ECONOMIC VIEWPOINT

# Deep in the Red: How the Red Sea Crisis Could Affect Inflation

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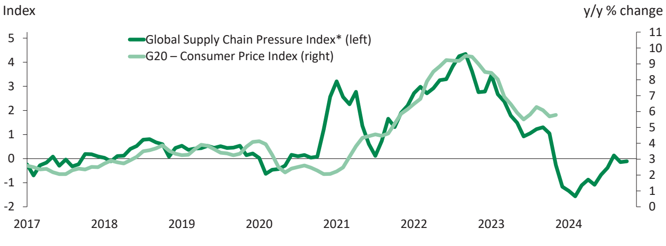
The ripple effects of the Israel–Hamas conflict extend far beyond tensions in the Middle East. These include attacks by Yemen's Houthi rebels in the Bab al Mandab Strait, which are disrupting shipping in the Red Sea and the Suez Canal. Since the year began, shipping costs have climbed, bringing back one of the factors that caused inflation to spike in 2021 and 2022. Is this latest surge in freight rates putting more pressure on global supply chains and consequently fuelling inflation in the major economies? By analyzing inflationary shocks, we show that, if this situation persists or gets even worse, it could push inflation a little higher. But we don't expect it to trigger the same persistent runaway inflation we saw in 2021 and 2022. That said, it could still push back the timeline for future interest rate cuts.

## Inflationary and Supply Chain Pressures Are Easing

Heightened pressure on global supply chains was one of the many factors that kicked off the inflationary spiral that began in 2021 and peaked in 2022. Supply chains were heavily affected by the multiple shutdowns and restrictions imposed during the worst months of the COVID-19 pandemic. Repeated shutdowns in China in 2022 and the war in Ukraine exacerbated the problem, driving inflation to highs that most countries hadn't seen since the '80s.

Since then, for the most part, these pressures have eased, which has led to the disinflation seen in most economies over the past year. In fact, you could have expected reduced pressure on global supply chains to keep driving down consumer prices (graph 1).

**Graph 1**
**Improved Supply Chains Will Probably Keep Driving Disinflation in 2024**




* Lagged 9 months.
Federal Reserve Bank of New York, Organisation for Economic Co-operation and Development and Desjardins Economic Studies

## The Middle East Conflict and Shipping Costs

However, a new peril has emerged in recent months. Up until the end of 2023, the global economic fallout from Hamas' terrorist attacks on Israel and the Israel Defence Forces' aggressive retaliation in the Gaza Strip had been rather modest. But that began to change in the new year as shipping costs started rising once more. In solidarity with Palestinians, Yemen's Iran-backed Houthi rebels began attacking commercial ships crossing the Bab al Mandab Strait. The strait is a narrow waterway that forms the southern entrance to the Red Sea, separating Yemen from Eritrea and Djibouti. It's part of the usual route taken by ships moving between Asia and Europe via the Red Sea and the Suez Canal. According to various sources, about 10% to 15% of world shipping goes through the Bab al Mandab Strait every day. Since mid-November, the Houthis have launched more than thirty missile or drone attacks on commercial vessels.

These heightened risks have prompted companies to divert their ships to other routes, such as the one around the Cape of Good Hope in South Africa (graph 2 on page 2). Of course, this pushes up freight costs for goods that would otherwise go through the Red Sea. The longer route costs more in fuel and could extend shipping times by more than ten days. The cost of sending a big cargo ship from Asia to Europe can go up by US$1 million to US$2 million. The Houthi strikes have also increased the cost of insurance. Meanwhile, shippers are looking into other alternatives, such as a land route across the Arabian Peninsula that could be used to avoid the Bab al Mandab Strait.

