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The role of international cooperation in building economic resilience

As responses to the 2008-09 global financial crisis and the COVID-19 pandemic have shown, lack of cooperation among governments can create significant tensions and lead to suboptimal outcomes. In contrast, governments benefit from acting cooperatively to enhance their resilience, whether they are preparing for future disruptions, coping with shocks or stimulating the recovery. International cooperation in the trade area can play an important role in building economic resilience to shocks by leveraging synergies and supporting a more open, diversified, inclusive and predictable trade environment.



Contents

1. Introduction	124
2. Why does international cooperation matter for economic resilience and what forms does it take?	124
3. International cooperation on non-trade policies can help reduce risk and vulnerabilities and enhance resilience	128
4. International cooperation on trade policies can reduce risk and vulnerabilities	132
5. International cooperation on trade policies can help cope with shocks	149
6. International cooperation on trade policies can help recover after shocks	165
7. Conclusion	168

Some key facts and findings

- Trade-restrictive domestic measures adopted in response to shocks are often characterized by negative spillovers, such as cross-retaliation risks and income and welfare losses.
- International cooperation can minimize negative spillovers and help governments to prepare for, cope with, or recover from shocks. International cooperation can mitigate the risks from trade policy uncertainty and help prevent trade policies from becoming a source of shocks.
- The WTO actively helps to advance trade cooperation and to make economies more resilient by supporting the smooth, predictable and open or freer international movement of goods and services and the diversification of supply sources and exports.
- International cooperation can play an important role in increasing the resilience of global value chains and securing essential goods and services, including COVID-19 vaccines, at a reasonable cost.
- WTO members could make an even greater contribution to building economic resilience by strengthening their cooperation on various issues, including transparency, export restriction and electronic commerce.

1. Introduction

As discussed in sections B and C, governments adopt different strategies, some of which involve trade policies, to prepare for future disruptions and enhance their economic resilience capacity. They also respond to shocks and stimulate recovery with various trade and non-trade policy measures.

Before disruptions and shocks strike, governments can benefit from cooperating on risk prevention and reduction and preparedness. Shocks that originate in one country may propagate to others through trade or other vectors of transmission. Risk reduction measures and resilience policies in one country will have positive spillovers in other countries, independently of whether the shocks are local, regional or global. In the presence of such spillovers, countries acting non-cooperatively may adopt less risk prevention, reduction and preparedness policies than would be optimal from a global perspective. International cooperation can help them move closer to the optimum level of risk reduction.¹

As part of their efforts to cope with shocks and to reinforce the recovery process, governments may also adopt policies with negative spillovers for their trading partners, such as restrictions in their exports of essential products, or subsidies which can have adverse effects on other countries. This chapter explains how international cooperation can help to limit the use of such measures.

First, this chapter will suggest why international cooperation matters for economic resilience, and the various forms that international cooperation takes, for example in terms of cooperation between international organizations or of trade agreements, including regional and plurilateral trade agreements. The chapter will then outline how international cooperation on non-trade policies interacts with international cooperation on trade policies to reduce risk and vulnerabilities and enhance resilience, before proceeding to discuss in more detail how international cooperation on trade-related policies can contribute to economic resilience, for example by helping to reduce risks and vulnerabilities for economies and prepare them for shocks. The chapter will examine how international cooperation on trade policies can assist governments in coping with shocks. The “recovery” aspect of economic resilience, and how trade policies may contribute to helping countries rebound more strongly and quickly after shocks, will then be addressed via an examination of the most salient or recurrent crisis-related policy issues. This examination will analyse how such issues are currently dealt with through policy cooperation, both

from an economic and a legal perspective. Finally, a number of areas in which further cooperation could strengthen the contribution of international trade to economic resilience will be highlighted.

2. Why does international cooperation matter for economic resilience and what forms does it take?

In all three stages of resilience – preparation, coping and recovery – the benefits from international cooperation can arise independently of whether the countries affected are rich or poor. In addition, international cooperation can involve an element of solidarity if it results in a transfer from richer to poorer countries, such as when a rich country provides aid to a poorer country hit by a natural catastrophe, or when donor countries and international organizations supply vaccines to low-income countries.

These considerations underline the importance of strengthening economic and financial resilience through increased global cooperation, to ensure the resilience of trade and assist trade in playing its role positively. International cooperation in the field of economic and financial resilience has, primarily since the 2008-09 global financial crisis, translated into various forms of “soft law” issued by groups of governments such as the G20 in the form of non-binding declarations or recommendations, or in “best practices” resulting from the consultation of expert groups convened by the United Nations or prepared by international organizations such as the Organisation for Economic Co-operation and Development (OECD). In both instances, the importance of trade in enabling resilience is reiterated.

Disaster risk reduction is another domain in which cooperation is essential. A number of international organizations work on aspects of resilience not directly related to trade, but for which trade can provide essential support. This is the case for weather forecasting (World Meteorological Organization – WMO), disaster prevention and reduction (United Nations Office for Disaster Risk Reduction – UNDRR), disaster relief (United Nations Office for the Coordination of Humanitarian Affairs – OCHA), climate change adaptation and mitigation (United Nations Framework Convention on Climate Change – UNFCCC), access to medication (World Health Organization – WHO and Gavi, the Vaccine Alliance) and financial resilience (International Monetary Fund – IMF, World Bank). The missions of all of these organizations can be facilitated by WTO norms on trade in goods, services and trade-related aspects of intellectual property.

More generally, while each of these organizations has separate domains of competence, improved capacities to prevent, mitigate, cope and recover from shocks may be achieved through enhanced coordination and inclusiveness in the international cooperative and normative process.

In comparison to financial resilience, multilateral cooperation in trade-related matters follows a somewhat different path. The 1994 Marrakesh Agreement Establishing the World Trade Organization (WTO Agreement), like the General Agreement on Tariffs and Trade (GATT) 1947 before it, provides for essentially binding rules and disciplines legally enforceable through a dispute settlement mechanism. The WTO Agreement also contains built-in flexibilities which allow members to respond to higher interests, such as health or national security.

The multilateral trading system originated in a major crisis: the Great Depression of the 1930s and the “beggar-thy-neighbour” trade policies applied at the time. The GATT 1947 achievements on tariff reduction alone are evidence of how the multilateral trading system can reinforce economic resilience by reducing trade costs and, more generally, maintaining trade flows, even in times of crisis.

While the term “resilience” appears neither in the GATT 1947 nor in the WTO Agreement, and only recently made its way into RTAs (see Box D.1), it can be argued that the GATT 1947 was already intended to contribute to a more resilient world economy by building a more stable and predictable multilateral trading system in response to the errors of the 1930s. The WTO Agreement can be seen, in this regard, as a continuation of the GATT 1947.

International cooperation also takes place at various levels. In addition to the multilateral trade norms of the WTO Agreement, countries also conclude trade agreements at the regional level (regional trade agreements or RTAs).

Another category of international trade norms is that of plurilateral agreements, which are negotiated and concluded in a WTO context, but outside a multilaterally agreed process, by a part of the WTO membership. In addition to the plurilateral agreements contained in Annex 4 to the WTO Agreement, during the Uruguay Round (1986-94) and since the early days of the WTO, groups of members have negotiated specific additional commitments which they have incorporated into their schedules and applied on a most-favoured-nation (MFN – i.e., the principle of not discriminating between one’s trading partners) basis. This category of agreements includes the

1994 Pharmaceutical Products Agreement (“Pharma Agreement”) and the 1996 Information Technology Agreement, both subsequently updated or extended.

Joint statement initiatives are also plurilateral discussions or negotiations. They are not part of a multilaterally agreed WTO process. They are proposed and discussed in the WTO context by groups of members which intend to negotiate agreements elaborating on WTO rules in specific domains. Joint statement initiatives currently exist in electronic commerce,^{2,3} investment facilitation for development,⁴ services domestic regulations,⁵ micro, small and medium-sized enterprises (MSMEs),⁶ and trade and environmental sustainability.⁷ Whereas agreements incorporated into individual members’ schedules, such as the Pharma Agreement, have already shown their relevance in terms of preparation and response to crises, joint statement initiative-based negotiations may also offer opportunities to enhance economic resilience if they can lead to new forms of cooperation and new disciplines in the WTO framework.

The existing body of rules and disciplines is complemented by an increasing number of joint actions decided at the level of heads of international organizations aimed at enhancing and structuring cooperation in certain domains, essentially by pooling information, technical assistance and other forms of capacity-building (WTO, 2021e). Some of these actions take the form of agreements between organizations defining common work programmes.

Plurilateral agreements and negotiations may be relevant in terms of resilience in that they build on the existing WTO disciplines, essentially in technical subject matters which, as will be explained further below, are often important for trade and economic resilience. Plurilateral norms discussed or negotiated in the WTO will be hereafter addressed together with the existing multilateral rules.

RTAs have – with some exceptions – evolved over the past decades from simpler forms of free trade agreements (FTAs) or customs unions primarily focused on eliminating “duties and other restrictive regulations of commerce”⁸ (i.e., “shallow” preferential trade agreements) into comprehensive economic cooperation agreements extending their coverage beyond traditional border measures to policy areas such as competition, foreign direct investment protection, environment or labour (i.e., “deep” preferential trade agreements) (Mattoo, Rocha and Ruta, 2020).⁹

Box D.1: Resilience in RTAs

While provisions in RTAs do not have to refer explicitly to resilience to be relevant to strategies aimed at supporting economic resilience, a limited number of RTAs incorporates provisions explicitly addressing resilience. These provisions cover a broad range of issues, from resilience in the face of climate change and natural disasters to cyber-attacks, as shown in Figure D.1.

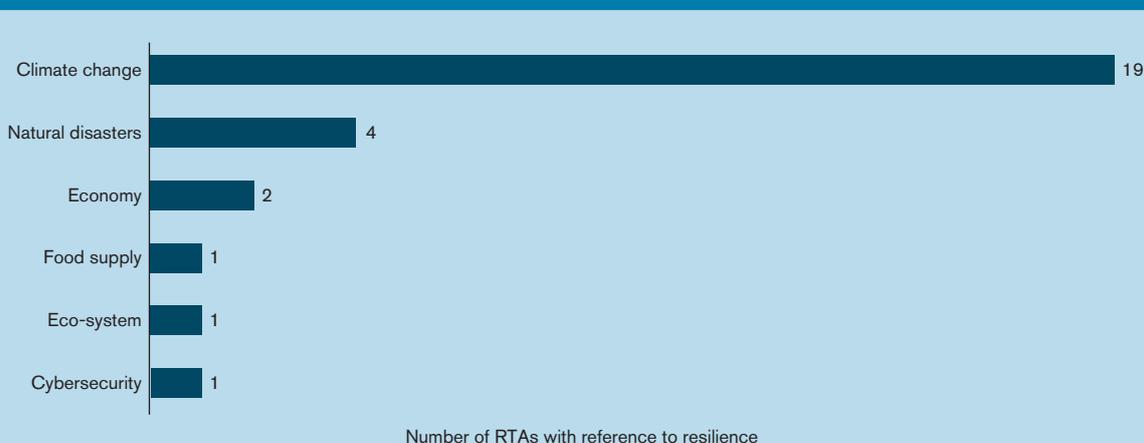
Although limited, the inclusion of provisions on resilience in trade agreements is not a recent phenomenon. The fourth Lomé Convention between the then European Community and the Organisation of African, Caribbean and Pacific States (ACP), signed in 1989, referred to structural adjustment support to assist ACP states achieve greater economic diversification as part of their effort to develop a larger measure of resilience in their economies. Similarly, the 1992 Agreement on the Common Effective Preferential Tariff (CEPT) Scheme for the Association of Southeast Asian Nations (ASEAN) Free Trade Area refers in its preamble to the parties' conviction that preferential trading arrangements among them act as a stimulus to the strengthening of national and intra-ASEAN economic resilience.

A couple of recent RTAs refer specifically to resilience in the face of natural disasters. For instance, the RTA between Argentina and Chile requires the parties to endeavour to manage the planning of fault-resilient telecommunication networks jointly in order to mitigate the impact of natural disasters (Monteiro, 2021a).

