

THE FINANCIAL IMPACT AND MEASURES IMPOSED BY THE COVID-19 PANDEMIC ON SUPPLY CHAINS

Culiță, Gica Gherghina¹

Abstract

As globalisation has increased, the world's supply chains have become substantially more interconnected. Moreover, as emerging market economies have steadily come to account for a greater proportion of global GDP, goods often have more stages to pass through before reaching the end consumer.

From national lockdowns to closed airspace and borders, Covid-19 has resulted in unprecedented disruption to the mechanics of most economies, regardless of their size or stage of development. In particular, the erection of these barriers has placed a major strain on the world's supply chains, including essential linkages relating to food and medicines.

The global economy is facing slow growth, high global uncertainty and dangers on different levels and all that should prompt policy makers to act in order to revive the global economy. Addressing measurements needed, as this paper presents the situation from past year and perspectives.

Keywords: COVID -19, world economy, economic measurements, supply chains, international trade

JEL Classification: F, F01, F16

1. Impact of COVID – 19 pandemic on logistics firms

Logistics companies connect firms to markets by providing various services, including multimodal transportation, freight forwarding, warehousing, and inventory management. They are important for global manufacturing, which is complex and multilocal. Apple's iPhone, for example, uses components from more than 200 suppliers in 43 countries. As a result, today's global value chains require greater resilience and efficiencies in the flow of goods between and within countries. These can be achieved by firms outsourcing their logistics functions to third-party logistics services providers, especially those with integrated, end-to-end solutions capabilities.

The relationship between logistics performance and higher incomes (Figure 1) demonstrates the sector's contribution to productivity and economic development. The cost of logistics as a percentage of GDP can be up to 25 percent in some developing economies—as compared to 6–8 percent in OECD countries. Better efficiency in the sector can, therefore, boost competitiveness and stimulate economic growth in emerging markets.

The impact of COVID-19 was first felt in China due to the role it plays in global manufacturing (with Wuhan, the epicenter of the pandemic, playing a particularly significant role—more than 200 of Fortune Global 500 Firms have a presence there). China is also a major consumer of global commodities and agricultural products.

Disruptions to manufacturing in China rippled through global supply chains. Cargo was backlogged at China's major container ports, travel restrictions led to a shortage of truck drivers to pick up containers, and ocean carriers canceled (or blanked) sailings. The resulting shortage of components from China impacted manufacturing operations overseas. Major industries around the world, including automotive, electronics, pharmaceuticals, medical equipment and supplies, as well as consumer goods, were affected.

Although manufacturing picked back up—by end-February, about 70 percent of large industry had restarted operations—a return to full production capacity is unlikely in the short term because of the spread of the pandemic to China's trading partners.

The long-haul trucking sector—which carries more than 80 percent of the country's goods—illustrates the effects of the lockdown on Chinese logistics. Between January 24 to

¹ Phd lecturer, Constantin Brâncoveanu University, Pitești, ggculita@yahoo.com

February 26, 2020, the volume for long-haul trucking fell below 15 percent of 2019 levels before recovering to 50 percent by the end of February and 92 percent in March (see Figure 2). The rapid recovery was driven by the ability to contain the virus quickly and the government's policy towards trucking (such as waiving national highway tolls and quarantine requirements for trucks shipping essential goods).

The pandemic spread to the rest of the world, leading to lockdowns and border closures that restricted the movement of goods. Additional protocols (such as social distancing at warehouses) introduced to ensure the safety of workers contributed to bottlenecks for freight. For example, in the European Union, trucks formed 37-mile-long lines on the A4 highway after Poland closed its border with Germany in mid-March. In India, the lockdown created a shortage of truck drivers, which resulted in over 50,000 containers piling up in the ports of Chennai, Kamajalar, and Kattupalli.

We can observe the impacts on freight capacity in three key global transportation segments - ocean, land, and air.

- Ocean freight: Total container volumes handled at Chinese ports dropped by 10.1 percent in the first months of 2020. Agility Logistics reports considerable constraints to ocean freight around the world, impacting both key exporters, like Brazil, China, India, and Mexico, as well as importers like the European Union. According to DHL, weak demand will continue to affect routes between Asia and Europe, the United States, and Latin America. Consequently, additional blank sailings are expected in the coming weeks.

- Land freight: Unlike ocean and air transport, land transport has generally remained partially available globally as roads have remained in operation, except in countries under severe lockdowns, according to Agility Logistics' tracking tool. Trucking capacity is strained because of additional demand for their services—especially food and medical supply transportation—under lockdown, combined with reduced employee availability (due to COVID-19-related restrictions), leading to higher rates. Other economic sectors that require land transport, such as manufacturing, are generally not at full capacity because of lockdowns. As a result, spot road freight rates have fallen in some markets. Demand for rail services has grown because of higher air cargo freight rates, blank sailings, and longer transit time for trucks.