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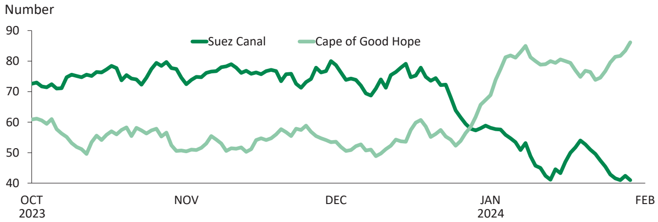
**Graph 2**
**Shipments That Would Normally Go through the Red Sea Are Being Diverted to South Africa**
Daily ship crossings

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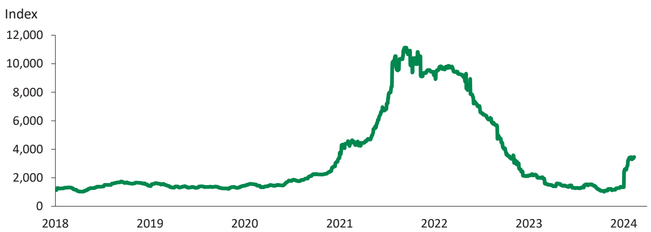
These disruptions quickly impacted container freight indexes. Most of the Freightos indexes tracking 40-foot container prices have gone up since the start of 2024. The global index has moved higher than it's ever been, excluding the COVID-19 pandemic (graph 3). After bottoming out in October 2023, it has rebounded by 230%. But the situation in the Middle East isn't the sole factor driving the price inflation. Drought is bringing down water levels in the Panama Canal and limiting the amount of traffic that can go through.

**Graph 3**
**Shipping Costs Plunged from Post-pandemic Peaks, but Have Recently Gone Up Again**
Freightos global ocean freight container pricing index (40-foot containers)

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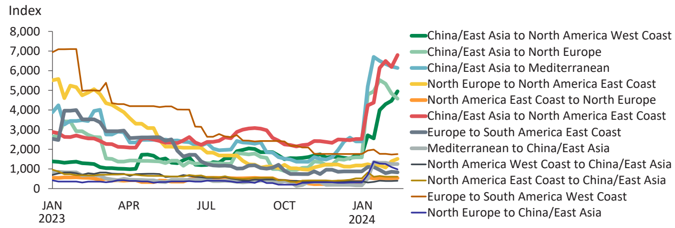
Of course, the rise in costs isn't evenly distributed across all the indexes for the various shipping routes. Nearly every index has gone up, but the biggest increase is for freight travelling between Europe and Asia (graphs 4 and 5).

Despite the protective and retaliatory measures taken mostly by the US and UK, trade continues to be disrupted, although attacks on civilian vessels seem less frequent. After the deaths of US soldiers in Jordan, the US Army launched air strikes on targets in Syria and Iraq. This widening of the conflict has not yet resulted in major economic or financial shifts, even in terms of oil prices or shipping costs.

**Graph 4**
**The Biggest Recent Price Gains Were for Asia-Europe Freight**
Freightos index

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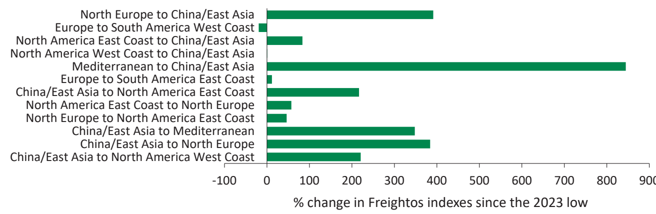
**Graph 5**
**The Biggest Relative Price Gains Were for Asia-Europe Freight**
Freightos index

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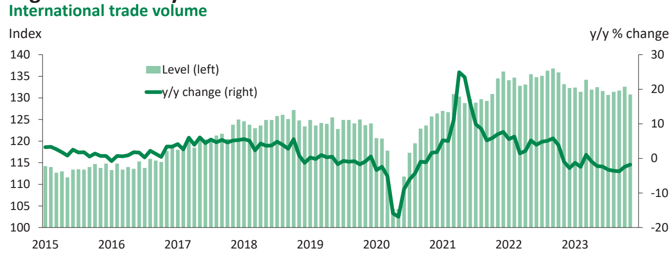
## Impact on Global Supply Chains

Although global trade isn't growing as fast as it was a few years ago, and "reshoring" is the latest big trend, the international goods trade is still essential for global and national economies to run properly and even grow. Despite all these obstacles, at the end of 2023 the volume of global trade was 2.8% higher than its pre-pandemic peak (graph 6).

