B. MARITIME TRADE IN THE ERA OF PANDEMIC

Initially localized in China, the pandemic evolved rapidly and became a global game changer by the first quarter of 2020. The spread of the disease worldwide and the consequent disruptions to societies and economies have far-reaching implications, including for transport and trade. Amid supply-chain disruptions, falling global demand and global economic uncertainty caused by the pandemic, the global economy has suffered dislocation, first at the supply end, then at the demand end.

While disruptions such as natural disasters, conflicts, strikes and security incidents are common in maritime transport, the pandemic is exceptional, given its scale, speed and direct impact on global supply chains, transport and trade. Historically, no disruption has ever resulted in a global lockdown of people and business. Restrictions on mobility, travel and economic activities worldwide, although in varying degrees, are unprecedented. By mid-April 2020, nearly 90 per cent of the world economy had been affected by some form of lockdown (United Nations, 2020b), and by month's end, about 4.2 billion people or 54 per cent of the global population (International Energy Agency, 2020). As many as 100 countries closed their national borders, disrupting supply and supressing global demand for goods and services. No country was prepared to face the combined health and economic crisis.

Risk assessment and management are common practice in business and policymaking processes, especially with the emergence of various risks – security threats, environmental risks, changing weather patterns and rising social unrest. However, it would appear that the likelihood of a disruption of the type and scale of the COVID-19 outbreak was not foreseen or it was underestimated. Many factors may be at play, including competing policy priorities, immediate versus longer-term concerns, budget pressures and institutional capacity constraints. However, research on behavioural economics suggests that limitations inherent to human minds may also be interfering with relevant risk assessment and decision-making processes (see box).

By June 2020, it appeared as if the brunt of the economic shock was going to be concentrated in the

first half of 2020 and that impacts were going to vary by region in line with the gradual geographical spread of the pandemic. Breaking out in stages and gradually moving from one region to another, the pandemic has had a particular impact on supply chains. These have been affected multiple times as goods cross borders and in different ways, depending on where the pathway of the pandemic is in each region. As a result, instead of managing the pandemic response based on a single location, responses had to take into account multiple locations.

Box 1.1 Blind spots in risk assessment and management

The frequency and severity of supply-chain disruptions is on the rise. Supply chains are vulnerable to a broad range of threats, including pandemics, extreme weather events, cyberattacks and political crises. Risk management has become more widely known in recent years, given events such as the terror attacks of 11 September 2001 in the United States, tsunamis and the 2008–2009 global financial crisis. Yet the COVID-19-induced disruptions revealed the extent to which the world was ill-prepared in the face of a rapidly evolving global pandemic. This calls into question the effectiveness of relevant risk assessment and management plans, especially in the current context of highly interdependent and interconnected world economies. Paradoxically, there is no lack of pandemic plans. However, they generally failed to account for the full importance and ramifications of global supply chains. Research on behavioural economics, pioneered by Nobel Prize winner Daniel Kahneman, suggests that when it comes to evaluating risks, biases inherent to the human mind often interfere. Thinking critically is important when assessing risks. However, humans are prone to making errors in reasoning, as many fallacies and cognitive illusions clutter the thinking. Examples of such cognitive blind spots include relying on intuition to evaluate evidence, assess probabilities and take risks; being on autopilot – that is to say, being primed by certain social and cultural conditions; making snap judgments; using shortcuts to make quick decisions based on trial and error, rule of thumb or educated guess; ignoring facts, hard data and statistics; being influenced by vivid mental images; and being motivated by emotional factors and gut feeling and not necessarily rational and objective thinking. Understanding these biases and how they shape judgments and decisions is therefore important when assessing risks and devising response measures and plans. To help overcome these limitations, policymakers and business executives could start by becoming aware of the various cognitive biases that may undermine sound policies and decisions, and adopt potential mitigation measures, as deemed appropriate.

Sources: Economic and Social Commission for Asia and the Pacific, 2013; Kahneman, 2011; Piattelli-Palmarini, 1994; Rodrigue, 2020.