A limited but increasing number of RTAs refers more generally to resilience to climate change (Monteiro, 2016b). Several RTAs, including the RTA between the Eurasian Economic Union (EAEU) and Singapore, list climate-resilient development as an area of cooperation. Similarly, a few RTAs, including the RTA between China and Mauritius, identify as a cooperation area the promotion of environmentally-friendly production techniques and efficient management of natural resources to increase the resilience to climate change of sustainable agriculture and organic farming. Other agreements, including the RTA between Brazil and Chile, refer to cooperation on resilient water management. Similarly, some RTAs negotiated by the European Union, including with Georgia, promote cooperation on integrated coastal zone management to enhance the resilience of coastal regions to coastal risks, including the impacts of climate change.

Other specific resilience issues are only found in a limited number of agreements. For instance, the RTA between the European Union and Singapore mentions that Singapore's competent authority in charge of holding technical consultations on sanitary and phytosanitary (SPS) measures is the Agri-Food and Veterinary Authority that is responsible for ensuring a resilient supply of safe and wholesome food, among other things. Although a few RTAs include explicit provisions on cybersecurity (Monteiro and Teh, 2017), the RTA between the European Union and the United Kingdom is the only agreement to date explicitly to require the parties to endeavour to cooperate in relevant international bodies and forums, and to strengthen global cyber-resilience and enhance the ability of third-party countries to fight cybercrime effectively.

Figure D.1: Most provisions referring to resilience in RTAs relate to climate change



Source: Monteiro (2021b).

Note: Analysis based on 611 RTAs, including 563 RTAs notified to the WTO.

In terms of their normative content, RTAs often expand or deepen WTO disciplines (such provisions are called “WTO+” provisions). RTAs may also contain provisions on subjects which are not yet covered by the WTO agreements, such as competition, investment

and e-commerce, but also climate change and natural disaster management (see Box D.2). These provisions do not merely enhance RTA parties’ preparation for shocks. As normative models they pave the way for more international cooperation on economic resilience.

Box D.2: Natural hazards and related disasters in RTAs

RTAs are sometimes considered to be a laboratory in which new types of provisions are designed to address different challenges. This is the case with the management of natural disasters, in particular climatological, geophysical, hydrological and meteorological risks. These provisions complement other explicit provisions addressing other types of risks and disasters, including pests, epidemics, industrial and transport accidents, and civil strife and terrorism.

Although the inclusion of provisions explicitly addressing natural disasters in RTAs is not a recent phenomenon, the number of these provisions in any given agreement has increased over the years. This trend largely explains the high heterogeneity characterizing most provisions on natural disasters.

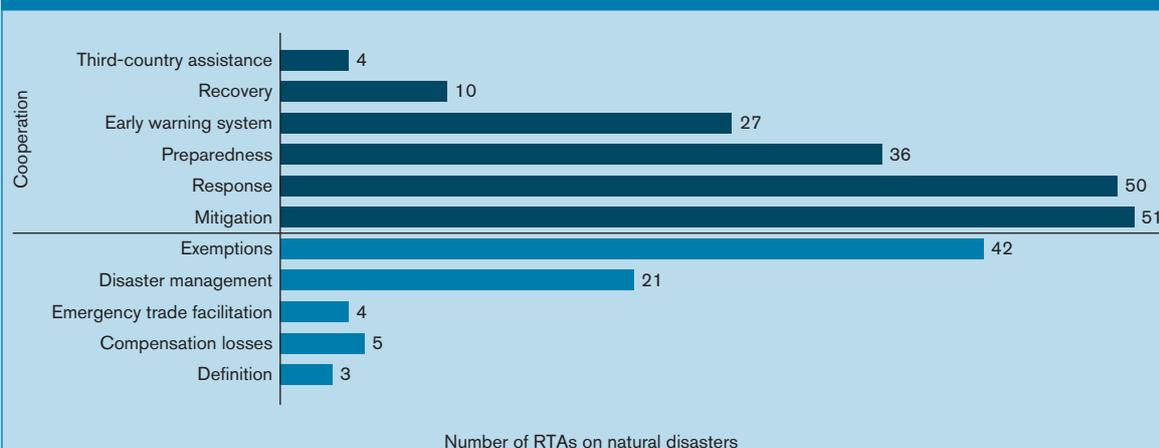
These provisions differ not only in terms of structure and location in RTAs, but also in terms of language and scope. While most provisions refer to natural disasters in general, a few provisions address specific types of disasters, such as drought, earthquake, flood, landslide, tsunami, volcano eruptions, and wildfire. Most provisions on natural disasters are only specific to a single or a few RTAs, and most of them are couched in best-endeavour language, indicating that parties do not have an obligation to cooperate, or to cooperate in a certain way, in case of disaster, but only to “try their best” under the circumstances.

Cooperation provisions are the most common type of provisions on natural disasters, as highlighted in Figure D.2. Disaster prevention, mitigation and response are the most common cooperation areas explicitly listed in RTAs (Monteiro, 2016b). Fewer RTAs explicitly address other aspects of natural disaster management, such as preparedness, early warning systems, and recovery and rehabilitation.

The most detailed cooperation provisions are found in stand-alone chapters on civil protection negotiated by the European Union, including with Georgia and the Republic of Moldova. While most cooperation provisions in RTAs relate to cooperation between the parties, a few provisions refer to third-country assistance.

Another relatively common type of provision lays down exemptions in case of natural disasters. Several agreements, such as the RTA between New Zealand and Singapore, exclude the urgent procurement of goods and related services in the event of natural disasters from the application of the chapter on government procurement.

Figure D.2: Explicit provisions on natural disasters in RTAs remain heterogeneous



Source: Monteiro (2021b).

Note: Analysis based on 611 RTAs, including 563 RTAs notified to the WTO.

Box D.2: Natural hazards and related disasters in RTAs (continued)

A few RTAs, including the Lisbon Treaty of the European Union, also stipulate that subsidies aimed at making good the damage caused by natural disasters will be deemed compatible with the agreement concerned. Other exemptions specified in some RTAs include the full rebate of customs duties and sales taxes on goods imported for rescue and relief assistance in case of natural disasters.

The remaining types of provisions on natural disasters, found in a relatively limited number of RTAs, cover various issues. Some RTAs compel the parties to adopt measures on natural disaster management.

For instance, the convention establishing the Economic and Monetary Community of Central Africa (CEMAC) requires its Conference of Heads of State to ensure that the fight against drought, among other natural calamities, be taken into account. Similarly, the environmental cooperation agreement negotiated along with the RTA between Canada and Chile requires the parties to develop and review environmental emergency preparedness measures. More recently, the RTA between Chinese Taipei and New Zealand requires the parties to eliminate all tariffs on a list of environmental goods, including instruments and appliances necessary to monitor, measure and assist planning for natural risks such as earthquakes, cyclones and tsunamis.

Besides tariff exemption, a few provisions on natural disasters relate specifically to trade facilitation. For instance, the amended RTA between Canada and Israel requires the parties to ensure that their customs procedures allow for the expeditious release of goods in emergency situations, such as natural disasters.

While many chapters on investment in RTAs include provisions on compensation for investment losses owing to a state of national emergency or civil strife, only a couple of agreements, including the RTA between Canada and the European Union, explicitly require the non-discriminatory treatment of restitution, compensation or other settlement of covered investments losses caused by natural disasters.

3. International cooperation on non-trade policies can help reduce risk and vulnerabilities and enhance resilience

International cooperation on resilience-enhancing policies can yield both individual and collective benefits, and coordinated actions by members can leverage synergies. Multilateral initiatives adopted by governments in relation to previous shocks provide substantial arguments in favour of countries cooperating to assist those under stress in containing crises (OHCHR, 2016; United Nations, 2015). Cooperation can help internalize some cross-border spillovers, thereby improving resilience. This subsection discusses how cooperation on a broad set of economic and financial policies can complement trade cooperation, and describes the synergies between trade cooperation and cooperation on disaster risk reduction.

(a) Enhancing economic and financial resilience

Over the last two decades, the world has witnessed five global recessions with adverse impacts on economic growth, employment and development across borders (Kose, Sugawara and Terrones, 2020;

World Bank, 2021d). In particular, the 2008-09 global financial crisis and the economic crisis caused by the COVID-19 pandemic which began in 2020 have had negative socioeconomic impacts of an unprecedented magnitude, clearly demonstrating the need for increased international cooperation. Containing global financial crises requires cooperation among countries because national interventions generate positive and negative cross-border spillovers. For example, after the 2008-09 global financial crisis, negative spillovers arising from national policies on bailing out big financial institutions through implicit subsidies justified the need for countries to cooperate to ensure bank resilience and global financial stability (Agénor and Pereira da Silva, 2018; Napolitano, 2011).

Various studies highlight that global financial crises create frictions in the international financial system and expose countries to excessive volatility. The rapid pace of financial globalization has led to an increase in external assets and liabilities of nations and raised new policy challenges due to the transmission and amplification of cross-border shocks. Factors such as high cross-border balance sheet exposure, fluctuations in interest rates and asset prices, agents' expectations and information effects, and trade linkages act as key propagators of financial spillovers and trigger shocks across equity, foreign exchange

and sovereign bond markets (Agénor and Pereira da Silva, 2018; IMF, 2014; IMF, 2016; Pesce, 2014). For example, fluctuations in interest rates in major advanced economies can affect other countries by altering the cost of external borrowing and amplifying domestic leverage. This can generate large negative effects when the borrowing country is under severe distress, and lead to a crisis (Agénor and Pereira da Silva, 2018).

Promoting financial stability and reducing global financial crises and cross-border shocks is fundamentally a global public good that requires special governance mechanisms and international cooperation (Agénor and Pereira da Silva, 2018; Currie, 1993; Napolitano, 2011; Pilbeam, 1998; Taylor, 2013). In this regard, Kaul (2020) points out three distinguishing features of global public goods that justify the case for international cooperation: transnational reach, the inability and insufficiency of actors to address them individually, and disparities in national priorities and preferences for dealing with them. Hence, when financial crises span countries and areas beyond national jurisdictions, reducing the crisis and mitigating its effects becomes a global public good, demanding a coordinated approach led by all or the majority of countries affected or concerned.

As discussed in Section C3, trade can be a powerful tool for increasing economic growth and productivity, giving countries more fiscal space to build resilience and preparation for shocks. The relevance of trade recovery and resilience was stressed in international cooperation initiatives on economic and financial resilience in the aftermath of the 2008-09 global financial crisis. In November 2008, G20 countries, in their Declaration of the Summit on Financial Markets and the World Economy, set out principles and decisions to sustain an open, resilient global economy in which trade would play a role in fostering economic growth and prosperity by reducing poverty and raising global standards of living (G20, 2008). Beyond assisting countries hit hard as a result of their lack of resources, the G20 also played an important role in increasing the number of countries coordinating global economic recovery beyond the narrow circle of the G7 or G8 countries (G20, 2009).

With similar objectives, the Commission of Experts of the President of the United Nations (UN) General Assembly on Reforms of the International Monetary and Financial System addressed how important it is for countries to cooperate in order to maintain coherence in financial, economic and trade policies, to ensure that trade contributes to recovery processes after crises (Stiglitz, 2010; United Nations, 2008). Both the G20 and the UN have stressed the WTO's role in

maintaining a global open economy by ensuring the consistency of national trade measures to multilateral trade agreements and providing a multilateral forum for countries to negotiate outstanding and new agreements and cooperation initiatives.

A decade after the global financial crisis, the G20 adopted a set of economic resilience principles that emphasized the benefits of international cooperation in designing efficient resilience policies maximizing positive cross-border spillovers resulting from fostering financial stability, confidence and growth (G20, 2017). The promotion of international trade and investment became one of the G20 economic resilience principles because of its role in reaping benefits for people, economies, societies and global systems (Atteslander and Ramò, 2020; G20, 2017; OECD, 2021d).

In response to the COVID-19 pandemic, the G7 and G20 have also recognized that the objective of building economic and financial resilience should support the various roles of trade in underpinning prosperity and development (G7, 2020; OECD, 2021d; OECD, 2021f).

