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Page: 1/10

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# TRADE COSTS IN THE TIME OF GLOBAL PANDEMIC

INFORMATION NOTE[1]

## KEY POINTS:

- Travel restrictions and border closures have been an important part of the initial policy response to the COVID-19 pandemic, and these measures have directly affected trade in goods and services. They have disrupted freight transport, business travel and the supply of services that rely on the presence of individuals abroad. Transport and travel costs constitute an important part of trade costs, and, depending on the sector, are estimated to account for 15 to 31 per cent. Travel restrictions are therefore likely to account for a substantial increase in trade costs for as long as they remain in place.

- Freight transport service performance is crucial to trade costs in manufacturing. Since the beginning of the COVID-19 crisis, maritime and land transport have remained largely functional, although they have registered sometimes considerable delays, but air freight transport has been severely disrupted, with global air cargo capacity shrinking by 24.6 per cent in March 2020. Many governments are trying to do as much as possible to keep trade flowing, but in some regions, travel restrictions have the potential to disrupt regional trade and livelihoods severely.

- Tradable services that rely on physical proximity between suppliers and consumers, such as tourism, passenger transport or maintenance and repair services, have been severely impacted by travel restrictions and social distancing and have seen a prohibitive increase in trade costs. The disruption in business travel, which plays important roles in establishing and maintaining trading relationships as well as in managing global value chains, is also likely to affect both business and professional services and manufacturing production, although this will depend on how possible it is to substitute e-interactions for face-to-face communication. The quality of information and communications technology (ICT) infrastructure and digital preparedness will thus be important factors in how well economies cope with the pandemic shock.

- Estimates suggest that trade policy barriers and regulatory differences account for at least 10 per cent of trade costs in all sectors. Products essential in the fight against the pandemic have seen the introduction of mostly temporary import-facilitating and export-restrictive measures. The former push down trade costs while the latter raise them. Nevertheless, both types of measures have covered a small share of global trade.

- High levels of uncertainty magnify the impact of trade costs on international trade. In the first quarter of 2020, for instance, a widely used measure for the global level of uncertainty was 60 per cent higher than the levels triggered by the Iraq War and the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003. Uncertainty reduces the appetite of firms to invest into new trading relationships, and the increase in uncertainty may also result in trade finance contraction that is likely to take a particularly heavy toll on emerging and developing economies.

## 1. INTRODUCTION

Every global economic crisis brings about a decline in global trade. Every crisis, however, is different. While trade costs, in the form of sweeping protectionism, played a leading role in the sharp contraction in world trade during the Great Depression of 1929 and the 1930's, they played

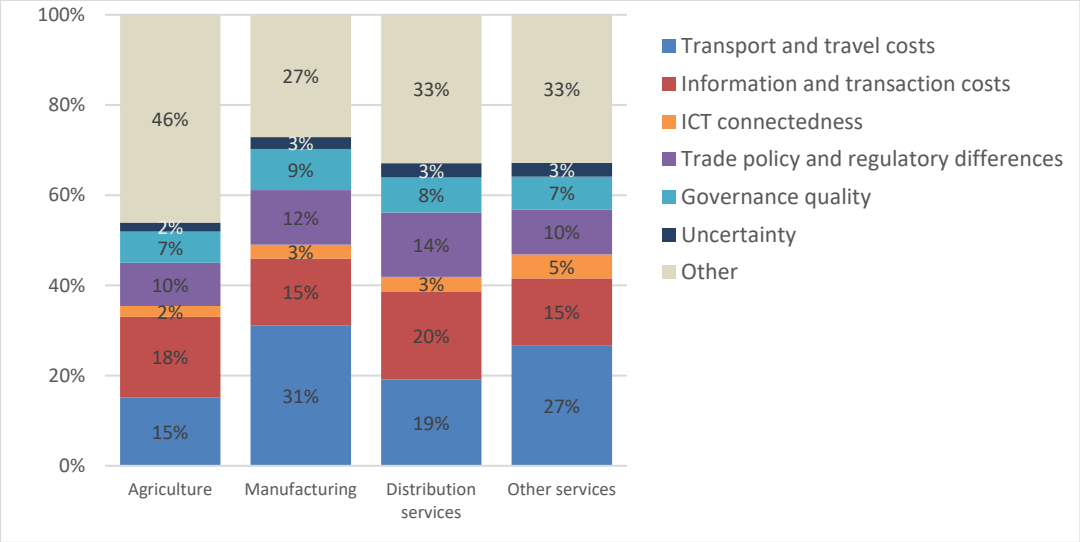
[1] This document has been prepared under the WTO Secretariat's own responsibility and is without prejudice to the positions of WTO members or to their rights and obligations under the WTO.

only a small role in the great trade collapse of 2009, which was primarily about a steep fall in aggregate demand.[2] Governments around the world have responded to the COVID-19 health crisis by imposing mitigation measures that have paralysed, or at least sharply curtailed, many sectors of the economy. Social distancing, quarantine, lockdowns and travel restrictions have become unavoidable measures in the fight against the pandemic. Even jurisdictions with relatively relaxed official restrictions on social and business activity have seen sharp declines in economic output, as individuals change their behaviour to try not to catch the virus. This note uses insights from an ongoing WTO trade costs project[3] and available real-time indicators to outline how the reactions to the COVID-19 pandemic may affect trade costs.