Since more than 80 per cent of world merchandise trade by volume is carried by sea, the impact of the pandemic on maritime transport can have far-reaching implications. The impact is magnified by the role played by China in maritime trade, as prosperity within the shipping sector has long been strongly tied to that country. In 2003, amid the outbreak of severe acute respiratory syndrome, China made up 5 per cent of global GDP. Today this figure stands at 16 per cent. In 2019, China accounted for over 20 per cent of world imports by sea, up from less than 10 per cent in 2003. While its share of total exports has remained stable at 5 per cent of the world total since 2003, its share in global container exports has increased. In this context, its maritime trade has ripple effects on all shipping market segments, and supply-chain disruptions involving China naturally send shockwaves across shipping and ports worldwide.

As the pandemic weighed down on the maritime trade of China, especially during the first quarter of 2020, global maritime trade was bound to be affected. In addition to the sector's high exposure and sensitivity to developments in China, restrictions on vessels and crew in many ports, labour force shortages and restrictions on their movement, and operational challenges have sent shipping into unchartered waters. Impacts are being felt across the board, ranging from maritime trade flows to vessel movements, vessel crew changes, capacity deployed, port operations, warehousing capacity, hinterland connections and inland logistics.

By June 2020, leading economic and shipping indicators were showing resumed activity in China. However, this only partly helped the recovery, as consumers and business in export markets were still in lockdown. Even as major economies eased out of lockdown, the situation remained problematic and continued to evolve amid uncertainty about the pandemic and possible new spikes.

Against this background, the following section considers the implications of the pandemic for maritime transport and trade. While not exhaustive, the following four main issues highlight the type of challenges ahead and emphasize the need for maritime transport to act as a trade facilitator, supply-chain connector and key partner in promoting more resilient, robust and sustainable transport and trade patterns:

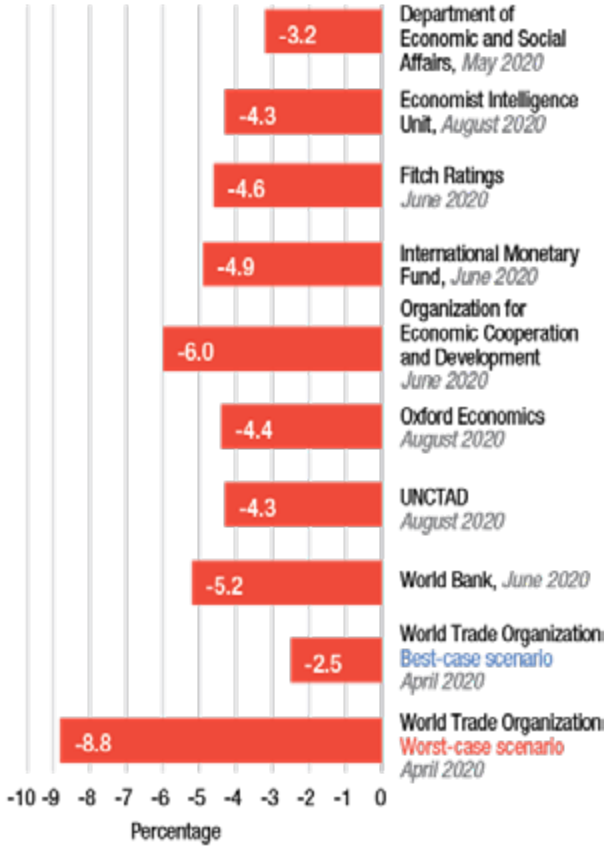
- The pandemic sent shockwaves through supply chains, shipping and ports.
- World output and merchandise trade are projected to fall in 2020.
- Global merchandise trade receives both supply and demand shocks.
- Disruptions caused by the pandemic raise existential questions for globalization.

With regard to the first issue, that of the pandemic's disruptions to supply chains, shipping and ports, these

disruptions inevitably invite comparisons with the global financial crisis of 2008–2009. The two crises are similar in certain respects but diverge in others. First, in both cases, governments intervened by injecting funds into the economy to stimulate recovery. Second, the two crises were accompanied by rising protectionist sentiment and scepticism about globalization. However, they differed in their type, scope, speed and scale. A crisis like no other, surpassing the 2008–2009 financial crisis, the COVID-19 crisis has been dubbed the "Great Lockdown" (International Monetary Fund, 2020a). The touch points of the financial crisis were more limited, whereas the pandemic swept the entire world in record time. The 2020 crisis was a double-hit disruption, which morphed from being a supply-side disruption in China to becoming a global cross-sectoral demand shock. Third, restrictions on economic activity and travel did not occur during the previous crisis. Fourth, the pre-existing trade and finance trends were different. Fifth, while the 2008–2009 crisis began in mid-2008, its worst effects became evident eight months later, while the impact of the 2020 crisis were almost immediate.

