

A Not-So-Good Morning in Baltimore: What Does Its Port Closure Mean for ASEAN+3 Trade and Supply Chains?¹

April 9, 2024

*Good morning Baltimore, every day's like an open door
Every night is a fantasy, every sound's like a symphony
Good morning Baltimore, and some day when I take to the floor
The world's gonna wake up and see, Baltimore and me*

["Good Morning Baltimore"](#)

Lyrics by Marc Shaiman and Scott Michael Wittman
From [Hairspray](#) the movie

I. Introduction

1. **The closure of the Port of Baltimore has again raised the specter of disruptions to global trade and supply chains.** In the early hours of March 26, a container ship crashed into Francis Scott Key Bridge resulting in its collapse, the tragic deaths of six workers, and the suspension of ship traffic through the port until further notice. According to the [US Bureau of Transportation Statistics](#), Baltimore is among the top 20 ports in the US by tonnage and number of containers handled—it processes almost 3 percent of US maritime trade, totaling more than USD 80 billion in 2023. It is the busiest US port for vehicle shipments, farm equipment, and construction machinery, as well as for imported sugar and gypsum; the second biggest for US coal exports; the ninth busiest for foreign cargo; and the tenth largest for dry bulk. Consequently, the port's shutdown is expected to reverberate along supply chains, notably in the US but also elsewhere in the world.

2. **The flow of trade through Baltimore is being diverted to other maritime gateways along the US Eastern Seaboard.** For example, ports in New York–New Jersey and Virginia are coordinating with ocean carriers and Baltimore counterparts to manage the increased flow of cargo. These alternate ports have indicated that they have sufficient capacity to accommodate a surge in container volumes and, in particular, the requisite roll-on and roll-off facilities to process wheeled cargo (Cruise 2024; [Salgado 2024](#))—the Port of Baltimore's key products. Indeed, auto manufacturers in other parts of the world have

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already started re-routing their products to these destinations ([Epstein 2024](#)). However, it is still unknown how long such diversions could be sustained without eventually affecting capacity at the other ports, given the indefinite closure Baltimore's port.

3. **Logistics management may pose challenges and could add to delays.** Some ocean carriers have notified their customers that the latter will have to make their own arrangements to pick up their cargo from the new locations ([LaRocco 2024](#)). However, information on the redirected cargo may be incomplete. The US Department of Transportation had previously created a private/private digital platform for navigating supply chain slowdowns during crises and disruptions—the Freight Logistics Optimizations Works (FLOW)—which enables real-time data analyses of port and inland network congestion and the monitoring of unexpected cargo movements. But not all East Coast ports are in the FLOW database, with 70 participants reportedly covered and more than 60 companies still waiting to be onboarded to the system.

4. **How significant is the Baltimore incident for ASEAN+3 economies?** The event is expected to have some impact on auto markets, notably, large car exporters such as China and Japan, which could face problems offloading and delivering their stock (Cruise 2024). US exports of coal and soybeans to Asia could also be affected ([Lerman and others 2024](#)). And although most trade through Baltimore is being re-routed to other US ports, the reconfiguration could potentially have knock-on effects—such as increasing the processing time of ships and goods at those ports and additional shipping costs. We attempt to quantify the implications for ASEAN+3 trade and supply chains in this note.

II. Impact on Direct Trade and Supply Chains

5. **Any immediate direct impact from the Baltimore port accident on the ASEAN+3 region should be limited.** Estimates from the IMF–Oxford University [PortWatch](#) spillover simulator indicate that any shock to Port of Baltimore operations would likely affect approximately USD 200 million in trade value and 100 metric kilotons of port capacity per day of disruption but the impact should largely be contained within the US.² With trade through Baltimore accounting for 0.7 percent of commercial vessel arrivals from ASEAN+3 (Figure 1),³ estimated total trade value-at-risk for the region would be below USD 30 million per day (Figure 2), equivalent to less than 0.1 percent of the region's total daily merchandise trade and an infinitesimal percentage of each economy's GDP (Figure 3). Relatedly, capacity-at-risk is estimated at 6 metric kilotons.