## 2. TRANSPORT AND TRAVEL COSTS

Transport and travel costs constitute an important part of trade costs[4] in all sectors (Figure 1). They include transport margins, business travel costs and the cost of time in transit. They are estimated to account for 15 per cent of trade costs in agriculture and 31 per cent in manufacturing trade. Transport costs also matter for goods-related services, such as retail and wholesale, where the estimates suggest they account for 19 per cent of total trade costs. Finally, travel costs account for almost a third of trade costs related to cross-border supply in business and professional services.[5]

**Figure 1: Determinants of trade costs**




Note: This decomposition shows to what extent various factors contribute to explaining the variation in bilateral trade costs in 2016. See WTO (2019), p.137 for details of the data sources and methodology. "Other services" include telecommunications, financial, business, professional, cultural and personal services.

Travel restrictions and border closures were an important part of the initial policy response to the pandemic (Figure 2). These measures directly hit trade in goods by disrupting cargo transport services as well as trade in services in different modes of supply by effectively stopping consumption abroad and limiting the physical presence of suppliers abroad. Moreover, even in

[2] See for instance Eichengreen and Irwin (2009) on the role of trade policy during the Great Depression and Bems, Johnson and Yi (2013) on the drivers of the trade collapse in 2009.

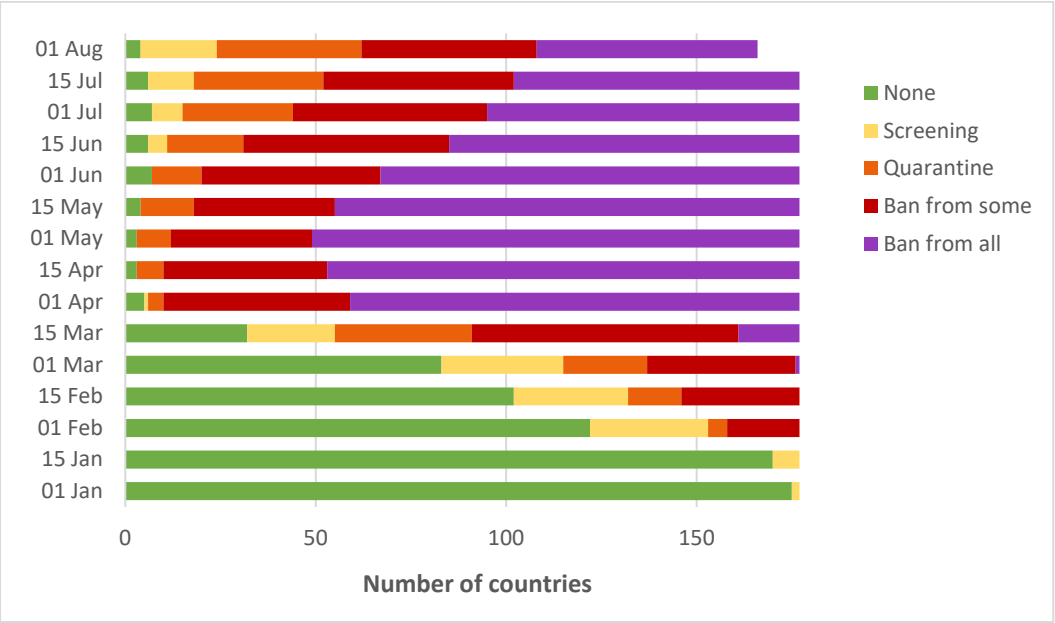
[3] The Global Trade Costs Index (WTO, forthcoming).

[4] We use a broad definition of trade costs that includes all factors that depress foreign sales more than domestic sales, such as transportation costs, policy barriers, information and transaction costs, contract enforcement costs and regulatory costs.