**Graph 6**
**Although Growth Has Recently Slowed, Global Trade Volumes Are Higher Than They Were before the Pandemic**
International trade volume




CPB Netherlands Bureau for Economic Policy Analysis and Desjardins Economic Studies

Freight transportation is a vital link in global supply chains. Late deliveries or—worse—an extended shortage of imported inputs could affect a business's production and profitability. During the pandemic, there were many supply chain disruptions. For example, a shortage of certain electronic chips caused many problems, especially in the auto industry.

The importance of the free flow of goods can also be seen if we look at the components of the manufacturing PMIs (or the ISM Manufacturing index in the United States) that are sensitive to shipping times. They're starting to go up again, probably due in part to the increase in freight costs and extended shipping delays caused by the situation in the Middle East. According to S&P Global, which publishes the PMI indexes, "Supply chain pressures built at the start of 2024, in several cases due to disruptions caused by the Red Sea crisis. Vendor lead times globally lengthened for the first time since January 2023, with increases seen in the US, the euro area, Japan and the UK." For the Canadian manufacturing PMI, S&P Global said that "Global shipping delays linked to challenges in the Red Sea and the Suez Canal reportedly led to a deterioration in vendor times."

The free flow of goods, which includes container shipping, is therefore one of the factors used to evaluate how well supply chains are performing. In fact, the Federal Reserve Bank of New York uses data from transportation cost indexes for its Global Supply Chain Pressure Index (GSCPI). All other things being equal, an increase in these costs also pushes up the GSCPI. As mentioned earlier, pressure on international supply chains is closely linked with global inflation. This raises the question of whether the recent increase in shipping costs, as seen in changes in the GSCPI, will be a factor in future changes in consumer price indexes for the major economies. Even though our goal is to see the impact of shipping costs, we should keep in mind that rising tensions are also affecting other types of transportation, such as air freight.

Our goal here is to see how rising transportation costs are impacting supply chains (and how that, in turn, influences inflation). To do so, we're reusing an analytical framework previously used in an Economic Viewpoint on how certain inflationary shocks affect consumer prices in the United States, Canada, the eurozone, the United Kingdom, Japan and China. This also helped us analyze the relationship between inflation in these economies and the potential for contagion between them.

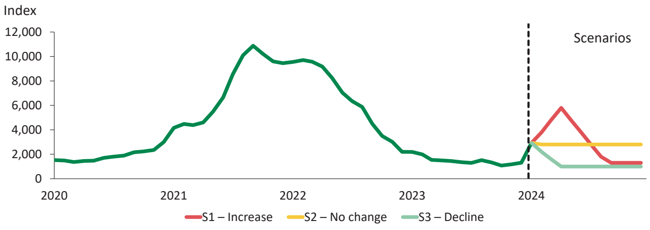
First, let's look at three scenarios for changes in shipping costs (based on the Freightos global index) to see how they affect the GSCPI. The three scenarios, which are also presented in Graph 7, are as follows:

**S1.** Shipping costs keep climbing until April, when they get halfway to the record highs reached during the pandemic. They then drop back down to the pre-pandemic average.

**S2.** Shipping costs hold steady at their current level—which is already above where they were in early January—until the end of 2024.