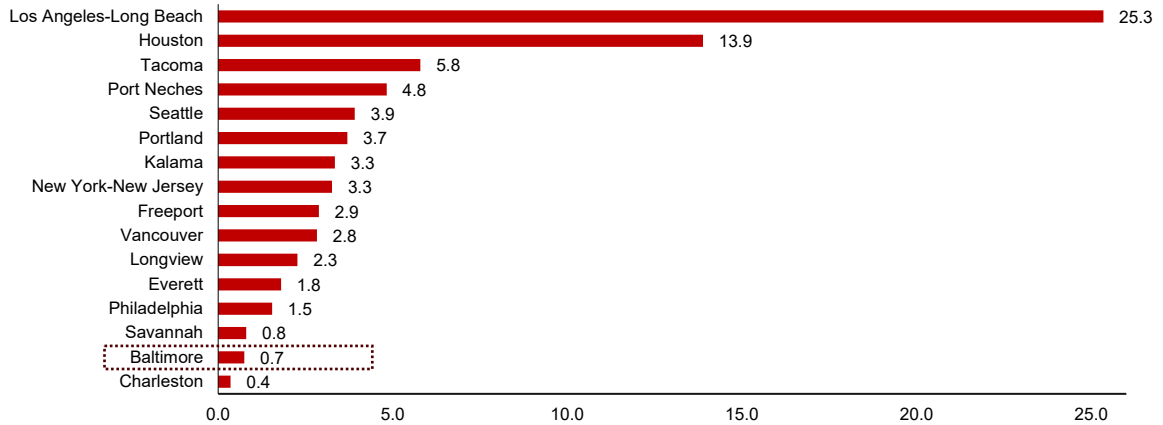
6. **Certain industries in this region could experience minor interruptions.** For example, the diversion of coal exports from Baltimore could put 0.24 percent of Korea's total daily merchandise import value at risk (Figure 4). Machinery imports by China and Singapore, as well as fuel and mineral imports by Japan, Malaysia, and Thailand, could also be held up, but any impact should be minimal. On the other side of the coin, vehicle exports

² The [PortWatch](#) trade spillover simulator, developed by the IMF and University of Oxford, estimates (1) [capacity-at-risk](#)—the amount of maritime trade capacity being at risk of delays or even lost due to the disruption, measured in metric tons; (2) [trade values-at-risk](#)—the US dollar amounts of export and import flows between origin and target ports that are at risk; and (3) [supply chain values-at-risk](#)—the US dollar amounts of industry output and final consumption that are at risk as a result of disruptions to supply chains, to quantify the impact of delays and disruptions at target ports, either at the port level or in terms of economy-commodity trade values, industry output, and final consumption. The methodologies and data used are detailed in [Verschuur and others \(2023\)](#) and Verschuur, Koks, and Hall ([2022](#), [2023](#)).

³ The number of vessels is calculated following [del Rosario and Quach \(2020\)](#).

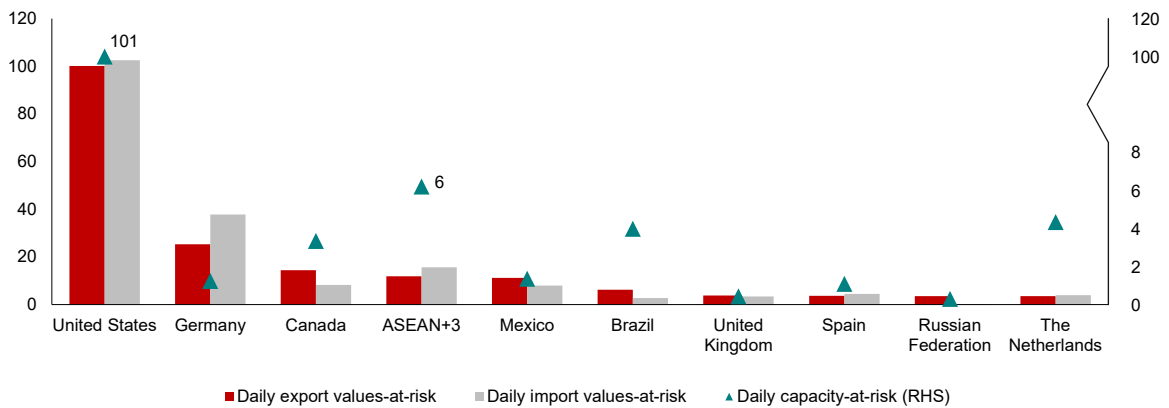
from Japan, amounting to 0.04 percent of its total daily merchandise exports, could be affected ([Williams 2023](#)), as could exports of electrical parts, manufacturing, and agriculture and food from Cambodia, Indonesia, Philippines, and Vietnam, with up to 0.17 percent of daily merchandise export value put at risk.