International cooperation also plays a role in assisting countries that are hit harder and/or lack resources and abilities to cope. The G20 Declaration of the Summit on Financial Markets and the World Economy stressed that multilateral cooperation should help poorer and vulnerable countries to manage crisis responses and potential risks stemming from global financial crises (G20, 2008). In the aftermath of the 2008-09 global financial crisis, G20 initiatives led to the creation of the Financial Stability Board (FSB), which monitors assistance programmes provided to developing countries by multilateral institutions (Carney, 2017; FSB, 2011; FSB, 2014). The World Bank and the IMF provided substantial financial assistance to developing countries, which contributed to promoting economic activity, increasing reserves and liquidity, and fostering market confidence (IEG, 2012; IMF, 2008; IMF, 2015). The WTO mobilized various actors to cooperate on increasing trade finance availability and market conditions for both developed and developing countries (Auboin, 2009; OECD and WTO, 2009). In response to the COVID-19 crisis, G20 members implemented the Debt Service Suspension Initiative (DSSI) and the Common Framework for Debt Treatments beyond the DSSI, which aimed to provide temporary suspension of debt-service payments for vulnerable and emerging economies (World Bank, 2021b). The WTO, meanwhile, has continued its coordination of public-private initiatives on trade finance cooperation (Auboin, 2021).

The WTO contributes to coherence in international cooperation efforts aimed at building economic and financial resilience and enhancing the impact of trade in facilitating recovery, growth and development, in three concrete ways. The first is by strengthening the coherence of international trade and financial policies under working groups and initiatives such as the Debt, Trade and Finance Working Group and the Aid for Trade Initiative (WTO, 2005). The second consists of enhancing the transparency of trade and economic support measures adopted by countries in response to crises. An example of this is the series of trade monitoring reports developed by the WTO in response to the 2008-09 global financial crisis and the COVID-19 pandemic (WTO, 2021f). The third is by providing multilateral frameworks and fora for countries to review the consistency of their economic and financial policies with the multilateral trade agreements they have signed.

(b) Reducing disaster risk

There is a growing awareness of the need for governments to increase their resilience to natural disasters by reducing vulnerability and exposure to hazards. Preventing losses, alleviating the impact of a crisis and speeding up the rebound from that crisis require a planned approach to disaster prevention, reduction and preparedness, and the implementation of contingency plans. An important focus of international cooperation is to mitigate climate change, perhaps the most critical challenge to sustainable development facing the international community. A key step in these efforts is to exploit synergies between these policies and international trade (see Box D.3).

International cooperation also has an important role to play in enhancing the efficiency of national resilience policies. National policies can have strong cross-border effects. For instance, reducing the risk that an epidemic will arise in a particular country reduces the risk that this epidemic will spread to other countries. In the absence of cooperation, governments may not sufficiently take into account the positive effects that their measures can have on their neighbours or on their trading partners. Inversely, certain measures aimed at reducing the risks of importing a human or animal disease could negatively affect trading partners; cooperation can ensure that the negative spillovers of such measures are taken into account and mitigated.

Countries have adopted regional and international cooperation frameworks on disaster risk reduction to coordinate efforts and strengthen resilience to natural disasters (Buchholz, 2020; Thomas and López,

2015; UNDRR and CRED, 2020; Vision of Humanity, 2019). Such frameworks help countries to adopt an integrated approach and channel efforts towards disaster prevention and management, as well as recovery. They help to set country-specific priorities for action and targets, thus offering a mechanism for reviewing and reporting their progress and creating a virtuous cycle of knowledge and evidence for improved international policy and practice (UNDRR, 2017). Such national efforts then support and contribute to wider international policy objectives.

UNDRR, which is the UN focal point for disaster reduction, was created in 1999. UNDRR works with and supports governments, the international community and other UN agencies and international organizations in the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030, including through implementation, monitoring and sharing of effective strategies to reduce existing risks and to prevent the emergence of new risks.

The Sendai Framework, adopted by all UN member states in 2015, is a voluntary non-binding global blueprint for risk reduction and resilience-building, reflecting the change of focus from responding to disasters after they happen to strengthening resilience to hazards before a disaster strikes. The Sendai Framework encapsulates the global recognition that disaster risk is economic and financial risk and can only be addressed by better incorporating disaster risk reduction, prevention and resilience considerations into policy, law and regulatory frameworks that support risk-informed economic and financial decision-making. The Sendai Framework outlines four priorities¹⁰ to prevent new and reduce existing disaster risks:

- (1) understanding disaster risk;
- (2) strengthening disaster risk governance to manage disaster risk;
- (3) investing in disaster reduction for resilience; and
- (4) enhancing disaster preparedness for effective response, and to “Build Back Better” in recovery, rehabilitation and reconstruction.¹¹

It is important to note that the Sendai Framework enshrines the central role of international cooperation in ensuring effective implementation of risk reduction measures globally by committing governments to “substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national

Box D.3: Climate change mitigation and adaptation

The transboundary and transgenerational nature of the climate crisis makes it impossible for any country to manage it alone. Unilateral actions to mitigate its effects could be suboptimal and cause negative spillovers to other countries. One such example is the risk of carbon leakage, either directly, through emission outsourcing to countries with less stringent carbon policies (Nielsen et al., 2021), or indirectly through lower energy prices (REF). The lack of incentives to take substantive climate action on the part of some countries could undermine the efforts of others. For example, fossil fuel subsidies by some countries undermine efforts to reduce emissions by depressing the prices of fossil fuels and increasing their use (Global Subsidies Initiative, 2019).

Various global dialogues and negotiations, such as the United Nations Framework Convention on Climate Change (UNFCCC) (established in 1992), the Kyoto Protocol (1997) and the Paris Agreement (2015) have taken crucial steps to monitor and reduce greenhouse gas emissions and have attained significant positive impacts (Böhringer and Vogt, 2003; Kim, Tanaka and Matsuoka, 2020; Tulpulé et al., 1998). However, due to principles of differentiated responsibility, the major onus for emission reductions was initially placed on industrialized economies. As a result, reductions in countries with rigorous emission restrictions were being offset by increased emissions in countries with less stringent policies as production locations and international trade were shifted from one to another (Aichele and Felbermayr, 2015; Jiborn et al., 2018; Nielsen et al., 2021). Such differences in climate policy stringency have also raised concerns about rising emissions from the developing world, which now accounts for more than half of all greenhouse gases (Mattoo and Subramanian, 2013).

To be effective, resilient and sufficient, climate change adaptation and mitigation require a coordinated approach which strikes a balance between the right to growth of developing countries and their responsibilities towards environmental protection. Multilateral commitments like the Paris Agreement mark an important step forward in global efforts to combat climate change by binding and tracking the progress of all countries in their efforts to limit emissions and curb global warming (UNFCCC, 2020). Such broad engagements could potentially reduce the risk of carbon leakage compared to previous agreements, in which only developed countries committed to carbon reductions (Nielsen et al., 2021).

However, such engagements can only be effective if domestic climate policies address potential interactions between climate and trade regimes and harness international trade approaches that encourage and support the transition to low-carbon sustainable economies (Brandi, 2017). As discussed in sections B2 and C2, climate change increases risks for trade by negatively impacting production, trade patterns and supply chains. At the same time, however, emissions embodied in international trade amount to roughly 25 per cent of global greenhouse gas emissions (Peters et al., 2011; Wood et al., 2018).

This bilateral relationship highlights the need for synergies between international trade and climate change mitigation initiatives (World Bank, 2007). Exploiting such synergies is only possible through international cooperation. For instance, a Carbon Border Adjustment Mechanism (CBAM) is a climate policy aimed at ensuring that the price of imports is representative of their carbon content, thereby addressing carbon leakages and displacement of environmental impacts to less stringent regions. Although no country has yet adopted a CBAM, its potential environmental, social, and financial impacts, as well as the economic efficiency and feasibility the mechanism offers, including with respect to the rules of the WTO multilateral trading system (WTO, 2020i), would ultimately depend on its design.

actions for implementation of this framework by 2030” (see also the opinion piece by Ms Mami Mizutori). This is particularly important for the poorest countries, given that they are often not only more exposed to hazards but also hit the hardest, as discussed in Section B. Yet progress remains limited. Between 2010 and 2018, only 47 cents of every US\$ 100 in official development assistance was allocated to disaster risk reduction (Alcayna,

2020). Official development assistance for disaster risk reduction is often de-prioritized in light of other urgent humanitarian or domestic financing needs. In addition, international financial support remains mostly focused on preparedness, even though the focus seems to be changing rapidly to risk prevention, in part due to rising economic losses and the impact of COVID-19 and climate change.

The Sendai Framework is closely interlinked with and mutually supportive of other international efforts, notably the 2030 Agenda for Sustainable Development, the Paris Climate Agreement and the Addis Ababa Action Agenda. Together, these agreements have set the agenda for reducing risks associated with all hazards and unsafe conditions. The strong linkages across these agreements can help to identify and reduce systemic risks, and promote sustainable development (Handmer et al., 2019).

In parallel, over time, regional organizations like ASEAN and the African Union, as well as non-governmental organizations (NGOs), have also been proactive in fulfilling the commitments under the Sendai Framework and have developed their own frameworks for encouraging disaster risk reduction.¹² All of this falls under the umbrella of “disaster governance”, a term which encompasses interaction between the public sector, the private sector and civil society in a way that relies on both formal institutions as well as informal norms. This governance includes a broad range of horizontal and vertical linkages spanning local, sub-national, national, regional and international jurisdictions (Enia, 2020). These actions create incentives for governments to better assess, prevent, respond to and recover from the effects of extreme weather events, as well as to take measures to build resilience to rebound from unanticipated events (OECD, 2014).

At the same time, there is an increasing number of new kinds of public-private partnerships to support resilience-building in order to prevent and manage disasters. In 2017, the G7 launched the InsuResilience Global Partnership for Climate and Disaster Risk Finance and Insurance to bring together governments, civil society, international organizations, the private sector and academia. The central objective of the InsuResilience Global Partnership is to use climate and disaster risk finance and insurance solutions to promote the expansion of financial protection in developing countries as part of comprehensive disaster risk management (GIZ, 2016; InsuResilience Global Partnership, 2017). Such initiatives complement the increasing recognition of the need to incorporate financing solutions into the bigger disaster and climate risk management frameworks in light of the rapidly rising economic damages and the related consequences on the insurability of countries and regions (InsuResilience Global Partnership, 2020).

Neither the role of trade as a vector of shocks, nor its possible contribution to strengthening resilience to disasters features very prominently in disaster risk-reduction initiatives (with the exception of some work

on resilience related to the tourism sector, especially in the Caribbean region). This is, however, not specific to trade. “Disaster resilience” and “economic resilience” are often still treated as separate issues. With regard to the contribution of trade to strengthening resilience, this may in part reflect the fact that the interventions that leverage trade to make populations more resilient are undervalued when benefits are measured using avoided asset losses alone (see also the opinion piece by Stephane Hallegatte in Section B).

Similarly, disaster risk reduction and resilience-strengthening strategies may need to be given more importance in the trade policy debate. As already mentioned, the WTO framework has the potential to serve as a catalyst for disaster-affected members to prevent and reduce disaster risks and, where it is impossible to eliminate all risks, to prepare for, cope with and recover from natural disasters when they occur.

Yet, there is a broad consensus that disaster risk reduction policies should be more widely incorporated. UNDRR stresses the importance of moving from a response-based to a prevention-based approach that considers climate and disaster risk comprehensively. Many of the ongoing discussions among and between WTO members on trade, environment, climate change and sustainability can contribute to the shift from response to prevention.

These discussions could be leveraged to bring lessons learned and practical examples for the incorporation of disaster risk, including the effects of its cascading, interrelated and systemic nature on trade, into trade policy and decision-making for a resilient and sustainable trade system. In that context, several trade-related preparedness measures that could be taken by disaster-prone members and their trading partners to strengthen resilience have been identified in the literature (WTO, 2019b). Among them, strong emphasis is given to the elaboration of emergency legislation, agreements on the mutual recognition of professional qualifications (i.e. to facilitate the entry of qualified personnel), and the development of special features within trade preference schemes that can automatically be triggered in the event of a disaster.

4. International cooperation on trade policies can reduce risk and vulnerabilities

Section C3 discussed how governments can use trade policies to prepare for shocks by increasing

OPINION PIECE

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The business case for trade, risk reduction and resilience

In 2015, United Nations member states adopted the Sendai Framework for Disaster Risk Reduction, the global blueprint to reduce disaster losses, and they made reducing economic losses one of its seven global targets to be achieved by 2030.