[5] We estimate trade costs in services from data on cross-border supply (mode 1 of the four modes of supply of services defined in the General Agreement on Trade in Services – GATS) and consumption abroad (mode 2 of the GATS). In the case of business and professional services, consumption abroad plays a lesser role (only 0.5 per cent of total trade, as per WTO TISMOS) and hence it can be assumed that most of the estimated trade costs relate to cross-border trade.

sectors that do not rely entirely on international travel for their product delivery, these measures have had a negative impact by curbing business trips. Face-to-face interaction is often necessary for establishing business relationships and managing global value chains, and it plays a significant role in the production of many services. Travel restrictions are thus likely to account for a substantial increase in trade costs for this important trade component for as long as they remain in place.

**Figure 2: International travel controls by stringency and date**




Source: WTO Secretariat's calculations based on Oxford COVID-19 Government Response Tracker (Hale, Webster, Petherick, Phillips and Kira, 2020). Data available for 177 jurisdictions until August 1 and 166 jurisdictions on August 1.

## Disruptions to freight transport

The performance of cargo transport services is crucial to trade costs in manufacturing. Both prices and the timeliness of transport services enter the trade costs formula.[6] Since the beginning of the COVID-19 crisis, maritime and land transport have remained largely functional, although they have registered sometimes considerable delays, but air freight transport has been severely disrupted.[7]

Maritime transport must cope with issues related to port logistics. Many economies have changed port protocols, ranging from port closures and crew-change restrictions to additional documentation requirements and physical examinations on vessels and of crew members originating from, or having called at, exposed economies, which disrupt shipping services.[8]

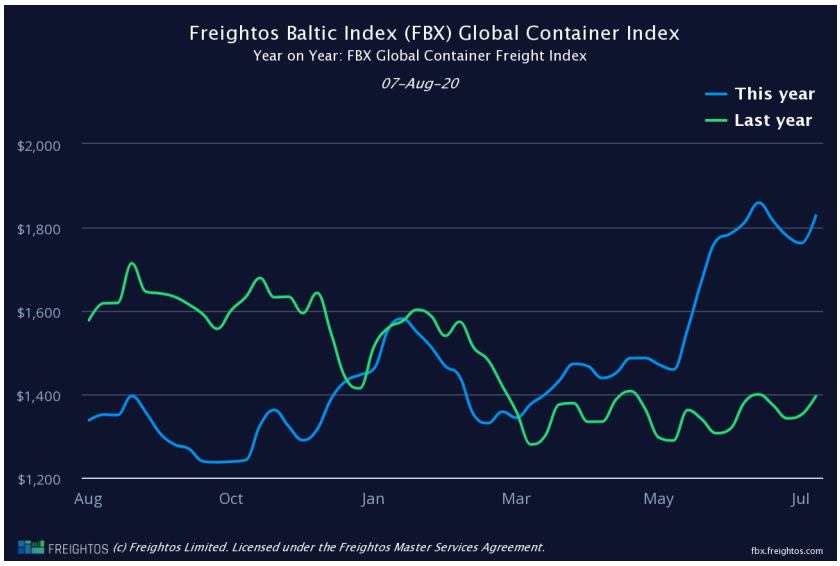
Moreover, to prevent lower demand from depressing shipping rates, the maritime freight transport industry has decreased its supply of sailings. As a result, while the cost of container shipping in January and February was comparable to the same period last year, the rebooting of the Chinese economy started pushing the prices up in mid-March, and the rebound of consumer demand in the United States caused a surge in May (Figure 3). It may take some time before prices return to equilibrium.

[6] Hummels and Schaur (2013) estimate that each day in transit is equivalent to an *ad valorem* tariff of 0.6 to 2.1 per cent.

[7] For a detailed account of the impact of COVID-19 on transport services, see the WTO information note on Trade in services in the context of COVID-19.

[8] See, for instance, Heiland and Ulltveit-Moe (2020).