- Air freight: Volumes fell by 19 percent in March 2020 due to a sharp reduction in passenger flights (which carry freight as belly cargo) and the drop in manufacturing in China. However, as shippers and governments turn to air cargo for essential goods, air freight rates have increased—some carriers are seeing delays with increased congestion at airports. Mid-April saw an increase in capacity, as well as a recovery in volumes transported (although they are still down, year-on-year). The overall reduction in capacity is greater than the net reduction in demand, which supports higher air freight rates.

2. Supply Risk and Recovery: The frequency and severity of supply chain disruptions are steadily increasing

Supply chains (SC) are vulnerable to a broad range of threats, including pandemics, extreme weather, cyberattack, and political crises.

The vulnerability of SCs has been highlighted by major incidents (COVID-19, the Petya cyberattack in 2017) and the hurricanes that hit the US in 2017 with estimated \$200 billion in damage.

Ironically, the susceptibility of supply chains has been heightened by business practices, such as single – sourcing of supplies, inventory centralization, just-in-time replenishment, and the concentration of freight traffic at hubs. These improve economic performance, but also create greater risk exposure and lower resilience.

As a result of the globalization of SCs and a tighter coupling of logistical processes, the damaging effects of disruptions now spread much further and faster, and have a broader impact.

The human cost of SC disruption can also be high, as with the tsunami that hit Indonesia in 2018. In addition to the direct loss of life during natural disasters and military conflicts, death and suffering can occur when SCs relied upon to deliver medical and essential supplies are fractured.

The impact of COVID-19 on the functioning of GVCs encouraged SC professionals to seek out more robust supplier-monitoring systems that may help build resilience. In the corporate world, the management of SC risk is being given greater priority; risk auditing and business continuity planning are now widespread, particularly among larger companies.

However, strategic risk is not always adequately addressed at an operational level-and there is little evidence that companies are effectively reversing the long-term trends that have made their supply chains more vulnerable.

The economic recession will be a second demand shock. The full effect of the pandemic on global supply chains is not yet known. As the IMF is predicting a 3 percent contraction for the global economy in 2020, the expected recession will deliver a second hit to demand and, thus, logistics companies, highlighting logistics' exposure to trade, manufacturing, and demand for goods.

Supply chain disruptions and the lockdowns are already affecting logistics companies.

Operational constraints are expected to lead to delivery delays, congestion, and higher freight rates. However, not all segments will be impacted equally—companies that serve e-commerce are seeing increased activity as consumers opt for online shopping of essentials, while those that serve other sectors (such as auto and consumer goods) will see a downturn. One mitigant: record-low fuel prices should provide some relief to transport operators. Overall, the uncertainty will exert downward pressure on revenues.

- The impact is severe for small players: Small trucking businesses are being severely hit because they tend not to have any backup, recovery plan, or intermittent operation plan.

Lack of technology, as well as tools to follow health guidelines (for example, disinfecting deliveries), further complicate their response.

- Top players are experiencing a strong impact: In April, both DHL and CEVA Logistics declared Force Majeure - a clause that allows contracts to be declared null and void due to acts of God or other unexpected circumstances - on all their contracts due to COVID-19.

Other companies' credit metrics are likely to deteriorate, triggering downgrades, as has already been seen in the sector.

For the most part, governments have responded to the crisis by designating ports, shipping, and trucking services as essential and thereby exempt from lockdown measures. For example, the Indian government exempted the movement of cargo through ports, supply chains, and the transport of essential commodities from lockdown rules. Although many airports around the world are closed to passenger flights, most are still open to cargo, which can be essential to the COVID-19 response (for example, to transport medical supplies). Closer collaboration between governments and third-party logistics companies has also been necessary to address supply chain bottlenecks and facilitate clearances.

Third-party logistics companies have adopted a range of responses to these uncertainties, including:

a. New safety protocols: To protect their staff's health, some companies have introduced new protocols on social distancing at warehouses, disinfecting work areas, or providing protective gear, while giving staff unlimited unpaid time off. However, these efforts, which come at a higher financial cost, cannot guarantee protection against outbreaks in confined warehouses.

b. Alternative modes of transport: Many companies are using creative alternatives to their go-to transport modes. Since the reduction of passenger flights has reduced airplane belly cargo capacity, companies such as DHL have used charter flights to transport shipments

to and from China. Airlines are also repurposing passenger aircraft for cargo. Some observers are even forecasting a boom for the China-Europe rail as 60 percent of the air freight capacity between China-Europe has vanished.

c. Adapting service offerings to current demand and safety protocols: Some larger players have been playing an important role in delivering medical supplies. For example, UPS provided free air transport for two million masks and protective gear to Wuhan in February. Companies are also adapting to demand. Warehouses and retailers are focusing on grocery deliveries since demand is high for essential products, while companies in the last-mile segment are offering no-contact delivery options (some of which include robots).