Another Sendai global target is to enhance international cooperation to developing countries to help them reduce their disaster losses.

In this age of global crisis and systemic risk, the resumption of trade after a disaster event is often key to a sustainable and long-term recovery. The WTO has been called upon to consider the trade dimensions of several crises. The trade preferences granted to Nepal in the aftermath of the 2015 earthquake, and the tariff preferences granted to Pakistan to help its recovery after the 2010 floods, are cases in point.

In the wake of the devastation wrought by the Atlantic hurricane season in 2017, Dominica and other Caribbean states made a declaration at the WTO's 11th Ministerial Conference affirming the need for special consideration and targeted assistance to be given to small, vulnerable economies. These countries cited Aid for Trade, trade and transfer of technology, trade facilitation, trade finance and development

assistance as priorities for special consideration by the WTO.

The WTO has done much in recent times to highlight the links between economic resilience in disaster-prone countries, trade and international cooperation, and its members have shown good will in addressing the issues that disasters can create for members' trade and development.

This is all in keeping with the spirit of the UN Sustainable Development Goal 17, which stresses the importance of continued work for a fair, equitable, inclusive, transparent, non-discriminatory and rules-based multilateral trading system.

Whether they are triggered by natural, man-made, biological, environmental or technological hazards, financial and trade policy choices made in the coming years will shape our resilience to disasters for decades to come.

The right policies can boost supply and demand, and can restore trade after a disaster, while the wrong measures can undermine recovery and have a disastrous impact on achieving sustainable development.

Encouragingly, a dialogue is opening. Faced with an increasingly tight fiscal space, political leaders discussing development finance

in the era of COVID-19 have recognized the value of investing in anticipatory disaster risk reduction. There is a need to bridge short-term immediate demands with long-term resilience-building, whilst addressing climate change and ensuring environmental sustainability.

This is being accompanied by a rapidly changing regulatory landscape, as seen by the entry into force of the European Union taxonomy, the EU Sustainable Finance Disclosure Regulation (SFDR) and related work by the International Financial Reporting Standard (IFRS) Foundation and the Sustainability Standards Accounting Board (SASB) on climate and sustainability standards. Global standard-setters are working on climate and sustainability standards, and policy and business leaders are breaking new ground on the development of global risk data and analysis.

Aligned with this rapid progress, WTO members have shown their commitment to act on the Marrakesh Agreement and ensure that trade and economic endeavours are conducted "with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade

in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development" (Preamble to the Marrakesh Agreement Establishing the World Trade Organization).

There has been a welcome trend away from a reactive to a prevention-first approach as WTO members' understanding of the

systemic nature of risk expands. However, despite these advances, we have some way to go to ensure a future-fit trade system that builds and enables resilience and sustainable development.

We must make sustainability and resilience a baseline requirement for every trade and investment decision. To do so, we must improve how we monitor and manage systemic risk.

Only what is measured can be managed. We need greater understanding of the complex and changing risk landscape and its socioeconomic effects,

and more coherent definitions, standards, and tools to assess and manage risk.

This requires international cooperation and political support for building resilience to disasters into trade policy and linking it explicitly with disaster risk reduction, climate change adaptation, environmental protection and long-term sustainability.

Bold leadership is necessary. There is no time to lose in this era of climate emergency and pandemics.

economic resilience, and how international cooperation can play an important role. However, even without active policy coordination geared towards resilience, existing WTO rules and regional trade agreements already reduce the trade policy volatility that can result from shocks and/or that can be itself a source of shocks or a propagator of existing shocks.

(a) Reducing trade policy volatility

Trade policy volatility can be limited through trade policy cooperation, which can ensure that individual countries' trade policy changes, which would otherwise be discretionary, are bound by a multilateral framework. Ensuring that trade flows as smoothly, predictably and freely as possible is the WTO's main function, and this function, as recalled in the introduction to this section, is achieved through disciplines limiting members' discretion to adopt policies causing trade costs volatility and negative cross-border spillovers.

As shown in Section C2(d), trade can be a source of shocks if trade costs are volatile. While relatively little research has focused on the role of the WTO as a trade stabilizer, studies show that WTO membership reduces terms-of-trade volatility by influencing government behaviour (Cao and Flach, 2015; Mansfield and Reinhardt, 2008) and encourages authorities to resist pressure to resort to protectionist measures (Ruddy, 2010). Binding tariffs reduces the scope for their discretionary use (Bacchetta and

Piermartini, 2011). In a counterfactual scenario in which WTO members can arbitrarily increase tariffs, states are 4.5 times more likely to do so than under current bindings (Jakubik and Piermartini, 2019). Compared to the GATT, the WTO also provides for a deeper level of multilateral cooperation on trade, establishing many different mutually reinforcing channels that can reduce vulnerabilities. This is particularly true for new members, which, in order to accede to the WTO, need to undertake commitments to ensure that their trade regime fully complies with the extensive WTO framework. Those commitments usually cover a wide range of topics and are enforceable through the WTO dispute settlement mechanism. The WTO legal system nevertheless leaves room for limited exceptions and derogations.

Thus, this system of rules and flexibilities reinforced by individual commitments helps to deliver a more stable and predictable trading environment by shaping WTO members' trade policy responses to import shocks. In addition, considering that private traders and investors prefer stability in relative prices, lower export volatility itself has also been found to increase the level of exports (Mansfield and Reinhardt, 2008).

For integrated global markets to contribute to stronger resilience, governments need to have confidence in them (OECD, 2021f). In some countries, citizens believe that the benefits from globalization are not shared widely enough, that competition in the global economy is unfair and that everyone is not playing

by the same rules (OECD, 2017). Reinforcing trust in the multilateral system requires a demonstration of its benefits for people in their everyday lives, as well as of re-energized international cooperation. This necessitates multiple actions in several areas, including trade and investment.

There is by now a relatively broad agreement that reforms could improve the efficiency of the WTO's main functions. Proposals focus on three aspects: rule-making, transparency and monitoring, and dispute settlement. There is also an expectation that the WTO should finalize its work in a number of traditional areas and address new issues that have become increasingly important in recent years, such as the digital economy and climate change. While negotiations continue in some of the traditional domains, discussions have started in several new areas. The COVID-19 pandemic is also raising a number of new issues, given that, since its outbreak, some countries have implemented restrictive policies concerning essential supplies (Evenett et al., 2020).

Progress in all of these areas would contribute to reinforcing trust in the multilateral system. When the world is confronted with a crisis such as the COVID-19 pandemic, a functioning global trading system with the WTO at its centre can play a crucial role in ensuring the efficient supply of critical products, coordination of global action in the trade area, and support for the global trading system.

(b) Enabling import and export diversification

Trade can become a source of shocks when intermediate inputs are highly specific or if economies are too dependent on certain sectors, firms or products. As explained in Section C4, diversification reduces countries' exposure to country-specific demand-and-supply shocks, and governments can take various measures to diversify their economy. In most cases, cooperation can help governments to ensure that diversification policies are as effective as possible and that they do not have negative cross-border effects. Building on evidence suggesting that open and predictable markets enable import and export diversification (Giri, Quayyum and Yin, 2019), this subsection discusses how multilateral and regional cooperation, in the form of various disciplines and initiatives, can contribute to diversification by ensuring that markets are open and predictable, and how international cooperation can help to ensure that industrial policies are not used to diversify at the expense of trading partners and of an efficient allocation of resources.

(i) *Transparent, predictable and open markets support diversification*

Transparency and predictability of trade policies

Recent shocks have demonstrated that promoting and enforcing the transparency of trade-related policies, which is already important for the predictability of the global trading system in normal circumstances, becomes essential in times of crisis to maintain trust and adapt trade flows. For instance, during the 2008-09 global financial crisis, opacity and misunderstandings about the content of stimulus packages adopted by certain WTO members led to inefficient and trade-disruptive responses from others (Baldwin and Evenett, 2009a). The early stages of the COVID-19 pandemic saw frequent policy changes as the situation unfolded and countries sought to slow down the spread of the virus, mostly by limiting the cross-border movements of persons, but also that of certain goods, often leaving traders to guess what rules applied at any given time. Requiring countries to share accurate regulatory information, and to do it as much as possible on a "real time" basis, facilitates diversification of supply sources and export, avoids unnecessary disruptions in trade flows, and enhances resilience.

The WTO agreements, as well as many RTAs, include provisions to improve transparency in domestic trade policies. These provisions cover a wide range of issues, such as:

- the prompt publication of finalized laws and regulations, their availability to other governments and traders, and in some cases explanations of the purpose and rationale of decisions, or opportunities for comments;
- the establishment of contact points or "single windows" to treat requests for information from exporters/importers; and
- the obligation to notify trade policies or measures to the relevant WTO councils and committees or, in RTAs, to oversight bodies.

Moreover, the Trade Policy Review Mechanism (Annex 3 to the WTO Agreement), while not intended to convey real-time information to traders, provides a complete picture of the whole range of trade and trade-related policies of individual WTO members, as well as their impact on the multilateral trading system. Reports regularly issued on the trade policies of individual members by the WTO allow policymakers and traders to reach informed views on the prospect

of developing – and thus diversifying – their trade with those members.

Market-opening in goods and services

WTO rules facilitate the diversification of imports and exports through the MFN clause, which, broadly speaking, provides that any concession granted to one member must be extended to all WTO members. This places all foreign suppliers on an equal footing in terms of the customs duties or other measures at the border applicable to them and allows domestic importers to select their partners primarily on commercial grounds. The General Agreement on Trade in Services (GATS) requires treatment of services or services suppliers of all other members that is “no less favourable than that accorded to like services and services suppliers of any other country”.

It is possible to derogate to these rules to grant more favourable market access conditions to selected trade partners, particularly developing countries and, more specifically, least-developed countries (LDCs); this can also be accomplished through RTAs. While this can lead to trade diversion, such derogations can nevertheless promote trade diversification, in particular when they benefit infant industries in developing countries. Similarly, derogations are provided for under the GATS, for example by listing exemptions to the MFN obligation, under economic and labour market integration agreements, or through the recognition of other members’ standards or criteria for the authorization, licensing or certification of service suppliers.¹³

Another contribution to trade diversification is the reduction of tariffs¹⁴ in the context of multilateral tariff negotiations, which has substantially brought down the cost of trade since the inception of GATT 1947. In the context of such negotiations, WTO members bind tariffs on identified goods at a maximum level or rate (for *ad valorem* duties). Members are free to modify their applied rates, including by raising them to the level of their bound rates, as long as they do it on an MFN basis.¹⁵ Some members made use of such possibilities both during the 2008-09 global financial crisis (tariff increases) and since the outbreak of the COVID-19 pandemic (reduction or suspension of tariffs). The setting of maximum tariff rates, in conjunction with MFN obligations, protects existing trade and provides the security and predictability needed to conduct future trade (e.g., the conditions of competition), thus also facilitating its diversification.

Some members have agreed to permit MFN duty-free imports of goods in certain sectors. Of relevance

in the context of a shock where access to medical products is a condition for economic resilience, the 1994 Pharma Agreement eliminates tariffs and other duties and charges on a large number of pharmaceutical products and the substances used to produce them.¹⁶ WTO members participating in the Pharma Agreement have agreed to review this agreement periodically, with a view to updating and expanding the list of items covered.¹⁷

A similar role is played by the GATS, where concessions take the form of negotiated commitments on market access or national treatment in specified sectors. Market access commitments can be made subject to various types of limitations.¹⁸ National treatment is likewise subject to individual members’ commitments and to conditions set in their schedules. Members are free to tailor the sector coverage and substantive content of such commitments as they see fit. Granting national treatment implies that the member concerned does not apply measures that modify the conditions of competition in favour of domestic services or service suppliers.

RTAs still play an important role in market access in goods through tariff reductions (Mattoo, Rocha and Ruta, 2020), and participation by a country in several RTAs can be a way to diversify imports and exports. Moreover, as the scope of RTAs has expanded with the conclusion of “deep” trade agreements, issues covered in RTAs have extended to include trade in services, intellectual property (IP) or foreign direct investment. Transparency and predictability in domestic policies on foreign direct investment, as well as intellectual property rights (IPR) protection, are increasingly becoming a market access concern for investors and host states alike, as is the role of state-owned enterprises.