**Figure 3: Shipping rates started climbing in March 2020 and surged in May 2020**

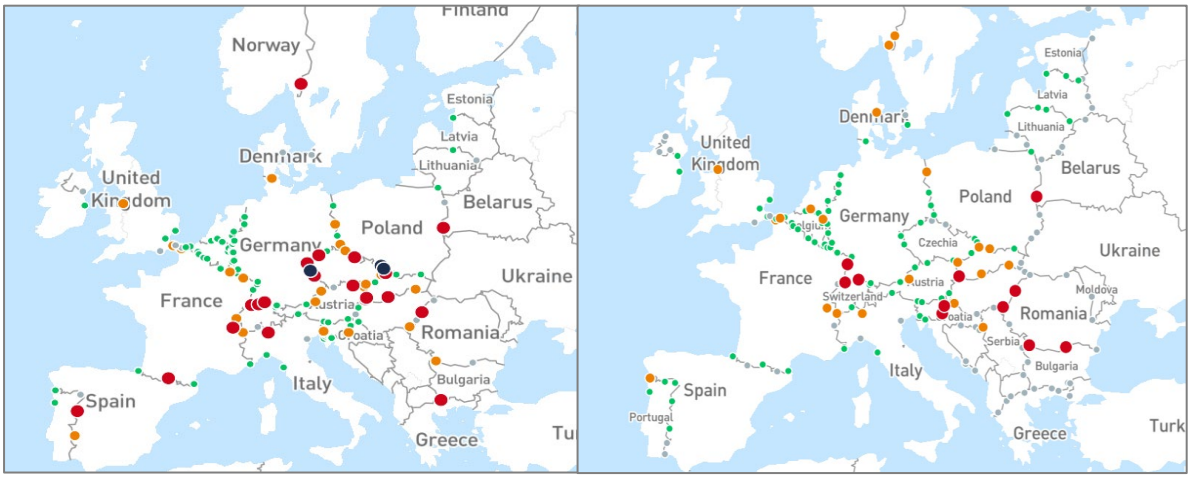



Source: https://fbx.freightos.com/

International land transport has been affected by border controls, sanitary measures (such as measurement of the temperature of drivers) and special arrangements, such as the closure of certain border posts and detours. The risks associated with travel to affected economies may also have resulted in a lack of drivers. These factors have caused delays in road cargo transport (Figure 4). To alleviate these issues, some exporters have tried to shift the load from road to rail, as the latter needs far fewer drivers and controls per amount of cargo.[9]

**Figure 4: Waiting times at European border-crossings**

April 14, 2020 at 14.00 May 18, 2020 at 14.00




- More than 10km queues
- More than 1-hour delays
- More than 30-min and less than 1-hour delays
- Less than 30-min delays

Source: https://covid-19.sixfold.com/

Travel restrictions have hit air transport particularly hard because they have led to a drastic reduction in passenger flights (Figure 5), which account for around half of air cargo volume.

[9] See, for instance, Italy's freight flows slow on COVID-19 travel restrictions (*The Journal of Commerce*, 2020).

Consequently, there has been a steep decline in air cargo capacity and a spike in air freight rates (Figure 6). Annually, global air cargo capacity shrank by 24.6 per cent in March 2020, and air cargo yields in April 2020 were almost twice as high as in April 2019.[10] While some airlines started flying passenger aircrafts without passengers just to carry cargo, it was only the historically high prices that induced them to do so. This costs shock is likely to subside only with a rebound in passenger transport.

**Figure 5: Flight disruptions are most visible in Europe**

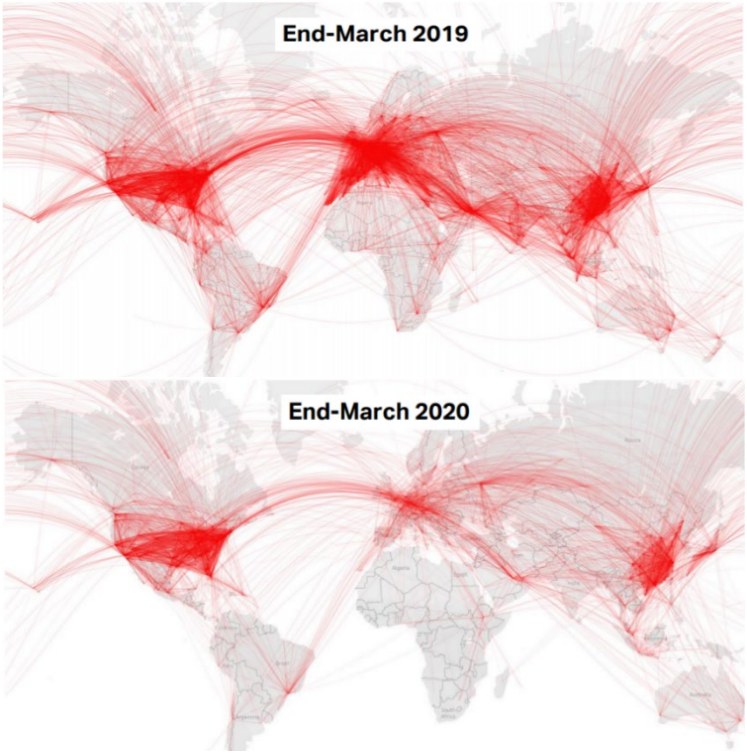
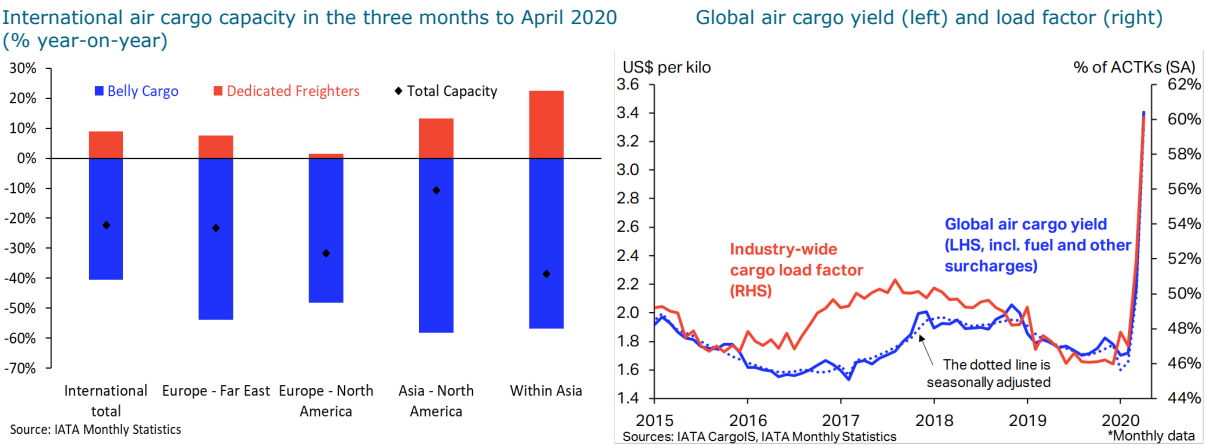