Figure 1. Selected US East Coast Ports: Arriving Vessels from ASEAN+3
(Percent of total arrivals at all US ports)



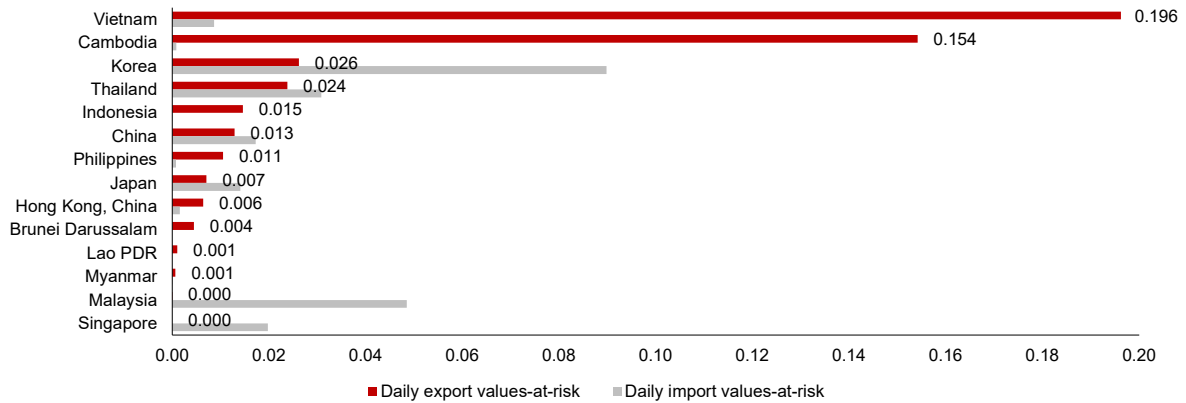
Sources: MarineTraffic; and AMRO staff calculations.
Note: Data are for the 12 months to February 29, 2024.

Figure 2. Selected Economies: Daily Trade Values-at-Risk and Port Capacity-at-Risk
from Port of Baltimore Closure
(Millions of US dollars; metric kilotons)



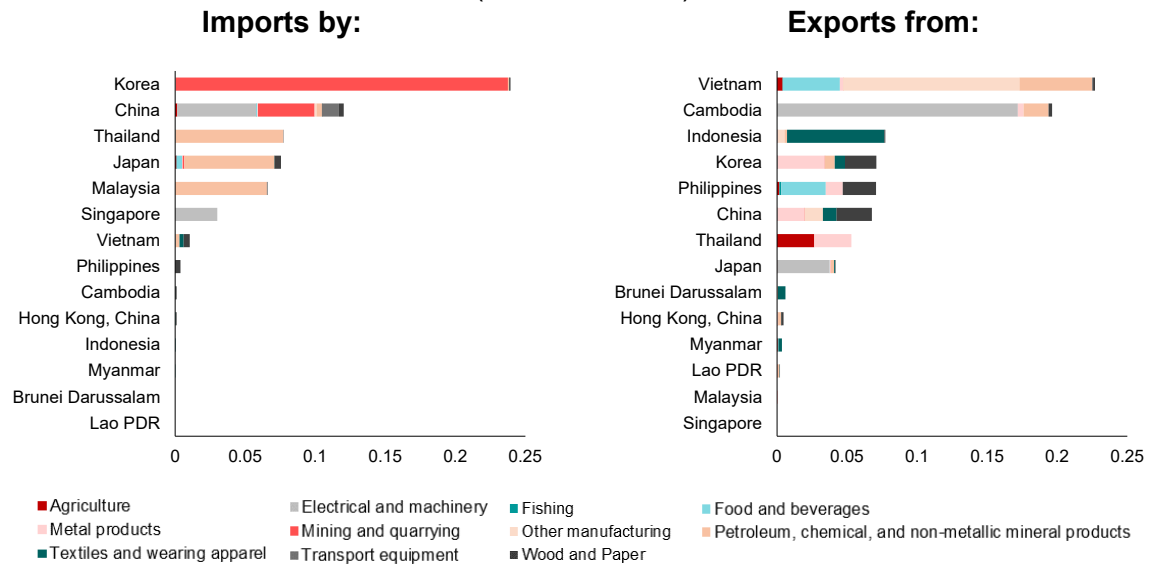
Sources: IMF–University of Oxford [PortWatch](#), accessed on April 8, 2024; and AMRO staff calculations.