The recovery and long-term impact of the pandemic on logistics may be affected by adaptations and factors, as described below:

- Increased dedicated air cargo capacity: The airline industry is already reallocating fleet to exclusively serve air cargo demand.

- Increased cargo inspections and cross border control protocols: Governments have responded to the crisis with temporary trade embargoes and export restrictions for sensitive cargo (such as medical supplies, pharmaceuticals). In the longer term, logistics costs may increase due to tighter cross-border processes and controls fueled by concerns regarding the transmission of diseases.

- Technology and e-commerce rise: Logistics has been in the midst of a tech-driven revolution. Companies with robust digital capabilities that allow them to provide cargo visibility/traceability and do business online are at an advantage. This would entail investments in technology, such as the Internet of Things (IoT), cloud computing, automation, and data analytics. In the long term, robotics, drones, and autonomous vehicles might reduce logistics services providers' exposure to labor shortages.

- Reconfiguration of global value chains: The pandemic has exposed the vulnerability of extended and complex value chains to production disruptions, particularly in the East Asia Pacific region. As a reaction, many of these supply chains may shorten or diversify through reliance on alternative partners (for example, nearshoring) or intensified efforts to bring home (such as reshoring) strategic value chains. The shortening of supply chains may benefit countries with capable manufacturing sectors and beneficial exports' policy (for example, Colombia, India, and Mexico) to partially substitute China over the medium term. There may also be a trend towards placing additional warehousing capacity or dry ports near demand centers to shorten the time to get goods to market.

- Recovery prospects will vary by country, subsector: As logistics is a diverse sector, recovery prospects will vary depending on the length of lockdowns and the duration of the subsequent economic crisis. Large companies with a diversified business (such as multiple clients, serving different sectors in various countries/states) will be better placed to weather the storm.

3. A 10-point action plan to support the logistics of international trade

1. Ensure uninterrupted shipping

Around 80 per cent of global trade volume is transported by commercial shipping, which moves the world's food, energy and raw materials, as well as manufactured goods and components. For carriers to remain operational, flag and port States need to continue to provide all necessary services, from bunkering and supplies, to health services for sailors and certification of regulatory compliance. **Seafarers are critical personnel**, for whom teleworking is not possible. It is particularly important to allow crews to board their ships or be repatriated from any seaport in the world.

2. Maintain ports open

Ports provide essential services to international trade. They need to remain open to ships and intermodal connections. Staggered working hours and **non-stop operations**, if not already practiced, can help spread workloads and physical contacts.

Certain restrictions – for example, on weekend operations – may need to be lifted during the current emergency.

Governments need to ensure that health measures are implemented in ways that minimize interference with international traffic and trade. The principles of avoiding unnecessary restrictions or delay in port entry for ships, persons and property on board are also embodied in articles I and V and section 6 of the annex of the International Maritime Organization's Convention on Facilitation of Maritime Traffic. The requirements of the International Ship and Port Facility Security Code need to be applied judiciously, to ensure continued security of maritime supply chains while preserving the flow of trade. An UNCTAD technical note on port operations provides further concrete good practices to protect port personnel while maintaining efficient port operations.

3. Protect international trade of critical goods and speed up customs clearance and trade facilitation

The World Customs Organization has recently provided a list of Harmonized System codes for critical medical equipment that helps Governments and customs agencies to allow for fast-track clearance of these goods. Government and airport and border agencies need to ensure express clearance and release of these goods. UNCTAD is compiling country case studies on good practices and lessons learned.

Several **specific trade facilitation measures** can be particularly useful to speed up clearance and release of critical goods at ports and border crossings. These include special and accelerated provisions for expedited shipments, relief and medical consignments, and perishable goods. Schemes such as the authorized economic operator and pre-arrival processing key tools for ensuring a secure, transparent and predictable trading environment should be fully used where already in place or implemented as a matter of urgency. Sanitary and health restrictions should not become a disguised barrier to trade in goods or services.

Some measures, as identified in guidelines prepared by the Automated System for Customs Data (ASYCUDA) of UNCTAD, such as the separation of release from clearance and the acceptance of digital copies, can be effective tools for faster clearance, but will require particularly careful monitoring when it comes to potentially contaminated cargo.

4. Facilitate cross-border transport

Lorries, trains, aeroplanes and relevant transport workers need to be able to cross borders in order to keep supply chains functioning. Limits on transport operation during weekends may need to be suspended.

Air freight is particularly critical for certain goods and urgent deliveries. Available geo-tracking solutions for critical goods could help customs and other border agencies to speed up clearance through pre-arrival processing. Governments and industry should liaise closely to facilitate availability of strategic supplies throughout supply chains, and industry should be encouraged to provide transport and storage facilities where critically needed.