With regard to shipping and maritime trade, a fundamental difference was also the industry's response to suppressed demand. While carriers focused on safeguarding market shares during the months leading up to the outbreak of the pandemic, the focus shifted to managing supply to maintain rates. Also, in the case of the financial crisis, the size of the orderbook was much higher (see chapter 2). Although the precise impact on shipping and maritime trade is still difficult to gauge, the picture for 2020 is nonetheless not optimistic, given that key forecasting entities are predicting contractions in world GDP and merchandise trade.

Figure 1.12 **Varied forecasts of gross domestic product growth for 2020**
(Percentage change)



Source: UNCTAD calculations, based on reports issued by the entities listed.

With regard to the second issue, that world output and merchandise trade will most likely decline in 2020, existing estimates of the economic fallouts of the pandemic vary, given the high degree of uncertainty involved. Yet all converge and point to a global recession in the making. Bearing in mind the uncertain times, differences in forecasting techniques and assumptions, as well as the potential for revisions depending on how the pandemic continues to evolve and whether the various policy interventions have been effective in mitigating the pandemic and its effects, UNCTAD expects world GDP to fall by 4.3.per cent in 2020. The International Monetary Fund predicts a decline of 4.4 per cent (International Monetary Fund, 2020b) (figure 1.12). In comparison, UNCTAD analysis shows that world GDP contracted by 1.3 per cent in 2009. In both cases, GDP in all countries, developed and developing countries alike, is expected to decrease, except for East Asia, including China, which will see a marginal growth of 1.1 per cent. According to UNCTAD analysis, the pandemic-related recession is likely to translate into a $12 trillion loss in global income relative to the end of 2019. This is based on the UNCTAD baseline scenario for world GDP growth and takes into account that the average growth rate of the world economy – the trend prior to the outbreak of the pandemic – was 3.0 per cent in 2017–2019 (UNCTAD, 2020a). Another estimate suggests that the cumulative output losses during 2020 and 2021 will approach $8.5 trillion (United Nations, 2020b).

Many developing countries will be affected by declining demand and export revenues, remittances, foreign direct investment and official development assistance. The least developed countries are hit hard, given their limited resources and exposure to supply-chain disruptions such as in exports of textiles and clothing products (for example, Bangladesh). For the economies of Africa, developing America and Western Asia, and transition economies, an added concern is the sharp fall in commodity prices. Commodity-dependent countries and small island developing States, which depend heavily on external flows, are particularly vulnerable to external shocks. For the latter, external flows account for nearly 35 per cent of GDP (United Nations, 2020b). Fiscal measures and stimulus packages introduced worldwide stand at $9 trillion, equivalent to over 10 per cent of global GDP in 2019. Further, several developing countries are also implementing limited fiscal stimulus, not exceeding 2 per cent of GDP. Many lack the fiscal resources to

address the economic impact with large relief and stimulus measures (United Nations, 2020b).

With respect to the third issue, that global merchandise trade receives shocks to both supply and demand, trade is typically more volatile than output and tends to fall particularly sharply in times of crisis (World Bank, 2020). By mid-2020, the full impact of the outbreak of the pandemic on international trade remained uncertain, in line with projections for GDP growth. However, preliminary estimates and some leading indicators provide some useful pointers. While trade had already weakened in 2019, it became clear that disruptions brought by the pandemic had significantly suppressed trade and volumes had collapsed to record lows. Forecasts have varied with differences in assumptions, scenarios and models but all concur that international merchandise trade can be expected to decrease beyond the contraction levels of 2009.