Some RTAs also cover trade-related matters not covered by the WTO, such as competition policy. Indeed, tariff preferences can be significantly eroded by monopolies’ discriminatory practices or other distortions of competition. Market access is also used in RTAs for non-trade related matters. Tariff reductions or exemptions or other preferences can be granted in return for the compliance of the other party with, for instance, international labour or environmental standards.

Electronic commerce as a trade diversification tool

As discussed in Section C3, electronic commerce (e-commerce) can assist in diversifying trade, particularly when, as has been the case since the outbreak of the COVID-19 pandemic, more

traditional forms of business are severely disrupted by lockdowns and restrictions in the cross-border movement of persons and goods. Digital trade can be particularly relevant to MSMEs, which may not otherwise have the resources to prospect new markets and business partnerships. It can also foster women's empowerment through their increased participation in international trade, thus creating a denser network of potential trading partners and favouring diversification.

The GATS applies to services produced, distributed, marketed, sold or delivered electronically, as well as to services involved in the marketing, sale and delivery of goods through e-commerce. Specific commitments found in members' schedules regarding financial, telecommunications and computer-related services, as well as logistics and ground, air and maritime transport, are therefore highly relevant to e-commerce.

A Work Programme on Electronic Commerce was adopted after the second WTO Ministerial Conference (1998), in which members committed to continuing their practice of not imposing customs duties on cross-border electronic transmissions (known as the "Moratorium"). The Work Programme and Moratorium were extended in 2019 until the 12th Ministerial Conference (planned for November/December 2021). At the 11th Ministerial Conference in December 2017, in an initiative distinct from the Work Programme, ministers representing 44 members (counting the European Union as one member) issued a joint statement on electronic commerce. By April 2021, negotiations in the context of this joint statement had finalized "clean" negotiating texts in preparation for the 12th Ministerial Conference on the specific issue of unsolicited emails and on e-signatures and authentication. The latter can be particularly relevant in situations of crisis such as the COVID-19 pandemic, where restrictions on travels and other services can make the signing in person of contractual documents or, more generally, the communication of original certificates or other documents in paper format, more complex.

The international regulation of e-commerce is more advanced at the RTA level. A growing number of RTAs notified to the WTO already contain a specific chapter on electronic commerce or individual e-commerce provisions (Monteiro and Teh, 2017; WTO, 2018a). RTAs' provisions on e-commerce generally aim to encourage the development of a coherent framework of rules for e-commerce and its expansion among parties to those RTAs. Some RTAs extend their disciplines on cooperation, transparency and non-discrimination in other sectors to e-commerce. Others address more e-commerce-specific topics, such as

cross-border information flows. Provisions related to customs duties and cooperation are among the most commonly found provisions on e-commerce in RTAs. Consumer/personal data protection, the applicability of WTO rules to e-commerce, paperless trading, non-discriminatory treatment for digital products and electronic authentication also feature fairly frequently. Regarding domestic regulations, some RTAs prevent their parties from discriminating between paper and electronic documents or between different forms of technology. Some also encourage their parties to consult with industry when developing e-commerce regulatory frameworks. Finally, some agreements call for cooperation and the sharing of experiences on laws, regulations and programmes.

Trust is essential to trade, but even more so in e-commerce. The need to protect consumers from fraudulent and deceptive commercial activities is acknowledged in RTAs' and, in some of them, parties are encouraged to adopt or maintain, or commit to adopting or maintaining, consumer protection laws. An increasing number of agreements request parties to adopt a legal framework that protects the personal data of e-commerce users having regard to applicable standards, criteria, guidelines and recommendations issued by relevant international organizations. Provisions on paperless trading are now often included in RTAs' e-commerce chapters. A few RTAs prohibit their participants from imposing restrictions on cross-border data flows as well as measures that require the localization of computer facilities in a country as a condition for conducting business in that country. However, this is often subject to general and security exceptions provisions. Finally, given the impact that electronic commerce has in the field of IP, recent RTAs contain e-commerce-related provisions in their IP chapters (WTO, 2018a).

Trade facilitation

As has been experienced since the beginning of the COVID-19 pandemic, tariffs are not the only impediment to trade diversification. Several factors, such as the customs classification of medical ingredients to produce vaccines, or the requirement of original paper certificates of compliance or origin, can delay the importation of essential goods and dissuade traders from diversifying sources of supply. The WTO Trade Facilitation Agreement (TFA), which entered into force in 2017, contains measures to expedite the movement, release and clearance of goods, including goods in transit; to improve cooperation between customs and other authorities on trade facilitation and customs compliance; and for technical assistance and capacity-building in this area.

Various provisions of the TFA have been found to facilitate both product and geographical export diversification, suggesting that implementing the TFA should create significant export diversification gains for developing countries, and particularly for LDCs (WTO, 2015).

Trade facilitation provisions in RTAs have evolved over time and their type, binding nature and degree of enforceability vary according to factors ranging from the level of integration of the RTA, to the practical issues where facilitation is most needed. As trade facilitation is also dependent on resources and access to technology, the level of development of the parties to the RTA affects the extent to which they can engage in trade facilitation (Mattoo, Rocha and Ruta, 2020; Neufeld, 2014; WTO, 2014).

The most common category of trade facilitation provisions in RTAs relates to exchange of information, primarily for enforcement purposes. Procedures for appeal or review of customs and other administrative decisions are also common. Whereas most RTA's trade facilitation chapters do not go beyond the requirements of Article VIII ("Fees and Formalities connected with Importation and Exportation") of the GATT 1994 in terms of customs fees and charges, several RTAs promote the use of international (mostly World Customs Organization (WCO)) standards for import, export and transit formalities. Others engage in legal harmonization by adopting directly enforceable customs codes¹⁹ or rules to be implemented by parties to such RTAs in their domestic legislations.²⁰ E-customs has a significant potential for trade facilitation and paperless trading features in RTAs between countries having access to the relevant technology.

One trade facilitation issue which is specific to RTAs is the implementation of "preferential" rules of origin, which ensure that only goods "originating" in parties to the RTA are eligible to preferential treatment. Preferential rules of origin can be very complex, and can vary from one FTA to the next. Their administration usually requires certificates of origin. This can increase trade costs and is an area of trade facilitation on which many RTAs focus (Mattoo, Rocha and Ruta, 2020).²¹ Ultimately, it is often easier to apply RTA trade facilitation provisions in a non-discriminatory manner to parties to the RTA and third parties alike, mainly because of the impracticality of maintaining two (or more) separate trade facilitation regimes. In this regard, RTA trade facilitation measures add to the TFA in contributing to easing trade flows and diversification.

(ii) Other related initiatives contributing to trade diversification

Aid for Trade

The WTO Aid for Trade initiative was launched at the Hong Kong Ministerial Conference in 2005 and is intended to assist developing countries, in particular LDCs, in building up their trade capacity and infrastructure. Aid for Trade operates through grants and concessional loans from donor countries targeted at trade-related programmes and projects. These include technical assistance (e.g. helping countries to develop trade strategies, negotiate more effectively and implement outcomes), improving infrastructure (e.g. building the roads, ports, and telecommunications that link domestic and global markets), enhancing productive capacity (e.g. investing in industries and sectors that allow diversification of exports), building on comparative advantages, and adjustment assistance (e.g. helping with the costs associated with tariff reductions, preference erosion, or declining terms of trade).

Aid for Trade has been found to enhance export product diversification (Gnangnon, 2019; Kim, 2019) and import diversification by increasing both the number of import commodities and the number of import partner countries (Ly-My, Lee and Park, 2020). All three components of Aid for Trade (aid for trade-related infrastructure, aid for building productive capacity, and aid for trade policy regulations and trade-related adjustment) have been found to contribute significantly to the import diversification of recipient countries.

Trade finance

MSMEs amount to 95 per cent of business globally and 60 per cent of global employment. Their participation in international trade could significantly contribute to the diversification of supply sources, yet they remain underrepresented (WTO, 2016). One reason is that the international legal environment insufficiently takes their needs and constraints into account, particularly in terms of trade financing, cross-border payments and trade facilitation.

Trade finance is essential to allow firms, and particularly MSMEs, to diversify import and export markets, but trade finance tends to be increasingly difficult to obtain in middle- and low-income countries. During the 2008-09 global financial crisis, which significantly impacted the availability of trade finance, the WTO, among other contributions, engaged with regulators to ensure that improved access to trade finance be reflected in the new financial stability rules.

A limited but increasing number of RTAs includes explicit provisions on MSMEs (Monteiro, 2016a). At the WTO level, efforts to facilitate MSMEs' participation in international trade are currently conducted by an informal working group on MSMEs created in December 2017 at the WTO's 11th Ministerial Conference. This informal working group comprises WTO members of all regions and levels of development. It has put forward a package aimed at enhancing MSME access to market and regulatory information, promoting the inclusion of MSME-related dimensions in trade rule-making, encouraging the effective application of trade facilitation measures and full implementation of the Trade Facilitation Agreement, and increasing MSME access to finance.

The Declaration on "Access to finance and cross-border payments" forms part of the package of six recommendations and declarations aimed at addressing challenges smaller businesses face when they trade internationally, which was adopted by the Informal Working Group on Micro, Small and Medium-sized Enterprises at its meeting of 11 December 2020. The Declaration calls on WTO members to consider the trade-related aspects of MSMEs' access to finance and cross-border payments. This should be done more particularly through the exchange of best practices and information-sharing on relevant technical assistance and capacity-building.²² The Declaration also welcomes international initiatives aimed at facilitating a global legal identification ("Legal Entity Identifiers")²³ system for companies, and invites WTO members to cooperate in such initiatives.

Investment facilitation and investment protection

Trade and investment are intimately linked. However, while trade in goods and investment in goods production remain subject to two different legal regimes, despite increasing synergies between the two, the GATS already covers investment in services in the third of the four modes of supply defined in Article I.2(c) of the GATS, through the establishment of a commercial presence in a partner country.

International rules on investment and investment facilitation promote diversification and global value chains by allowing, for instance, the establishment of production facilities closer to suppliers or consumers. A first initiative to pursue "structured discussions" on investment facilitation in the WTO context was agreed upon by a number of members at the 11th Ministerial Conference in 2017 with the aim of developing a multilateral framework for facilitating foreign direct investment (FDI) for development purposes. Further

to a second Joint Ministerial Statement on Investment Facilitation for Development, issued on 22 November 2019, participating members decided to move into negotiation mode in December 2019. Negotiations are ongoing, based on the informal consolidated text circulated by the Coordinator on 2 March 2021. Participation in this joint initiative is open to all WTO members (WTO, 2019d).

An agreement on investment facilitation could allow a better flow of investment into supply chains located in developing countries thanks to increased certainty and predictability. If so, it could generally raise these countries' levels of economic resilience by contributing – in the context of a preparation for future shocks such as a new pandemic – to expanding their production capacities in domains in which they are currently limited, such as medical products, including personal protective equipment (PPE), tests, medicines, and even vaccines.

Over the past decades, an extensive network of generally bilateral investment treaties has been built with the objective of liberalizing and protecting FDI. With the entry into force of the GATS and the subsequent development of "deep preferential agreements", these standalone bilateral investment treaties are now being complemented or replaced by investment chapters in regional trade agreements (Mattoo, Rocha and Ruta, 2020). Many RTAs opening up trade in services now extend coverage of investment beyond the GATS mode 3 service provision, and regulate a broader investment framework, including areas such as investment in goods, IP and portfolio investment. A lot of recent RTAs also highlight and incorporate sustainability as part of their investment objectives, adding to the potential of investment as an instrument of resilience.

Recent years have witnessed changes in the nature and scope of investment protection, allowing governments to engage in social, health or environmental policies without being challenged by investors for alleged indirect expropriation or lack of "fair and equitable treatment". One important change has been the tightening of the definition of "investment" (Mattoo, Rocha and Ruta, 2020). Many investment chapters of RTAs are now limiting the types of assets that fall within their scope by adopting a closed-list definition of investment instead of the previous open-ended ones, excluding various types of assets such as certain commercial contracts, certain loans and debt securities, and assets used for non-business purposes, or using a more selective approach to IPR as protected assets. Similarly, RTAs have also introduced changes in the definition of "investor" and, hence, of those who can enjoy the

protections accorded by their investment provisions. This evolution is considered to have generally brought greater certainty to the interpretation and implementation of international rules on FDI.

