 0.3 per cent of a ship's value, double what was being charged in mid-October and higher than before 7 October.<sup>14</sup> By early February 2024, some reports indicate premiums rising to from around 0.7 per cent to 1 per cent of a vessel's value, from under 0.1 per cent.<sup>15</sup> By early January 2024, it was reported that there were still many players in the sector willing to provide coverage

## Inflationary pressure, due to soaring food and energy prices

There are dangers posed by a prolonged interruption to the Suez gateway, particularly in container shipping. These pose a direct threat to global supply chains, potentially leading to delayed deliveries, heightened costs and inflation. While current container freight rates are approximately half the peak recorded during the Covid crisis, sustained increases in shipping costs can drive up inflation (consumer prices) as shown during the 2021–2022 logistics logjam.

The crisis is also reverberating in global food prices, with longer distances and higher freight rates potentially cascading into increased costs. Disruptions in grain shipments from the Russian Federation, Ukraine and Europe pose risks to global food security, affecting consumers and lowering the prices paid to producers. The war in Ukraine had already shown the impact of longer distances and freight rates on food prices. UNCTAD estimated that about half of the increase in food prices observed in 2022 was due to higher transport costs, which was a combination of higher distances and higher freight rates.

<sup>13</sup> The Joint War Committee comprises underwriting representatives from both Lloyd's and the International Underwriting Association company markets and the interests of those who write marine hull war business in the London market.

<sup>14</sup> See <https://www.nytimes.com/2024/01/06/business/red-sea-shipping-houthi.html> and Clarksons Research, January 2023.

<sup>15</sup> See <https://www.reinsurancene.ws/red-sea-attacks-heighten-risks-for-marine-insurers-war-risk-premiums-surge-moodys/>.

# 3



## Way forward

The current overlapping disruptions to international shipping routes and maritime choke points are causing an exceptionally challenging operating landscape for shipping and trade. Two major maritime trade waterways face disruptions at the same time. In addition, these waterways are also still adjusting to network configurations and trade pattern shifts caused by the earlier disruption in the Black Sea.

Developing countries are particularly vulnerable to disruptions in shipping networks and to shifts in trade patterns that drive up costs, alter their connectivity and access to the marketplace.

Although, so far, the impact of these combined disruptions has not reached the level of the disruption caused by the pandemic or the consequent global logistical crunch of 2021–2022, UNCTAD is monitoring the evolving situation. The war in Ukraine had already shown the impact of longer distances and freight rates on food prices.

Going forward, it will be important to continue to track key developments and assess their potential implications for transport and trade, especially for developing countries. Among the main issues to track are shipping schedules and service reliability, security measures for ships and ports, delays in shipments and delivery timelines, increased freight rates and insurance premiums, shipping connectivity and generally the geography of trade.

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