UNCTAD estimates that the value of international merchandise trade declined by about 5 per cent in the first quarter of 2020 and that it will diminish further by 27 per cent in the second quarter (UNCTAD, 2020b). In the first quarter of 2020, the value of trade in textiles and apparel diminished by almost 12 per cent, and that of the office machinery and automotive sectors, by about 8 per cent. In April 2020, trade in energy and automotive products fell by about 40 per cent and 50 per cent in value, respectively. Significant declines were also observed in the value of trade in chemicals, machineries and precision instruments, with drops above 10 per cent. By contrast, trade in agrifood products and electronics fared comparatively better (WTO, 2020). For the full year, WTO projections point to reductions in world merchandise trade ranging from 13 to 32 per cent in 2020, depending on the scenario, before recovering at rates ranging from 21.3 to 24 per cent in 2021 (WTO, 2020). Overall, these numbers are do not bode well for maritime trade.

The fourth issue is that disruptions caused by the pandemic raise existential questions for globalization. This is because maritime transport is the backbone linking global supply chains, supporting trade and enabling participation in global value chains. When a pandemic of the magnitude of the COVID-19 crisis occurs, the sector works as a transmission channel that sends shockwaves across supply chains and regions. Restrictions introduced in response to the pandemic have raised obstacles that undermine the smooth movement of trade flows and supply-chain operations and can significantly erode the transport services trade liberalization and trade facilitation gains achieved over the years. In this context, the pandemic and its fallout have accelerated an existing debate on the benefits of globalization and extended supply chains. This debate was sparked by heightened trade tensions between China and the United States since 2018. The disruption caused by the pandemic has brought to the fore concerns regarding outsourcing production to distant locations and the need to diversify production and manufacturing sites and suppliers.

About 70 per cent of international trade is linked to global value chains (OECD, 2020b), with China predominating not only as a manufacturer and exporter of consumer products, but also as a supplier of intermediate inputs for manufacturing companies located in other countries. UNCTAD estimates intermediate products at half of the trade in world goods in 2018 – about $8.3 trillion (UNCTAD, 2020c). In 2020, an estimated 20 per cent of global trade in manufacturing intermediate products originated in China, up from 4 per cent in 2002 (UNCTAD, 2020d). The volume of intra-Asian containerized trade and its rapid growth over recent years reflect this trend. In this context, any disruption to supply chains in China is bound to affect production in the rest of the world, with wide-ranging impacts on machinery, automotive products, chemicals, communication equipment and precision instruments. Japan, the Republic of Korea, Taiwan Province of China, the United States and Viet Nam will be affected the most.

Preliminary analyses suggest that electronics and electrical equipment are the highest risk sector on a global scale. Although the automotive industry maintains low inventory levels, it does, however, depend less on China than the electronics industry (Aylor et al., 2020). Electronics manufacturing is global to a large degree, which adds to its complexity, as goods cross many borders. According to the OECD database of 2018 on trade in value added, the share of foreign value added in electronics exports was about 10 per cent for the United States, 25 per cent for China, 34 per cent for the Republic of Korea, 44 per cent for Singapore, more than 50 per cent for Malaysia and Mexico, and over 60 per cent for Viet Nam.

Constraints on transportation and logistics and lack of workers prevented timely delivery of components from China and other countries to factories in South-East Asia during the pandemic. As a result, response measures such as sourcing directly from Viet Nam, switching from land to air freight and rerouting shipping lanes that previously included stops at Chinese factories had to be taken (Aylor et al., 2020). For shipping, these measures translate into rerouting of vessels, changes in schedules and port calls, as well as variations in volumes. Further, they illustrate the challenges involved in the transport of time-sensitive trade when disruptions to supply chains occur and how the level of integration with the country's supply chain and level of inventories can change the outcomes.

Less sophisticated manufacturing in countries such as Bangladesh, Pakistan and Viet Nam, which have recently attracted factories to move their production away from China, is also highly exposed to COVID-19-induced disruptions. A case in point is Bangladesh, where about 85 per cent of its exports are composed of textile fibres, textiles and made-up articles, clothing and accessories

(categories of standard international trade classification) (UNCTAD, 2020e). The shock to this supply chain is demand driven and reflects cuts in spending on non-essential goods and store closures. One estimate expects global sales for fashion and luxury brands to drop by 25 to 35 per cent in 2020, compared with 2019 (Seara et al., 2020).