**S3.** Starting in February, shipping costs fall close to their Q3 2023 lows and stay there for a while.

**Graph 7**
**Three Shipping Cost Scenarios**

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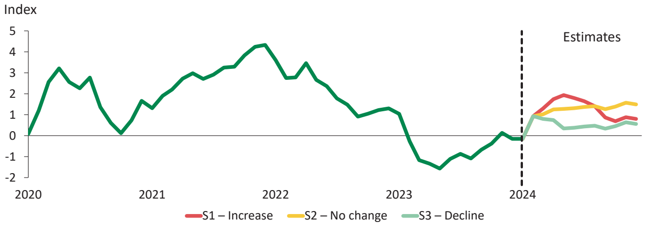
Needless to say, each of these three scenarios have vastly different impacts on supply chains (graph 8):

**S1.** The first thing we see is that persistent shipping cost inflation very quickly sends the GSCPI soaring. Under this scenario, the GSCPI peaks just one month after shipping costs do.

**S2.** Meanwhile, if prices remain stuck at current levels without any further increases, the pressure on supply chains will also increase, but more gradually and for a longer time.

**S3.** Finally, even if shipping costs quickly slip back down to their Q3 2023 lows, the highs reached in the past few months have already affected estimated GSCPI and will keep doing so for the rest of 2024. Under this scenario, the GSCPI doesn't fall back down to its recent low.

**Graph 8**
**Effects of the 3 Shipping Cost Scenarios on Supply Chains**

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### The Impact on Inflation

We can now see how all three scenarios affect inflation in the six regions we analyze. Table 1 shows the year-over-year change in CPI for each region and each of the three scenarios. To compare them with our recent baseline scenarios, it also includes our forecasts from the January Economic and Financial Outlook.

**Table 1**
**Impact of Shipping Cost Shocks on Inflation**

| COUNTRY/REGION | IMPACT OF SCENARIOS ON Y/Y CPI* % CHANGE IN 2024 | | | |
|---|---|---|---|---|
| | EFO – January 2024 | S1 – Increase | S2 – No change | S3 – Decline |
| United States | 2.7 | 3.2 | 3.3 | 3.0 |
| Canada | 2.7 | 2.8 | 2.8 | 2.8 |
| Eurozone | 2.4 | 3.0 | 2.9 | 2.7 |
| United Kingdom | 3.1 | 3.9 | 3.7 | 3.5 |
| Japan | 2.3 | 2.4 | 2.4 | 2.4 |
| China | 1.4 | 2.0 | 2.0 | 1.7 |

*Consumer Price Index
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We can see that the scenarios where shipping costs and global supply chain pressures increase or stay high lead to more headline inflation than the scenario in which shipping costs quickly fall. Furthermore, all three scenarios diverge from the baseline scenario, but the differences are relatively small. It therefore seems clear that the current Red Sea crisis poses a risk to consumer prices. The effects of all three scenarios are also rather persistent and could last for more than a year.
Our analysis suggests that inflationary effects would be stronger in the eurozone and the United Kingdom, and even the United States[1] and China, than in Canada and Japan (graphs 9 to 14 on page 5). The differences between the regions may be even greater than estimated here. Our analytical framework shows how the Freightos global index affects the GSCPI, which is also a global index. Since changes in shipping costs have (and could still) differ depending on the shipping route, the actual effects on each region could also vary. The consequences may even be bigger than we expect in the eurozone and the United Kingdom (which are more directly affected by the Red Sea and the Suez Canal). Meanwhile, Canada and the United States may be affected less than anticipated, since much of the trade from Asia lands directly in the ports of British Columbia or Pacific Coast states.

These findings aren't very different from the estimates of international economic organizations. The Organisation for Economic Co-operation and Development (OECD) said that "the recent 100% increase in shipping costs, if persistent, could raise annual OECD import price inflation by close to 5 percentage points, adding 0.4 percentage points to consumer price inflation after about a year." Meanwhile, according to a March 2022 analysis by the International Monetary Fund (IMF), "Studying data from 143 countries over the past 30 years, we find that shipping costs are an important driver of inflation around the world: when freight rates double, inflation picks up by about 0.7 percentage point. Most importantly, the effects are quite persistent, peaking after a year and lasting up to 18 months."