Figure 3. ASEAN+3: Daily Trade Values-at-Risk from Baltimore Port Closure (Percent of GDP)



Sources: IMF–University of Oxford [PortWatch](#), accessed on April 8, 2024; and AMRO staff calculations.
 Note: GDP data comprise the latest available 12-month aggregates as of April 8, 2024 scaled to daily values based on 365 days a year.

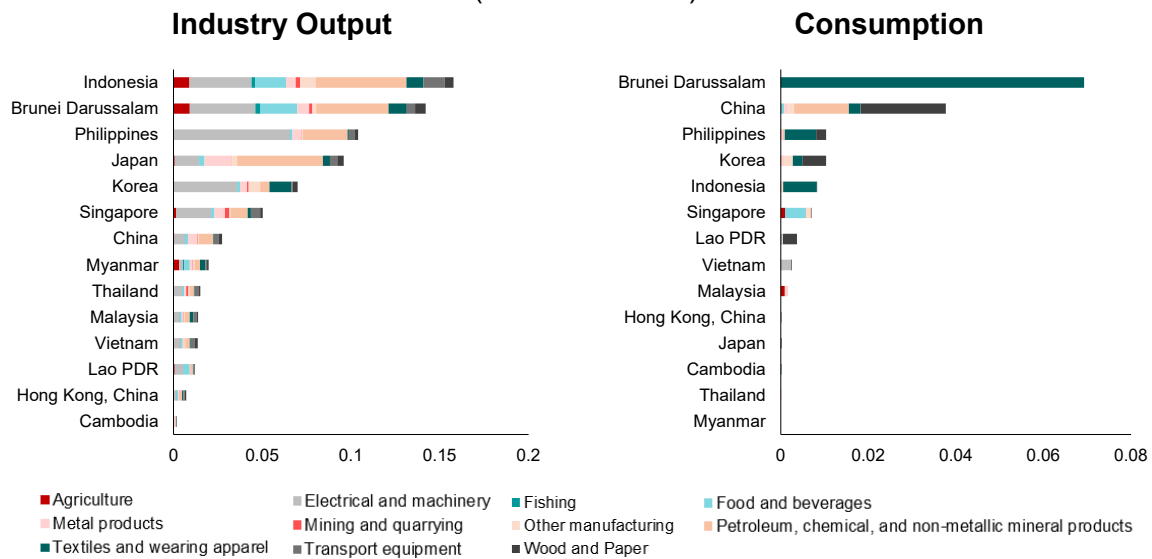
Figure 4. ASEAN+3: Daily Trade Values-at-Risk by Industry from Baltimore Port Closure (Percent of total)



Sources: IMF–University of Oxford [PortWatch](#), accessed on April 8, 2024; and AMRO staff calculations.
 Note: Total exports and imports comprise the latest available 12-month aggregates as of April 8, 2024 scaled to daily values based on 365 days a year.

7. **The estimated overall impact on the region’s supply chain networks appears insignificant.** Such accidents typically hit global merchandise trade not only through direct trade with the affected ports (the first-order effect) but also indirectly via industries that are linked through their supply chain networks (the second-order effect). In this instance, the [PortWatch](#) spillover simulator estimates that the most affected industries among ASEAN+3 would be petroleum and chemicals, and electrical products in Indonesia, Brunei Darussalam, the Philippines, Japan, and Korea, with single industry output values-at-risk of up to 0.07 percent of GDP per day (Figure 5). Correspondingly, any resulting disruption would minimally affect this region’s consumption of petroleum products and, more specifically, wood and paper in China and textiles in Brunei Darussalam, amounting to the equivalent of 0.01, 0.02, and 0.07 percent of GDP, respectively.