Factory closures, including in China and other East Asian countries, and lockdowns implemented worldwide, resulting in supply-chain disruptions, have revealed the shortcomings of extended and single-country-centric supply chains. They have rekindled the debate on the risks associated with an internationalization of production networks and overreliance on a few countries such as China for manufacturing production, as well as the predominance of low-inventory and just-in-time supply-chain models.

Some observers argue the need to revisit existing supply-chain patterns and reflect on strategies to shift away from the model that had been promoted by hyperglobalization (1999–2009). Others assert that the re-nationalizing of global value chains could, to some extent, insulate countries from the fallout of a pandemic (OECD, 2020b). In the United States, incentives to encourage companies to shift business away from China include tax breaks and a new reshoring fund (Lloyd's Loading List, 2020b). Japan announced that it will allocate $2.2 billion to attract Japanese manufacturers to shift production out of China, $2 billion of which will be earmarked for their relocation back to Japan. These developments could accelerate the move towards the China plus one[2] manufacturing hub model, which evolved amid rising labour costs in that country and has recently intensified trade tensions. The developments could also prompt further regionalization of supply chains and growth in intraregional containerized flows. It is likely that no single country can easily absorb the massive export manufacturing capacity of China.

Moving production home or closer to home is a complex process and should take into account factors other than labour costs. Analytical research suggests that the contraction of GDP would have been worse with re-nationalized global value chains, as government lockdowns also affect the supply of domestic inputs (OECD, 2020b). That said, it is becoming increasingly evident that a slowdown in globalization has taken place over the past decade. Prior to the pandemic, structural shifts, such as digitalization, the "servicification" of manufacturing (Haven and Van Der Marel, 2018), a growing sustainability imperative and the rise of protectionist sentiment, have been taking hold and increasingly re-shaping globalization trends. Companies have already been adding new operations to supplement current production.

[2] A business strategy that aims to avoid investing and concentrating business only in China.

Viet Nam is the largest country in the region to see new manufacturing growth from offshoring, as illustrated by agreements with Intel and Samsung. Others, such as Indonesia, Malaysia, the Philippines, Singapore and Thailand, are prime candidates. India is also contemplating a larger role and looking to establish itself as a regional manufacturing hub and to attract companies seeking to move their supply chains out of China (Bloomberg, 2020a). Tax incentives and easy access to land and other infrastructure are being considered. While these efforts pre-date the pandemic (Bloomberg, 2020b), trade tensions between China and the United States and the supply-chain vulnerabilities exposed by its outbreak will most probably accelerate the process.

Nonetheless, China is likely to remain a key player, given its strong supply-chain network and infrastructure and knowledge base, as well as its massive labour force, which has no match. For instance, even though Intel opened a new facility in Viet Nam, the company has maintained several assets in China. Viet Nam was simply added as an assembly and testing operation (Procurement Bulletin, 2020). This is further illustrated by the rise in United States imports from China in May 2020, reflecting the fact that retailers were rushing back to China for inventory replenishment and showing how difficult it would be to shift entire sourcing elsewhere (JOC.com, 2020c). The manufacturing activity that had already migrated to South-East Asia is tied to low-wage and low-skill workers who produce footwear and apparel. For higher-end products such as electronics, workers will require greater skills (JOC.com, 2020c). On the other hand, Chinese companies have also been shifting some of their production to neighbouring countries, reflecting in part the impact of tariff escalation since 2018.

The globalization process based on low labour-cost differentials and on an extensive outsourcing of production that stimulated trade may have reached its limits, with factors other than developments in the world economy and population likely to shape the maritime trade patterns of the future transport.

These include the global decarbonization agenda, which has implications for the two largest commodities transported at sea: crude oil and coal. Another driver would be the growing demand for smaller and low-value packages of physical goods that are increasingly bundled with services and require faster transit time. These shifts in demand patterns are expected to question the cost advantage of shipping compared with other means of transport (Port Economics, 2020).

In summary, the pandemic-induced disruption may trigger shifts in globalization patterns, supply-chain configuration and production models, with implications for transport and inventory decisions – all of which are of strategic importance for shipping. They have the potential to reshape the operational landscape, especially for

container shipping, including with regard to vessel size, capacity deployed and operations. For example, greater regionalization would lead to the increased fragmentation of trade flows which, in turn, would make the use of larger vessels more challenging (JOC.com, 2020d).