[1] US inflation tends to react quickly to global shocks, such as those hitting supply chains. Since a large share of international trade is invoiced in US dollars, price increases can't be offset by changes in exchange rates (Hall, 2023 and Gopinath, 2015).

### Other Factors

These estimates of how transportation costs will affect global supply chains and inflation give us an idea of what could happen in the months to come. But the reality could be much more complex, and many other factors and concerns could confuse the issue.

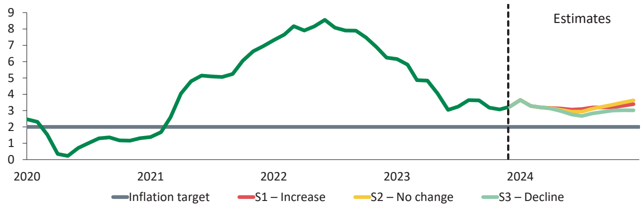
First, there is the impact of **oil prices and a potential escalation of the conflict**. For now, the Israel–Hamas conflict and its repercussions in the Red Sea, Syria and Iraq haven't much affected crude oil prices. Fears that demand could shrink further as a response to downside risks to global growth, along with OPEC+'s tenuous position, seem to be limiting the impact of potential disruptions to the oil supply and transportation. In terms of global volume, the Red Sea is used to transport a smaller share of oil products (11%) than container cargo (30%). This is unexpected given the waterway's location. An escalation of the conflict or even all-out war involving several countries in the region, including major oil producers, could exacerbate the situation and fuel a massive rise in crude oil prices. Under the circumstances, crude oil could easily rise above US$100 per barrel. This would drive up the cost of gasoline and heating oil, causing energy prices and headline inflation to spike in the major economies.

One factor tempering the impact of rising transportation costs on inflation in the major economies is **disinflationary effects from China**. Although inflation remains high, it is slowing in the major advanced economies. However, China is currently experiencing deflation. Consumer prices have gone down 0.8% from a year ago, but producer prices (-2.4%) and especially export prices (-19.0%) have fallen even more. This is helping bring global inflation under control, especially for goods, and could offset the potential upward pressure from the Red Sea crisis. It's worth noting that Chinese ships apparently aren't being attacked as much as others, and the Houthis have said they aren't targeting Chinese- or Russian-flagged vessels.

**Global economic conditions are also less likely to trigger inflationary pressures.** Of course, supply chain issues, such as the rise in shipping costs, were a major factor limiting supply and pushing up consumer prices in 2021 and 2022. But this was because that limited supply had to meet demand inflated by easy monetary and budget policies aimed at boosting incomes. Furthermore, demand for goods was higher than normal since public health measures restricted the market for

## Graph 9
### United States: Impact of Shipping Cost Shocks on Inflation

**Consumer price index**
y/y % change

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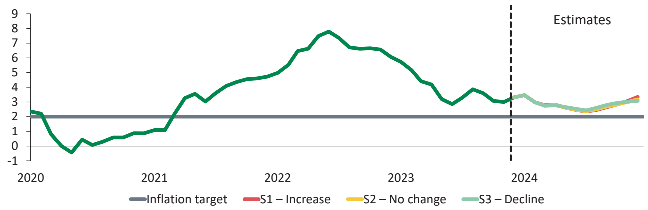
## Graph 10
### Canada: Impact of Shipping Cost Shocks on Inflation