**Figure 6: Global air cargo capacity plummeted, causing a surge in air cargo yields**



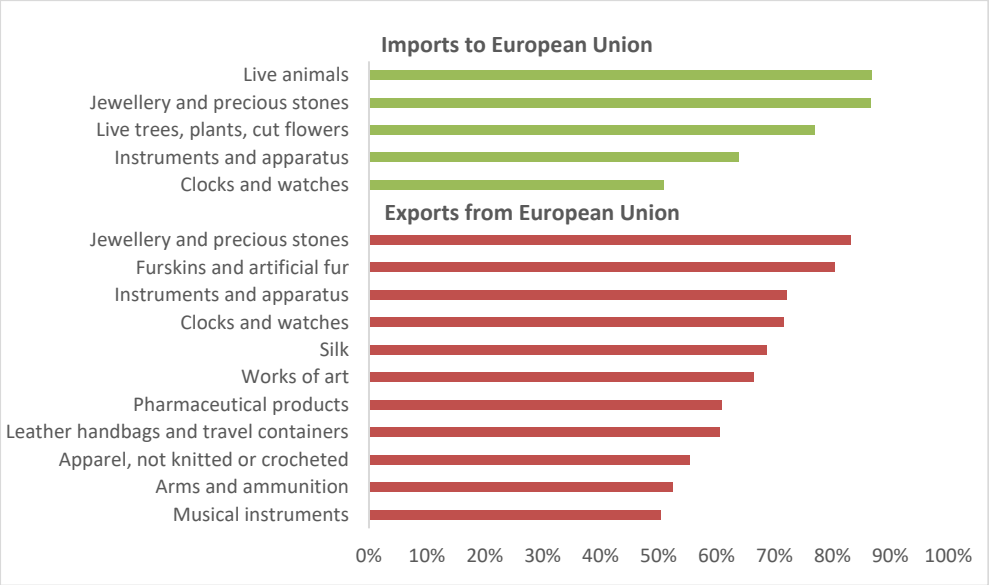



[10] Source: International Air Transport Association, 2020. IATA Economics' Chart of the Week – 01 May 2020 and Cargo Chartbook - Q2 2020.

The disruption to air cargo transport has had important consequences for producers of perishable goods, medical supplies and suppliers of parts and components, and it may further exacerbate the hit to complex manufacturing supply chains, which often rely on just-in-time fast delivery of their inputs (Figure 7).

### Figure 7: Product categories where air is the dominant transport mode

HS 2-digit product categories where more than 50 per cent of EU external trade value was transported by air in 2019




Source: WTO Secretariat's calculations based on Eurostat, "EXTRA EU Trade Since 2000 By Mode of Transport (HS6)" (DS-043328). Consulted on May 18, 2020.