Figure 5. ASEAN+3: Daily Supply Chain Impact by Industry from Baltimore Port Closure
(Percent of GDP)

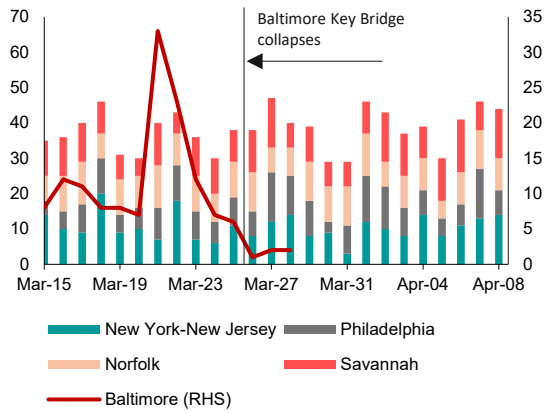


Sources: National authorities via Haver Analytics; IMF–Oxford University [PortWatch](#), accessed on April 8, 2024; and AMRO staff calculations. Note: GDP data comprise the latest available 12-month aggregates as of April 8, 2024 scaled to daily values based on 365 days a year.

8. **A bigger concern may be that the diverted trade traffic from Baltimore creates ripple effects at alternate receiving ports along the US East Coast.** Certain East Coast ports saw upticks in traffic in the days following the Francis Scott Key Bridge collapse, with a 25 percent increase in Philadelphia and 19 percent in Savannah (Figure 6). Although the receiving ports claim to have sufficient capacity to handle the increase in traffic and cargo ([Salgado 2024](#)), containers redirected from Baltimore could drive port utilization rates across these locations up to almost 80 percent from the current 60 percent ([Hooper 2024](#)). Sustained rises in utilization rates could eventually lead to congestion depending on the length of Baltimore port's closure. Indeed, port turnaround times, which serve as a proxy for congestion levels ([del Rosario and Quach 2021](#)) surged in both Norfolk and Philadelphia right after the accident and despite some signs of normalization, remain elevated relative to their mid-March levels (Figure 7).

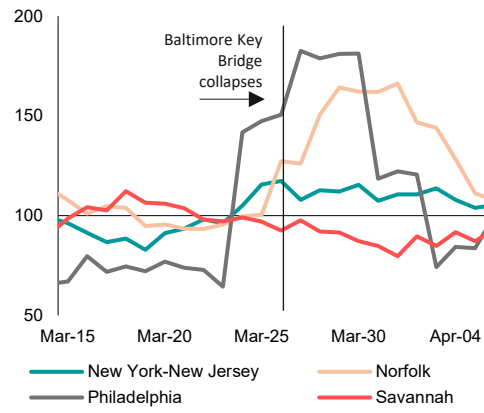
9. **The exercise highlights the region's vulnerabilities to major US ports.** Although any direct disruption to ASEAN+3 trade from the Baltimore incident appears to be small for now, the region also relies on other large US maritime gateways. In the current situation, for example, any flow-on delay at the New York–New Jersey port could have greater impact—putting an additional 1.4 percent of total ASEAN+3 daily export value at risk (Figure 8). Whilst Los Angeles–Long Beach has traditionally been a major import port for goods from ASEAN+3 to the US, New York–New Jersey along with other stops along the US East Coast have become more important as the region seeks to bolster the resilience of its supply chains (Razdan 2023). Driven in part by the snarling of supply chains at Los Angeles–Long Beach during 2021–22, commercial seaborne routes from ASEAN+3 have increasingly shifted to the US East Coast—as a diversification strategy as well as to take advantage of infrastructure improvements along certain shipping routes and at the latter ports.