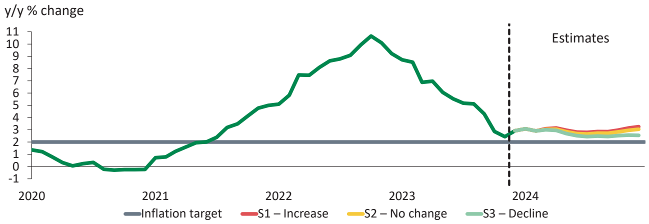
**Consumer price index**
y/y % change




Statistics Canada and Desjardins Economic Studies

## Graph 11
### Eurozone: Impact of Shipping Cost Shocks on Inflation

**Consumer price index**
y/y % change

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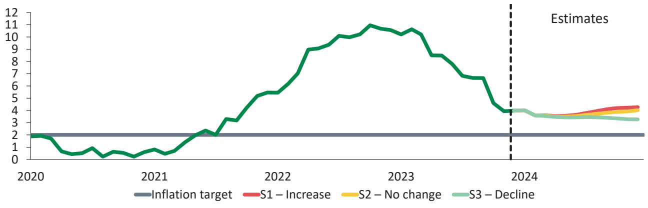
## Graph 12
### United Kingdom: Impact of Shipping Cost Shocks on Inflation

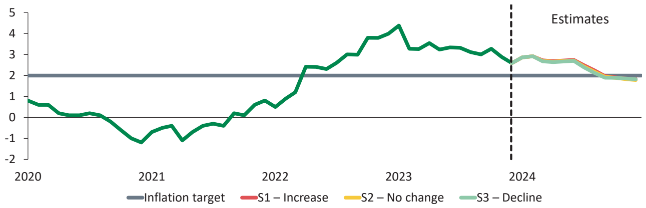
**Consumer price index**
y/y % change




Office for National Statistics and Desjardins Economic Studies

## Graph 13
### Japan: Impact of Shipping Cost Shocks on Inflation

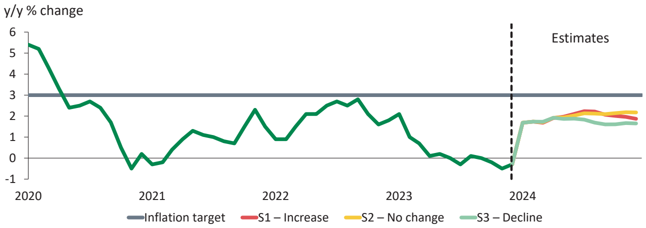
**Consumer price index**
y/y % change




Statistics Bureau and Desjardins Economic Studies

## Graph 14
### China: Impact of Shipping Cost Shocks on Inflation

**Consumer price index**
y/y % change




* Estimates for China are based on consensus forecasts, although inflation recorded in recent months has come in well below these projections.
National Bureau of Statistics of China and Desjardins Economic Studies

services. This helped inflation rates climb to record highs. In contrast, current and projected growth in the Chinese, European and Canadian economies is weak and is no longer increasing domestic inflationary pressures. Recent trends in the US economy have shown that it's more resilient, but it seems productivity gains are slowing inflation in that country too. Meanwhile, business inventory levels are higher than they were during and immediately after the pandemic. This could potentially cushion producer and consumer prices from the direct repercussions of supply chain issues. Monetary policies have also tightened considerably, and central banks are still closely watching any developments that could affect inflation, including in the Red Sea.

### Conclusion

Rising shipping costs and the possibility of additional disruptions to supply chains pose relatively modest inflation risks to the major advanced economies, especially Canada. As for the current scenario, there's no indication that inflation could snowball as it did in 2021 and 2022. There are several reasons for this, but the main ones are that current conditions no longer show signs of overheating and the supply and demand issues that emerged immediately after the pandemic have mostly disappeared. Central banks are also on the alert, and monetary policies are currently restrictive. This is where the situation in the Red Sea will probably have more of an effect. Expected interest rate cuts could be postponed as central banks in Canada and other economies wait until they have a better idea of the risks posed by deteriorating supply chains and rising transportation costs. If there is a real impact on inflation, it will likely affect import and producer costs before it hits consumer prices. This means we may have to wait until the spring, or even early summer, before we get a clearer picture of how the Middle East crisis will affect national economies.