Another significant evolution has been the introduction into RTAs' investment chapters of market access provisions, whereby parties agree to liberalize their regulatory regimes with respect to foreign investment. These provisions have helped developing and emerging economies to channel resources to important sectors and to make domestic industries more efficient, globally competitive and integrated within global production networks. More generally, balanced FDI rules can promote efficient labour allocation, higher salaries and local industry expansion in the host country, allowing it to withstand disruptions better and to attract international support in case of adversities (Adams, 2009).

E-commerce and cybersecurity

As discussed above, e-commerce can play a significant role in diversification, particularly when other forms of doing business are disrupted. The COVID-19 pandemic has accelerated the digital transformation of the global economy, and recovery from the pandemic is unlikely to reverse this trend. However, this transformation may widen the digital gap between rich and poor countries, raising new trade policy challenges. Equal access to the benefits of e-commerce may justify that the current discussions taking place at the WTO consider means to avoid or limit the widening of the divide, as new technologies such as 5G telecommunication are being rolled in.

Trade spurs innovation which, in return, expands trade into new domains, such as trade in data (WTO, 2020g). Because data can be particularly sensitive, trade in data needs to be protected against fraudulent actions. Whereas e-commerce represents an opportunity for MSMEs to engage in international trade, MSMEs often lack the resources to invest in cybersecurity. Cybersecurity is not only essential for innovative forms of trade. Both trade in goods and trade in services, and not only through e-commerce, heavily depend on the reliability of firms' IT resources and telecommunication networks. Enhanced international cooperation on cybersecurity, as it relates to the specific constraints of international trade, needs to be considered.

Competition

As discussed in Section C4, diversification can be impeded not only by government measures but also

by anti-competitive practices in countries in which firms seek to diversify their sources of supply or to export because of cartels or abuses of dominant position. After the 1st WTO Ministerial Conference (1996), a Working Group on the Interaction between Trade and Competition Policy (WGTCP) was established to study various aspects of this issue, with the participation of all WTO members. The Doha Ministerial Declaration (2001) focused the mandate of the WGTCP on matters such as hardcore cartels and on support for progressive reinforcement of competition institutions in developing countries through capacity-building. A reactivation of the WGTCP could help to address some of the obstacles to the diversification of supply sources and export markets originating in anti-competitive practices.

(iii) Industrial policies

As explained in Section C4, while industrial policy can be part of the toolkit to foster trade diversification, other forms of government intervention – such as reforms to the business and investment climate, trade and investment policies that are not biased against exporting, and policies that increase competition in markets of factors of production, products and services – might be more appropriate to foster diversification than industrial policy. This is because targeted industrial policy interventions are more distortive than most of those other policies, and raise various difficulties, such as vulnerability to rent-seeking (i.e., seeking to gain added wealth without making any reciprocal contribution of productivity), or difficulties related to identifying spillovers that warrant sector-specific interventions (WTO, 2020g).

As explained in the *World Trade Report 2020*, many countries use active and targeted industrial policies – often involving the use of instruments such as financial support or investment incentives – to steer capital and labour into activities that the markets might not choose. Market-distorting government support in the context of industrial policies can lead to significant trade frictions and may best be addressed through international cooperation. It is important to distinguish the sort of longer-term support that can distort markets from the emergency support that governments provide in the context of a pandemic or of other crises, and which are necessary measures in the face of significant, possibly historic, economic crises. However, the limit between the two categories can sometimes be blurred. As discussed below, forms of emergency support can also be used for industrial policy purposes, and it may distort competition in the long run, in which case it should also be addressed through international cooperation.

In recent years, concerns have been voiced by some WTO members regarding possible gaps in existing disciplines on subsidies which could be discussed at the multilateral level (OECD, 2021f; WTO, 2020g). A first important gap concerns transparency. In order to facilitate a discussion on government support and to develop effective disciplines to cover existing and potential new support, information on the nature and scale of government support would be very useful, if not indispensable. Yet such information remains limited. A second important gap that may need to be addressed concerns the proper identification of the ultimate beneficiary of government support in global value chains. Identifying the ultimate beneficiary of government support when the effects of such support propagate through entire value chains that span multiple industries and countries can be difficult. The third gap involves concerns that have been raised regarding state-owned or state-controlled enterprises, which can be both significant recipients and providers of support.

(c) **Strengthening the resilience of global value chains, in particular for essential goods**

In a number of countries, shortages of PPE and other essential goods in the early stages of the COVID-19 pandemic raised concerns about dependency or over-reliance on imports of essential products, as well as about the vulnerability of GVCs. In response to these concerns, some politicians called for the adoption of industrial policies to reduce dependence on global supply chains. As discussed in Section C3, governments can use various trade-related strategies, for example subsidies, tax incentives, tariffs, local content requirements, investment restrictions or the easing of investment-related regulations, to encourage reshoring of production and the diversification of input supplies in value chains. Such policies have high costs in terms of efficiency, entail negative cross-border spillovers, and could ultimately trigger protectionist reactions from other countries, inducing cross-retaliation and further income and welfare losses (OECD, 2020d). Governments could then be tempted to increase fiscal incentives or to relax labour or environmental standards to compensate for additional costs, with the risk of a race to the bottom.

A number of other options are available to governments to enhance resilience by reducing vulnerability to disruptions in the supply of essential goods. These include promoting transparency in value chains producing essential goods; building inventory stocks, or encouraging firms to build

inventory stocks; facilitating trade; ensuring mutual recognition of standards for essential products and essential inputs for these products; and encouraging the adoption of flexible production methods that allow for quickly switching production. Consumer behaviour with regard to essential goods tends to change drastically during certain types of crises, as demonstrated by the COVID-19 pandemic.²⁴ Without sufficient inventory stocks, shortages can arise as consumers stock up in preparation for potential quarantines. Inventory stocks are costly, but having too little stock is risky. Thus, firms face the challenge of meeting demand during normal times in a cost-effective manner, while maintaining the ability to meet exceptional demand peaks in response to public health emergencies. They may decide to bolster inventory stocks through backup capacity that comes into production (or is diverted from other goods) when demand is expected to exceed inventory (Craighead, Ketchen Jr and Darby, 2020).

International cooperation can play an important role in helping governments to increase the resilience of GVCs and secure essential goods at a reasonable cost by discouraging reshoring policies and promoting transparency on essential goods (in particular with regard to production capacity and bottlenecks in value chains), facilitating trade and mutual recognition of standards, (in particular for emergency goods), and holding inventories to prevent excessive stockpiling. All of these forms of cooperation, short of substituting for national policy options, can usefully complement national diversification or stockpiling policies.

International cooperation could take place at different levels. Multilateral cooperation may be possible in some cases, but cooperation at the regional or plurilateral levels may be easier to achieve; for example, after a short non-cooperative episode in the initial stages of the COVID-19 crisis, EU member states quickly reverted to cooperation. Since 2017, groups of WTO members have begun talks that may lead to open plurilateral agreements on specific trade and investment-related policies. Open plurilateral cooperation could offer interesting prospects for groups of countries to explore and develop their potential common interests on regulatory matters, while safeguarding core aspects of their national regulatory sovereignty (Hoekman and Sabel, 2019).

(i) *Disciplining reshoring policies*

Given the negative cross-border spillovers that reshoring policies generate, governments may collaborate to impose further disciplines on the use of such policies. First, more transparency on reshoring policies is needed. The WTO and other international

organizations have gone to considerable lengths to document the use of measures to promote reshoring by governments since the outbreak of the pandemic.²⁵ More evidence on the cross-border spillovers of such policies would also be useful. Second, while most of these instruments are, in principle, covered by multilateral disciplines, the legality of the measures typically depends on their design and implementation. Moreover, these disciplines still leave considerable space for governments to implement reshoring policies. There may, therefore, be room for discussing further tightening of the disciplines on some of the reshoring policies to limit their negative impact.

In light of the above, it should not come as a surprise that government financial support for reshoring is not encouraged by WTO rules. Financial contributions conferring benefits on specific recipients are divided into two categories of subsidies: prohibited subsidies and actionable subsidies. The former are presumed to have negative effects on trade and are, therefore, banned. The latter are subject to WTO disciplines only insofar as they cause adverse effects to another member. Subsidies “contingent [...] upon the use of domestic over imported goods”²⁶ (“local content subsidies”), which can be used by a government as an incentive for companies to re-locate their production on its territory, fall within the category of prohibited subsidies.

Another “local content” threat to an efficient and resilient functioning of GVCs is the requirement that products sold on a given market incorporate a certain percentage of locally sourced inputs or, in the case of a foreign firm having production facilities in the country concerned, matching the quantity of imported goods with a ratio of locally produced goods. Local content requirements were prohibited by the GATT long before the concept of GVCs was introduced in trade literature. Although imposing a minimum threshold of local content may promote interactions between firms in the host markets and may, in some circumstances, reduce international firms’ exposure to external risks and shocks, such requirements conflict with the GVC rationale to produce certain goods or intermediary goods in the countries offering the best conditions in terms of comparative advantage. The WTO Agreement on Trade-Related Investment Measures (TRIMs Agreement) provides that no WTO member shall apply any trade-related investment measures inconsistent with Articles III (“National Treatment on Internal Taxation and Regulation”) and XI (“General Elimination of Quantitative Restrictions”) of the GATT 1994. To this end, an illustrative list of TRIMs deemed to breach those provisions is appended to the TRIMs Agreement.

Regarding regional disciplines on local content, some RTAs simply refer to the TRIMs Agreement. Others, such as the RTAs concluded by the United States, Canada and Japan, explicitly prohibit local content requirements, trade-balancing requirements, export controls, and foreign exchange restrictions related to foreign exchange inflows attributable to an enterprise. Others go beyond the TRIMs Agreement by applying disciplines on performance requirements for both goods and services, or by adding additional limitations on, for example, forced technology transfer, the hiring of a certain number or percentage of nationals, or the exclusive supply of the goods or services produced (Mattoo, Rocha and Ruta, 2020). Moreover, an increasing number of RTAs include a chapter on FDI. The conditions imposed on FDI in RTAs are discussed in Section D4(b)(i).

(ii) Collecting and sharing information on value chains

Given that GVCs are necessarily international, cooperation between governments to strengthen the resilience of value chains is a sensible approach. As no single government is likely to have access to information on production over the full length of a value chain, they may cooperate with other governments to collect and share information on potential concentration and bottlenecks upstream and/or to develop stress tests for essential supply chains (Hoekman et al., 2021; OECD, 2020e). More communication can certainly lead to more transparency and more confidence in GVCs. Firms need systems to monitor market conditions and identify slack and chokepoints in their global network so that they can adjust production and respond to changes in demand. Governments need information systems that allow them to determine where supply capacity exists (Hoekman et al., 2021). To anticipate and mitigate disruptions, it is important to know exactly the level of inventory stocks, as well as output all along the value chain. Firms can generally assess demand and their supply options, but governments often do not have direct access to such information. Identifying bottlenecks in supply chains and measures to address them therefore requires cooperation between industry and government, as well as among governments.

While individual lead firms know their supply chains, they may not wish to share this information, as they may consider it to be business sensitive. Conversely, governments may require firms to share more information on the value chains of essential products, and such information may be shared with other governments. As noted by Hoekman et al. (2021), some regulators – notably the New Zealand Medicines

and Medical Devices Safety Authority – already require approved product marketers to disclose their supply chain, including where active ingredients for medicines are made and where they are packaged (Ross, 2020). It would be interesting to assess if and how such requirements have contributed to enhancing the robustness of value chains and whether they helped to ensure the supply of essential products during the COVID-19-related crisis.

Traceability has also become an important part of the production process for food products. In the case of agri-food production, a system to facilitate collecting and sharing information on global agricultural markets – the Agricultural Market Information System (AMIS), established at the request of the G20 – already exists (FAO, et al., 2011). This system has helped countries generate valuable information and an international expertise network to inform coordinated policy responses with regard to shocks (Hoekman et al., 2021; OECD, 2021f).