Figure 6. Selected US East Coast Ports: Arriving Vessels (Number per day)



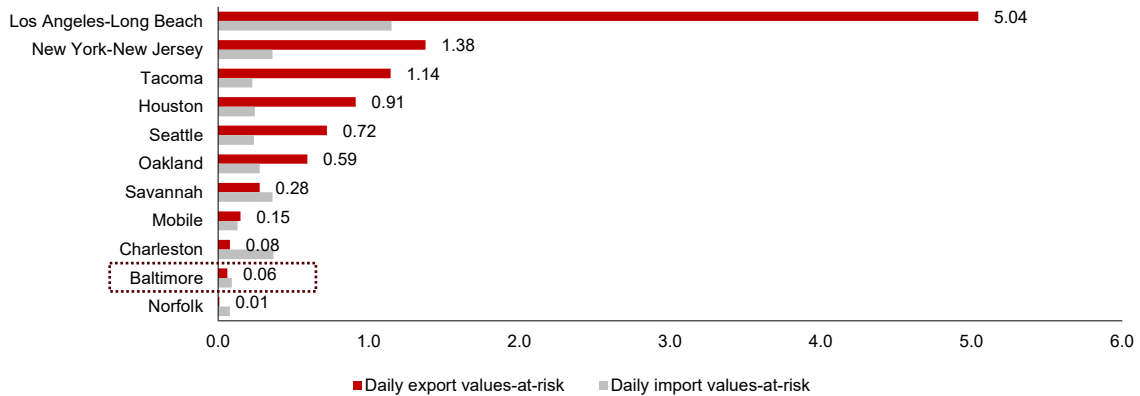
Sources: MarineTraffic; and AMRO staff calculations.
 Note: Vessel count includes both anchorage and in-port activities.
 Data up to April 8, 2024.

Figure 7. Selected US East Coast Ports: Turnaround Time (Average March 19–26 = 100, 7-day moving average)



Sources: MarineTraffic; and AMRO staff estimates.
 Note: Turnaround time is calculated based on the methodology in [del Rosario and Quach \(2021\)](#) using port data on all vessels. Data up to April 8, 2024.

Figure 8. ASEAN+3: Daily Trade Values-at-Risk from Disruptions to Selected US Ports (Percent of exports and imports, respectively)



Sources: National authorities via Haver Analytics; IMF–Oxford University [PortWatch](#), accessed on April 8, 2024; and AMRO staff calculations.
 Note: Total exports and imports comprise the latest available 12-month aggregates as of April 8, 2024 scaled to daily values based on 365 days a year.

III. Concluding Observations

10. **Immediate concerns over disruptions to global supply chains following the Baltimore port incident highlight their perceived fragility in the wake of the COVID-19 pandemic.** The suspension of operations at the Port of Baltimore is seen as yet another pressure point in an already-stressed global supply chain—from geopolitical conflicts in the Black Sea, to pirate attacks in the Red Sea and around the Suez Canal, to drought slowing shipping through the Panama Canal, all in addition to natural disasters and climate change that have further impacted world trade (Cruise 2024; [Lerman and others 2024](#)).

11. **Simulations of the impact of the Baltimore accident on the ASEAN+3 region suggest that the immediate repercussions are small, but the full extent of spillovers remains unknown.** ASEAN+3 trade value-at-risk is estimated at less than 0.1 percent of the

region's total daily trade, while any impact from resultant global supply chain disruptions appears minimal at this point. However, the region has also become more reliant on other ports along the US East Coast that are absorbing the diverted trade flows, and any eventual congestion and delay at those ports—with Baltimore port closed for the foreseeable future—could have greater domino effects. A more extreme outcome would be if the disruptions were to gradually spill over into broader US economic growth and inflation, with attendant ramifications for the rest of the world.

12. **Such maritime disasters underscore the importance of building resilient and agile supply chains.** Governments and firms are constantly working toward diversifying supply bases for raw materials and intermediate goods, building back-up production sites, and expanding export markets. However, the Baltimore incident and ongoing turmoil elsewhere in the world show that “plus one” strategies should, beyond identifying “friendly” counterparts, ensure: (1) finding reliable suppliers and building trust between partners; (2) increasing diversification by taking into account factors such as shipping routes and individual source and destination ports; and (3) expanding the use of alternate transportation methods for goods (e.g., air, land). On a positive note, experience suggests that global trade tends to adapt to mitigate problems that arise even though it might take time.

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