5. Ensure the right of transit

All countries, including **landlocked and transit countries need to maintain their access to seaports**. National Governments, in particular transit countries, and regional organizations should support transit, transport and trade corridors and maintain customs transit regimes and other transit-related facilitation procedures, such as use of special procedures and lanes for transit traffic. Recent experiences suggest that transit is indeed impeded by increasing health controls, slowing down the flows of goods to landlocked countries.

UNCTAD supports cooperation among transit countries and landlocked developing countries, inter alia, through the Empowerment Programme for National Transit Coordinators and the Transport Corridor. Ongoing UNCTAD collaboration in the East African Community and other regions show that regional agreements and the mutual recognition of certificates and other documents, for goods and for lorry drivers, can further facilitate transit. There is an important role for regional economic communities to play in this regard.

6. Safeguard transparency and up-to-date information

In times of a rapidly changing trading environment, it is particularly important for Governments to communicate clearly and ensure information is available to all actors and stakeholders and to **keep online trade information and help desks updated** and operational continuously. Trade information systems should provide remote access to all forms and requirements and ensure that anyone interacting with a Government can find what is required of them online, without having to go to seek information physically.

International efforts such as the Observatory on Border Crossings Status due to COVID-19 can also be very helpful. Governments should support industry associations in their efforts to share information and offer assistance throughout their global networks.

7. Go paperless

As physical contact between people needs to be minimized, **electronic submissions and paperless transactions** become ever more important. Although goods still need to be moved physically, clearance operations and the exchange of information should make use of existing electronic data interchange as much as possible. Electronic alternatives to traditional, paper-based negotiable bills of lading should be used by contracting parties where possible. Non-negotiable transport documents should be used where independent documentary security is not needed or the sale of

goods in transit is not envisaged.

Processes need to be dematerialized, including through automation, electronic payments and the acceptance of digital copies. Contactless terminals, contactless delivery and automated transport minimize the risk of COVID-19 transmission through contaminated surfaces and protect the health of all workers involved. At the same time, efforts to combat cybercrime and address cyberthreats need to be scaled up as a matter of urgency.

Allowing traders to electronically submit applications for permits and licences, and obtain the corresponding certificates from border regulating agencies, is an easy and quick way to eliminate physical interactions and dematerialize the process. Ensuring that destination and importing countries accept digital copies of certificates that can be further secured through easy-to-install Quick Response (QR) codes can also be an effective trade facilitation measure.

8. Address early on legal implications for commercial parties

The unprecedented disruptions associated with the pandemic and its massive socioeconomic consequences are giving rise to a **plethora of legal issues affecting traders across the globe** (for example, delays and performance failure, liability for breach of contract, frustration and force majeure). The effects of such issues may lead to business losses and bankruptcies, and overwhelm courts and legal systems. Industry and traders need to be encouraged to waive some of their legal rights and agree on moratoriums for payments, performance and the like, where appropriate.

The International Maritime Organization's list of recommendations on the facilitation of maritime trade during the COVID-19 pandemic, proposed by a broad cross section of global industry, is an example of the type of collaborative action that is needed.

9. Protect shippers and transport service providers alike

Economic emergency and social protection measures need to include the international logistics industry among its priority beneficiaries.

Transport and logistics service providers may need financial support to enable them to stay in business and ensure supply chain resilience throughout the pandemic and post-pandemic period.

At the same time, Governments should ensure that carriers do not impose undue fees and charges, such as demurrage on charterers and shippers for delays in loading/discharge operations or returning equipment/containers that are not within their control. Blank sailings, abandoning contracted rates and other measures taken by transport service providers need to be minimized in order to protect critical services provided by shippers and ensure that supply chains remain open, especially for the benefit of the most vulnerable countries.

10. Prioritize technical assistance

Many of these measures require investment in **human, institutional and technological capacities** and should thus be given priority immediate technical support by development partners. Even before the current pandemic took hold, many developing countries were already confronted with challenges to undertake the necessary investments in transport infrastructure and services and trade facilitation reforms.

Implementing electronic trade facilitation solutions is easier for countries that already have electronic single windows, modern customs clearance systems and digital trade solutions in place, such as that provided by ASYCUDA in over 100 countries and territories. The international community is called upon to provide technical assistance in support of trade logistics solutions as a matter of urgency. In view of the practical obstacles to travel, online and distance-learning tools need to be used to a maximum, combined with support to developing countries in the area of the persistent digital divide and digital connectivity.

UNCTAD is providing extensive support to its member States in their efforts to address the unprecedented global challenges resulting from the COVID-19 pandemic. Support includes tailor-made advisory services, as well as research and capacity-building programmes in international transport services and legislation, port management, trade and transit facilitation, and customs automation.

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