(iii) Facilitating trade and cooperating on standards

Lowering trade costs is essential to ensure the resilience of GVCs, and tariff reductions and the opening of certain services markets can reduce trade costs. Reducing administrative burdens and delays related to border controls can improve the efficiency and, thus, the resilience of GVCs. Border crossings must guarantee supply chain continuity and not unduly delay the transport of critical goods. Trade preparedness and the anticipatory incorporation of specific measures into customs procedures and processes can significantly facilitate the importation of critical goods in times of crisis, thereby enhancing GVC resilience. Trade facilitation reforms, including implementation of the WTO Trade Facilitation Agreement (see Section D4(b)(i)), can play an important role in this respect. Other measures, discussed in Section C, that can simplify customs procedures and processes in preparation for crises, are easier to develop and adopt cooperatively, and can therefore be discussed in the context of the implementation of the WTO Trade Facilitation Agreement.

International cooperation among governments, international organizations and also, possibly, firms can help in the development of common approaches, such as agreements on simplified export and import procedures and international standards, to facilitate the flow of essential goods. Cooperation on technical standards and regulatory regimes can take various forms. Using relevant international standards as a basis for domestic measures on some essential goods can prove particularly useful to ensure that these

measures are aligned with those of other countries. Formal recognition and equivalence arrangements for the certification and acceptance of foreign standards can help to prevent the rigid enforcement of national standards and any accompanying detrimental trade-restrictive effects (Hoekman et al., 2021). Recognising conformity assessment procedures – such as testing conducted by partner economies – can help to expedite administrative procedures.

International regulatory cooperation has an important role to play in the development of emergency measures to increase predictability and in ensuring the consistency of policy approaches and mitigating unnecessary impacts on trade. The publication or notification to the WTO of draft regulations designed to respond to emergencies which can have a significant impact on trade should ensure more transparency, as this gives foreign stakeholders an opportunity to comment on such regulations at the development stage. International organizations can promote a common understanding of the specific products that are relevant to fight crises such as the COVID-19 pandemic, and thus can help focus regulatory cooperation across countries and, in time, improve access to essential goods (OECD, 2021f).

Technical barriers to trade in goods (TBT) and sanitary and phytosanitary (SPS) measures include technical regulations and standards, as well as conformity and equivalence assessment procedures. TBT measures are subject to the WTO Agreement on Technical Barriers to Trade (TBT Agreement),²⁷ while SPS measures fall under the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement).²⁸ TBT and SPS measures ensure, among others, the quality of imports and exports, the protection of human, animal, and plant life or health, and the prevention of deceptive practices, thereby contributing to economic resilience by preventing or limiting certain risks. In this regard, in the first stages of the COVID-19 pandemic, a number of import restrictions were applied for sanitary reasons, based, for instance, on the initial assumption that certain animals (particularly wildlife) could transmit COVID-19 to other animals and to humans.²⁹

TBT and SPS measures can nonetheless generate significant costs for exporters and importers and impair economic resilience to shocks when products must comply with different regulations and standards in each country or region. Therefore, both the TBT and SPS agreements primarily aim to ensure that technical regulations, standards and conformity assessment procedures³⁰ are non-discriminatory and do not create unnecessary obstacles to trade. Both agreements also urge members to harmonize their

SPS/TBT measures on the basis of internationally agreed standards and to give positive consideration to accepting equivalent technical standards or SPS regulations of other members, provided that such regulations adequately fulfil the objectives of their own standards and regulations. The TBT Agreement promotes the recognition of conformity assessment procedures undertaken by designated conformity assessment bodies in the territory of another member. The SPS Agreement specifies that each member should accept SPS measures performed by other members as long as they provide protection equivalent to that provided by the member's own procedures.

Several WTO members provisionally applied the mutual recognition provisions of the TBT Agreement during the early stage of the COVID-19 pandemic,³¹ thus facilitating the importation of essential goods that were in high demand at the time.

The inclusion of provisions on SPS and TBT is common in RTAs. A number of SPS chapters in RTAs make references to international standards such as those developed by the Codex Alimentarius, the World Organisation for Animal Health (OIE), the International Plant Protection Convention (IPPC),³² regional standards, or other parties' standards in the SPS domain. Most TBT chapters in RTAs recommend the adoption of international or regional standards and/or the harmonization of standards at international and regional levels for rules and conformity assessments. In fact, many RTAs reaffirm the commitments of their parties to the adoption of international or regional standards.³³

RTAs containing deeper integration clauses, such as the harmonization and mutual recognition of technical standards or conformity assessments, can contribute to bolstering the capacity for economic resilience of the parties in case of a shock (Espitia et al., 2020). Ideally, mutual recognition of standards and conformity assessments should be pursued simultaneously (Veggeland and Elvestad, 2004). RTAs promoting mutual recognition of both standards and conformity assessments are mainly concluded by countries with similar levels of development, such as Australia, the European Union, Japan and Singapore.³⁴

Mutual recognition of standards regulations, including control, inspection and approval procedures, is not systematically mentioned in RTAs SPS chapters. This may be because "the nature of mutual recognition (of standards and conformity assessments) relates more to the objective of TBT than SPS" (Trivedi et al., 2019). For the purposes of recognition of

another party's SPS-related regulations, RTAs use equivalence provisions. Equivalence provisions under SPS chapters of RTAs vary from binding commitments³⁵ to "best endeavour" clauses (Mattoo, Rocha and Ruta, 2020; Prabhakar et al., 2020). As in the TBT context, the latter option is less conducive to creating a resilient environment in times of crisis.

Countries can also explore the coordination of emergency programmes to speed up the clearance and release of medicines, medical supplies and food in times of crises. Such items have to be clearly defined, and simplifications in customs procedures could reduce the resulting administrative burden on businesses. In 2020, the WCO Secretariat published a list of Harmonized System (HS)-coded medical supplies and essential products used in the prevention and treatment of COVID-19 (e.g. COVID-19 diagnostic test kits, PPE, medical devices such as ventilators and extracorporeal membrane oxygenation, consumables and disinfectant products) and highlighted certain essential provisions of WCO instruments and tools aimed at trade facilitation and supply chain continuity (WCO and WHO, 2020).

Governments also need to ensure that people with key competences can cross borders safely when needed. Collective global measures are still needed to make the unilateral, temporary measures to liberalize trade in medicines and medical supplies permanent (Stellingner, Berglund and Isakson, 2020).

(iv) Assessing and managing risks of bottlenecks or chokepoints

GVCs are highly dependent on continual and smooth supply flows. National policies affecting trade in goods and services are only one of the potentials sources of disruptions to such flows in times of crisis. The current global situation is such that the next crisis could come from any corner: climate, other environmental issues, health, etc. These multiple sources of risk require governments to integrate risk assessment and management into all aspects of their policies and plans on development, climate, economy and trade, among others. It is also essential to ensure a coherent approach, domestically and internationally, to multi-hazard risk. By identifying all the risks, understanding where gaps exist in policies, and finding solutions in cooperation with others, countries can contribute to ensuring the resilience of value chains.

As discussed in Section D4(c)(ii), governments do not usually have real-time access to the information on supply chains that is available to firms and that would allow governments to respond promptly to

the occurrence of bottlenecks, e.g., by adopting temporary measures to speed up imports or facilitate the diversification of sources of supply. Having this information available at the international level and putting cooperation arrangements in place would allow countries with excess production to facilitate exports, while those experiencing shortages in supply could temporarily ease import rules.

Countries can also individually adopt rules to prevent bottlenecks or chokepoints in value chains which can paralyse a whole production and delivery process, e.g., by mandating factories to keep sufficient stocks and backup sources of supply, or to ensure that other business continuation plans are in place, and by monitoring them to ensure that these mandates are being fulfilled. This could, however, increase the cost of doing business in countries applying such rules, leading firms to move their production to less demanding countries. This can only be avoided through international cooperation if a large number of countries commits to adopt such policies.

International cooperation, in the form of pooled resources and policy coordination through international institutions, is already used in disaster relief, but such cooperation could also assist governments in preparing for global disruptions such as pandemics. Developed countries can manage their own stockpiling programmes, but developing countries can run into difficulties, given that stockpiling is costly both in terms of the expenses for building up and maintaining those stocks (for instance if the goods concerned are perishable or have a determined shelf-life) and in terms of opportunity costs, as building stockpiles may come at the expense of pursuing other essential policies, such as water sanitation or other infrastructure. Handing over part of the stockpiling efforts in essential goods and their delivery to international organizations or regional associations³⁶ can ensure that all governments, and not only those with the means to build up stockpiles, have access to stockpiled essential goods in times of crisis. However, this system should be incentive-compatible to make sure that countries do not forget their commitments in times of crisis, and that stocks are not confiscated for their own use by the countries where they are held. Not only is it preferable to assign the management of stockpiles to neutral entities, such as international organizations, but, ideally, those stocks should be held in countries with small populations, where production of the essential goods stockpiled on their territories is sufficient to make these countries net exporters of the product in question. This way, incentives for these countries to requisition those emergency stocks would be limited.

Establishing regional or international stockpiles of medical equipment and other essential products could help address future supply chain disruptions for critical goods, primarily in case of pandemics. Strategic stockpiling could also reduce incentives for countries to put in place restrictions on exports of medical products, and could mitigate some other risks that are more often associated with emergency contracting, such as insufficient research for and verification of suppliers, bias in favour of domestic producers or even corruption. As demonstrated by the European Union's COVID-19 experience and discussed below, regional and international cooperation is very important with regard to stockpiling.

However, if not managed carefully, stockpiling practices in anticipation of possible shortages can actually contribute to the occurrence of such shortages. While a certain level of stockpiling of essential medicines for emergency use can be useful, the more localized the stockpiling, the greater the risk that an unsustainable increase in aggregate anticipatory demand will lead to shortages in places where needs have materialized. This led the European Commission to recommend that stockpiling of medical supplies be coordinated at the EU level, and that any stockpiling by member states should be at the national level and for moderate quantities based on epidemiological indications (European Commission, 2020).

Global value chains are also vulnerable to shocks resulting from natural disasters, as discussed in Section B. Extreme weather conditions can disrupt air and maritime transport, damage infrastructure and increase insurance costs. The issue of climate change, *per se*, is not part of the WTO's ongoing work programme. However, some measures adopted by governments to mitigate and adapt to climate change or other disasters, such as under the Sendai Framework, can have an impact on international trade and fall under the existing provisions, allowing members to depart from their obligations under the WTO Agreement to pursue environmental policies, essentially Articles XX(b) and (g) of the GATT 1994³⁷ and Article XIV ("General Exceptions") of the GATS. Agreement on policy responses with regard to economic resilience to the effects of climate change and the implementation of environmental, social and governance mechanisms that strengthen and support sustainable development and trade will, however, require much greater international cooperation.

(v) *Other related initiatives*

The effective operation of GVCs does not depend only on policies and infrastructure resilience.

Identifying potential bottlenecks and stockpiling are only part of the solution. As highlighted during the COVID-19 pandemic, GVCs also depend on the people who operate the trucks, trains, aircraft and ships that transport parts, components and finished goods, and measures taken to limit contamination have thus affected these service providers. For instance, the application of stringent public health rules to both ship and air crews, including quarantining, in response to the COVID-19 pandemic have complexified operations and significantly added to transport costs. Because of this, the International Civil Aviation Organization (ICAO), the International Labour Organization (ILO), the International Maritime Organization (IMO), the International Organization for Migration (IOM) and the World Health Organization (WHO) issued, on 25 March 2021, a “joint statement on prioritization of COVID-19 vaccination for seafarers and aircrew” in which they encouraged authorities to designate ship and air crews as essential workers and to facilitate their access to COVID-19 vaccines, given that they are regularly required to travel across borders.

(d) Enhancing emergency preparedness and limiting the propagation of shocks

(i) *Enhancing government procurement practices*

Developing good government procurement practices is an invaluable component of emergency preparedness and management (see Section C3). Government procurement has a role to play in strategic stockpiling, but also in the emergency procurement of critical goods. International cooperation, such as in the WTO context, can help with the development of good procurement practices. However, when many countries are affected simultaneously by a crisis such as the COVID-19 pandemic, clear incentives exist to increase collaborative approaches to procurement strategies at the national, regional and supranational levels (OECD, 2020e).