Many governments are trying to do as much as possible to keep trade flowing, with measures such as exempting truck drivers, cargo aircraft crews and other freight transport staff from entry restrictions and quarantine requirements. However, in economies with low regulatory capacity and inefficient customs, travel restrictions are often less nuanced and generate relatively more disruptions to trade. Moreover, structural differences matter. For instance, in areas of East Africa where a large portion of international trade happens through small-scale traders, travel restrictions have the potential to disrupt regional trade and livelihoods severely.[11]

### Disruptions to personal and business travel

Services that rely on physical proximity between suppliers and consumers have been those most impacted by travel restrictions and social distancing. Trade in tourism, passenger transport or maintenance and repair services relies almost entirely on customers' or suppliers' movement abroad, and thus has been paralysed. Therefore, these sectors have seen a prohibitive increase in trade costs.[12]

The disruption in business travel is also likely to have an impact on trade in business and professional services. While many of these services can be delivered electronically, estimates indicate that travel costs account for a large share of the trade costs in this sector, suggesting that face-to-face interaction is an important ingredient in their production. The actual impact of travel restrictions will depend on how possible it is to substitute e-interactions for business travel. The most likely scenario is that some business travel can be replaced, but the adjustment will be neither instantaneous nor complete.

[11] See for instance the Great Lakes Trade Facilitation Project. For an overview of the impact on least-developed countries see the WTO information note on The COVID-19 pandemic and trade-related developments in LDCs.

[12] For details on the impact on tourism and transport services see the WTO information note on Trade in services in the context of COVID-19.

Business travel is essential in establishing and maintaining trading relationships. Business trips are also an important part of managing global value chains and maintaining their smooth functioning. While the ICT revolution has enabled the coordination of production activities across multiple locations and on long distances, business trips by managers and engineers are often still necessary when there are problems or changes in the production process. Restrictions on international travel may thus also impact trade costs in manufacturing sectors, especially in those with a high degree of customization and production fragmentation.

Improvements in ICT connectedness can help to mitigate the impact of travel restrictions and social distancing. Broadband and mobile coverage plays an especially important role for businesses that try to substitute physical delivery with digital interactions and need adequate access to ICT services. In the context of the COVID-19 pandemic, governments and private sector operators have been taking measures to enhance communications such as mobile and internet services, including by lowering the cost of internet access.[13] On the other hand, the capacity of networks has, in some cases, been challenged by the recent and sudden increase in traffic. The quality of ICT infrastructure and digital preparedness will thus be important factors in how well economies cope with the pandemic shock.

## 3. TRADE POLICY COSTS

Even though the world has witnessed a large wave of trade policy liberalization in the past three decades, estimates suggest that trade policy barriers and regulatory differences still account for at least 10 per cent of trade costs in all sectors (see Figure 1 above). These include tariff and non-tariff measures, temporary trade barriers, regulatory differences and the costs of crossing borders, as well as other policies that impact trade, such as the lack of investment facilitation or intellectual property protection.

International trade plays an important role in providing the supplies of products necessary to fight the pandemic. This has been reflected in the efforts of many governments to facilitate the imports of certain medical products and personal protective equipment (PPE), such as ventilators and facemasks. Facilitation measures have included eliminating import tariffs, establishing priority clearance channels, lessening and simplifying documentary requirements, and cooperating with other border agencies.

At the same time, global shortages of several products led many governments to impose certain export-restrictive measures. By the end of April 2020, at least 74 economies had introduced export prohibitions, licences or controls.[14] Most focused on the same products as the trade-facilitating measures (medical supplies, pharmaceuticals and medical equipment), but some governments extended the controls to additional products, such as foodstuffs and toilet paper. According to WTO rules, export restrictions should be targeted, proportionate, transparent and temporary. Most of the export-restrictive measures implemented in response to the pandemic were described as temporary, and many have already been removed.[15]

Beyond specific measures to facilitate trade in medical products and PPE, there have been general moves to facilitate the border clearance of goods, with automated procedures that reduce the need for personal contact. For instance, some members notified the WTO that during the pandemic, they were accepting electronic veterinary and phytosanitary certificates, rather than the standard physical certificates. If kept in place, such measures could lower the cost of crossing borders.[16]

Overall, changes in tariffs and regulatory measures were relevant only to a small subset of products and therefore global trade costs were probably not significantly impacted. The digitalization of customs and regulatory procedures may potentially have positive long-term effects on border costs.

[13] For more details see WTO information note on Trade in services in the context of COVID-19.

[14] EU member states are counted individually. See COVID-19: Trade and trade-related measures for a detailed list of the measures.

[15] According to Report on G20 Trade Measures (WTO, 2020), around 36 per cent of the COVID-19-specific restrictive measures implemented by G20 economies had been repealed by mid-May.

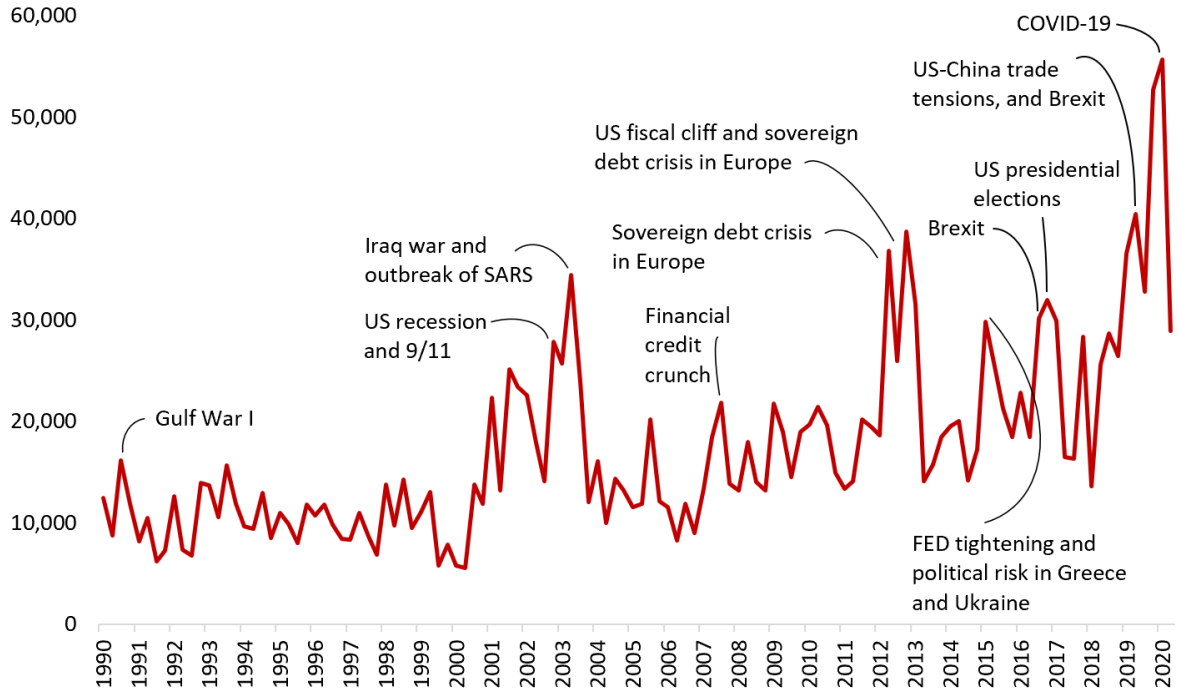
[16] For more details on changes in standards and regulatory measures, see the WTO information note on Standards, regulations and COVID-19 – what actions taken by WTO members?.

## 4. UNCERTAINTY

High levels of uncertainty magnify the impact of trade costs on international trade. Establishing trading relationships with foreign buyers or suppliers entails costs. It requires market research into tastes and preferences, acquiring language skills and conforming with foreign product or process standards. Uncertainty reduces the appetite of firms to invest, and the investment into fixed costs of exporting or importing is no exception. In this way, uncertainty magnifies existing trade barriers, adding its own share to trade costs (see Figure 1 above).

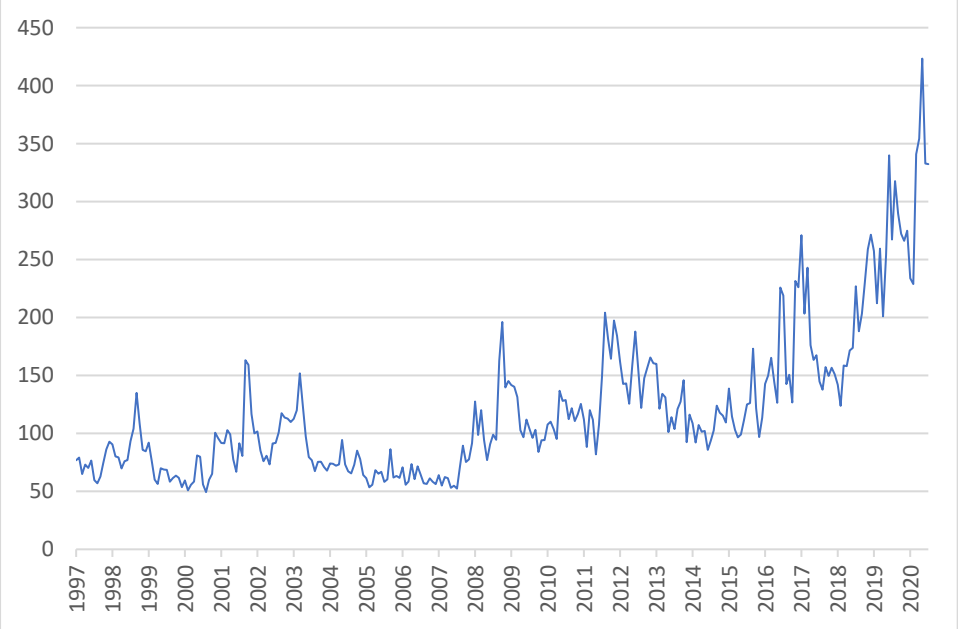
Several indicators of uncertainty have been shown to correlate with international trade and economic growth. Global uncertainty, measured by counting the frequency of words related to "uncertainty" in the *Economist Intelligence Unit* country reports, shows a striking increase (Figure 8). In the first quarter of 2020, for instance, the level of uncertainty was 60 per cent higher than that triggered by the Iraq War and the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003. A monthly measure of uncertainty stemming from economic policy environment has been high since 2019 due to trade tensions between major economies; while this level of uncertainty declined in January 2020, it reached a new peak at the end of May 2020 (Figure 9). Finally, a measure of financial volatility shows that, thus far, the uncertainty in the US financial market peaked in mid-March, when it came close to the level of the Lehman Brothers shock (Figure 10).

**Figure 8: Global uncertainty, first quarter of 1993 to second quarter of 2020**




Note: World Uncertainty Index, the measure is derived by counting the percent of word "uncertain" (or its variant) in the *Economist Intelligence Unit* country reports.
Source: Ahir, Bloom and Furceri (2018).

**Figure 9: Global economic policy uncertainty, January 1997 to July 2020**




Note: The Global Economic Policy Uncertainty Index comprises three components: newspaper coverage of policy-related economic uncertainty, the number of federal tax code provisions set to expire in future years, and the degree of disagreement among economic forecasters.
Source: https://www.policyuncertainty.com/global_monthly.html

**Figure 10: Financial volatility in the United States, 2 January 1990 to 7 August 2020**


Note: The index of daily implied volatility (over the next month) is conveyed by stock index option prices on the S&P500 index from the Chicago Board Options Exchange (CBOE). Shaded areas indicate US recessions.
Source: https://fred.stlouisfed.org/series/VIXCLS

Increased uncertainty may have another malign impact on trade costs, in the form of trade finance contraction. While trade finance has not received as much attention as other matters thus far during the crisis, the economic downturn is starting to take its toll. Some argue that emerging and developing economies are already seeing their sources of finance dry out disproportionately due to rising risk aversion among lenders and cash flow challenges for companies arising from the overall collapse in goods demand and supply;[17] this is limiting their access to essential goods and may have serious repercussions on health outcomes. Governments and international organizations are taking actions to insulate the financial system from a potential collapse that would exacerbate the

[17] Source: Financial Times, April 28 2020, "Trade finance hit as goods stack up".

crisis. A similar effort in the area of trade finance may prevent the export credit crunch from worsening both the trade and the health impact of the crisis, as emphasized in the recent joint statement by the WTO and six multilateral development banks.

## 5. CONCLUSION

Three main sources of trade costs currently have the potential to make a significant impact on international trade amid the pandemic. The most important are transport and travel costs. This is because they are both important determinants of overall trade costs and have been significantly affected by the pandemic. Trade policy is also an important determinant of trade costs, but most new measures, both facilitating and restrictive, have so far been limited to a narrow class of products. Finally, high levels of uncertainty magnify existing trade costs.

While many of the changes in trade costs can be expected to revert once the pandemic is brought under control, some may persist because of shifts in the policy environment or market dynamics.

For instance, government policy choices will play an important role in shaping and mitigating uncertainty-related trade costs. To the extent that government responses to the pandemic go on to increase – or reduce – trade policy uncertainty, they can be expected to increase, or reduce, trade costs in the future.

Another area where higher costs may persist is travel and air transport. First, governments may keep selective travel restrictions in their policy menu until COVID-19 has been eliminated globally. Second, airline bankruptcies may lead to industry consolidation, lower competition and higher prices in the longer term. Finally, there may be a more permanent shift in how people perceive the risk of flying, which would imply a higher perceived cost of travel.[18]

Pricier air freight transport and less travel would impact both goods and services trade. High-value products manufactured in global value chains may be disproportionately affected due to their reliance on air freight and the role that the movement of essential personnel plays in ensuring the smooth functioning of value chains. Other sectors that rely on business travel, such as business and professional services, services that require face-to-face delivery, and tourism may also need to adjust to higher travel costs. The transition to electronic interactions may lessen some of the impact, but this will vary across economies according to their ICT infrastructure and digital skills.

[18] After the terrorist attacks in the United States in 2001, it took two years for flights to return to pre-9/11 levels (Capital Economics, 2020. Will the coronavirus permanently change behaviours?). Moreover, these events permanently changed the perceived risk of flying and the airport procedures with which passengers need to comply.