Collaborating and coordinating at various levels has several advantages. It can help to avoid sending counterproductive messages to the market. Joint government procurement also allows participating procuring entities to have more bargaining power and better access to suppliers, thanks to the increased procurement capacity, in addition to economies of scale and avoidance of competition among entities at national, regional and local levels.

Cross-border collaboration in procurement can take various forms. Sharing information about prices and suppliers between different countries, for example,

can improve understanding of the constantly changing purchasing environment. Tools that allow public buyers to search for vendors can help them to find critical suppliers more quickly during crises.

At the multilateral level, government procurement is explicitly exempted from the main disciplines of both the GATT and the GATS.³⁸ It is nevertheless subject to a plurilateral agreement: the WTO Agreement on Government Procurement (GPA). The GPA was renegotiated in 2012.³⁹ Forty-eight WTO members are currently parties to the GPA 2012, and a majority of acceding WTO members that have obtained their membership since 1995 have, over time, either joined or committed to join the GPA. This suggests that governments are increasingly mindful of the importance of more open markets, better value for money, sound government procurement systems and international cooperation in a context in which they are essential when preparing for and recovering from shocks.

The GPA 2012 extends a number of WTO disciplines to cover the public procurement of goods as well as of services and construction works (Anderson and Müller, 2017). Public procurement covered by the GPA 2012 must comply with the principle of non-discrimination.⁴⁰ The GPA 2012 also provides for rules to ensure that laws, regulations, procedures and practices regarding government procurement are transparent,⁴¹ thus promoting efficient procurement mechanisms (Moïsé and Geloso Grosso, 2002). In addition, the GPA 2012 requires that government procurement procedures be conducted in a fair manner, free from corrupt and collusive practices, making it an international tool for good governance.

GPA obligations can be enforced under the WTO Dispute Settlement Understanding (DSU) or at the level of national review bodies vested with the power to hear procurement complaints. The rules of the GPA 2012 apply to the procurement of goods, services and construction works that are necessary to respond to public health crises, subject to their coverage in the schedules of parties to the GPA. The flexibilities offered by the GPA 2012, particularly in terms of procurement methods, deadlines and e-procurement, can be used by GPA parties to obtain high-quality medical goods and services (including vaccines) with the necessary efficiency and speed. Well-administered procurement procedures, together with well-organized contract management and product delivery, can be considered essential for viable mass vaccination programmes.

At the regional level, the economic significance of government procurement is further illustrated by the inclusion of government procurement provisions

in RTAs over the past 20 years (Mattoo, Rocha and Ruta, 2020).

Most RTAs incorporating government procurement transparency clauses broadly adopt the corresponding obligations in the GPA 2012. Non-discrimination provisions have also become a common feature in RTAs. Some RTAs explicitly forbid “buy national” policies, price discrimination, and local content requirements favouring domestic firms. A number of RTAs nonetheless include additional provisions, such as the requirement to create or strengthen national institutions dealing with procurement policies and to promote associated reforms, as well as provisions calling for cooperation with respect to the formulation of national procurement policies (Hoekman, 2018). Such provisions contribute to better government procurement management overall, as well as to planning ahead and having the capacity to respond to shortages during both domestic and cross-border disasters. A number of RTAs also contain dispute settlement clauses and enhanced market access schedules.

Some RTAs contain provisions which go beyond the GPA 2012 in terms of facilitating the access of firms from parties to those RTAs to government procurement carried out by other parties to those RTAs. These include provisions on technical specifications, e-procurement and the facilitation of MSME participation in calls for tender.

Extending the coverage of bilateral or regional procurement rules to more public entities, and opening public procurement to firms from other RTA parties, can help government services to be better prepared for disruptions caused by shocks.

Despite the growing trend toward inclusion of substantive government procurement chapters in RTAs, the GPA 2012 remains the most efficient and transparent forum for undertaking further liberalization in government procurement (Dawar, 2017).

Moreover, potential future shocks may lead to increased government intervention to build resilient infrastructure (e.g., earthquake-resistant hospitals, power stations and transport infrastructure) or to upgrade existing infrastructure in conformity with new constraints (such as increasing the height of dikes against rising sea levels). The GPA 2012 itself has a built-in mandate for parties to undertake further negotiations with the aim of improving the Agreement, such as by progressively reducing and eliminating discriminatory measures and achieving the greatest possible extension of its coverage on the basis of reciprocity, while taking into consideration the needs of developing countries.⁴²

(ii) *Preparing for disruptions by improving the availability of critical services*

International cooperation at the multilateral or regional level can also help governments to open their markets to foreign services and services providers in services sectors of critical importance (WTO, 2020g). As discussed in Section C3, opening the domestic market to foreign weather forecasting, insurance, telecommunications, transportation, logistics and health services and providers can play a key role in enabling firms, citizens and governments to cope better and to recover more quickly after crises. Putting in place comprehensive regimes for the recognition of foreign qualifications in advance of crises helps to ensure that the entry of foreign personnel supplying the required services will be facilitated when this is necessary. In addition, where a domestic market is not yet developed enough, opening it to foreign services and service suppliers can have a positive impact on inward investments in the sectors concerned, encouraging the growth of the private sector and enhancing the domestic capacity to supply services crucial for improving economic resilience capacity and reducing vulnerability to shocks.

Arguably, Articles II (“Most-Favoured-Nation Treatment”) and III (“Transparency”) of the GATS, as well as Article VI.1 (“Increasing Participation of Developing Countries”) and VI:3 (“Domestic Regulation”) already impose disciplines on WTO members’ implementation of domestic regulation in services. However, the successful negotiation of additional disciplines in such a sensitive domain may enhance the contribution of WTO trade norms to economic resilience through better preparation to potential shortages of specialized skills.

Domestic regulatory requirements in services such as licensing, qualifications or technical standards are essential to fulfil legitimate policy objectives and prevent undesirable trade practices, particularly in essential services such as health, transport or telecommunication. However, even in the absence of market access limitations or outright discrimination against foreign service providers, domestic regulatory requirements can still raise unnecessary obstacles to foreign services and service suppliers. For instance, they may be implemented through insufficiently transparent or unnecessary burdensome procedures. Opening foreign access to critical services for which licensing and qualifications requirements or technical standards apply would, however, not require a lowering of standards or consumer protection. It could be facilitated through the recognition of the equivalence of foreign standards, qualifications or authorizations to practice, or the recognition of the qualifications

of foreign service providers. In this regard, more and more governments are modernizing their services to the public, including the publication of regulations, application forms, and relevant guidance on electronic portals, as well as the possibility to submit applications and receive feedback electronically. This facilitates the participation of foreign service providers, particularly of MSMEs, in trade in services subject to domestic regulation.

Article VI:4 of the GATS (“Domestic Regulation”) provides that the Council for Trade in Services shall develop any necessary disciplines with a view to ensuring that domestic regulation in services does not create unnecessary barriers to trade. A Working Party on Domestic Regulation was established in 1999. The mandate of this working party is to develop generally applicable disciplines and, as appropriate, rules for individual sectors. At the 11th Ministerial Conference in 2017, a group of members decided, through a joint ministerial statement initiative, to advance discussions on domestic regulation in parallel with the work of the Working Party on Domestic Regulation. In May 2019, participants in the joint initiative committed to continue their work on outstanding issues with a view to incorporating the outcome in their respective schedules of commitments at the forthcoming 12th Ministerial Conference. Participation in the joint initiative is open to all members.

Many recent RTAs contain disciplines on domestic regulation of services, such as national or MFN treatment (Mattoo, Rocha and Ruta, 2020). A large majority of RTAs also includes provisions relating to qualifications, licensing and technical standards. After 2005, a new generation of trade agreements started to address the trade barriers that result from a lack of transparency and procedural red tape, with a view to promoting the good governance of services markets. Among the domestic regulation measures that feature most prominently in RTAs are obligations on the advance publication of new measures before their adoption, on enquiry points for service suppliers, and on the involvement of interested stakeholders through public consultation procedures. In addition, building on Article VI:3 of the GATS (“Domestic Regulation”), many RTAs provide for certain procedural benchmarks to be followed by competent authorities when dealing with applications for authorizing the supply of a service. In this context, most of those RTAs require competent authorities to establish indicative timeframes for processing applications, to allow applicants to submit additional documentation needed to complete applications, and inform applicants in case of rejection, including on the reasons thereof.

RTAs often contain provisions on regulatory coherence and regulatory cooperation. RTA provisions on regulatory coherence prescribe minimum standards and principles that must be observed when developing, applying, administering and reviewing domestic regulation. Their aim is to tackle regulatory divergence by fostering minimum common quality standards across jurisdictions, and to deter unreasonable and inconsistent administrative practices. These provisions may require the parties to a RTA to base their technical requirements on international standards when the latter are available and provided they do not undermine the fulfilment of legitimate objectives.⁴³

Some RTAs encourage competent standard development bodies and authorities respectively to develop and to adopt technical standards through open and transparent processes.⁴⁴ Introducing some minimum due process may help in sectors in which firms must apply for a licence in order to supply their services, and in which lack of information, differences in licensing requirements across jurisdictions, delays or arbitrary handling of the application process can negatively impact trade in services.⁴⁵

In addition to substantive disciplines for the development of specific types of regulations on services and procedural disciplines for their application and review, some RTAs provide for the application of good regulatory practices. These provisions are intended to enhance the quality of regulatory outputs by avoiding unnecessary, duplicative or inefficient regulations, thus contributing to preparedness by enabling a framework that can facilitate responses to shocks.

(iii) Limiting the propagation of diseases through trade and trade-related mobility

International cooperation at the multilateral or regional level can help governments to adopt and enforce SPS policies that limit the propagation of animal diseases. As discussed in Section C2, SPS measures are useful and effective in preventing the spread of animal diseases in licit animal trade. The SPS Agreement promotes science-based SPS measures necessary to protect human, animal or plant life or health. It ensures health protection by making it possible for governments to adopt or enforce SPS measures while avoiding arbitrary or unjustifiable discrimination between members where the same conditions prevail and facilitating international trade.

In addition, Section B4 has shown that the costs of restrictions to travel imposed in the context of the COVID-19 pandemic, and of restrictions to mode 4

of the GATS (i.e. supply of services via the temporary movement abroad of individuals), in particular, were relatively large. International cooperation can help governments lower the costs of such restrictions. Establishing common approaches and recommendations while providing clear and timely information to the public is important in this regard. International cooperation can aim to ensure that travel-restrictive measures to control the spread of a pandemic are based on careful risk assessments which take into account reasoned scientific evaluations of the available evidence on their potential effectiveness on a regular basis (Petersen et al., 2020). By the same token, it can also help to ensure that testing capacities are made available to countries as and when they need them, thus ensuring the rapid isolation of suspected, confirmed and contact cases.

Ultimately, international cooperation must guide policymakers and other stakeholders to optimally balance the expected positive effect from mobility restrictions on public health with the negative impact of those same restrictions on freedom of movement, the economy and society at large. OECD (2021e) estimates that lifting restrictions to international travel unilaterally in G7 countries would increase services export levels by around 5 per cent, and services import levels by around 3 per cent on average in 2021, while lifting those restrictions through international coordination could boost the effect by a factor close to two.

Improved information-sharing and coordination among border agencies regarding the transit and importation of critical goods could significantly speed up the exportation, transit and importation of urgently needed supplies. Further cooperation on these measures could be discussed in the context of the implementation of the TFA.

Successful recourse to e-processing of customs measures since the outbreak of the COVID-19 pandemic should encourage customs authorities to continue to move into this direction. The TFA and trade facilitation discussions at the WTO would offer an ideal forum for further cooperation in this domain.

The COVID-19 pandemic has also highlighted the need for greater cooperation and efforts to reduce barriers to trade, including through additional mutual recognition agreements on essential goods, as part of future trade negotiations.

Strengthening the capacity of SPS agencies is critical to increasing resilience to future SPS risks, but a more holistic approach to health in general is also necessary in a world where human, animal and

environmental health increasingly condition each other. Regarding SPS capacity-building, the WTO is one of the partners of the Standards and Trade Development Facility (STDF), which was established to help build capacity in developing countries in this area (see also Section D6). Strengthening SPS capacity, as a global public good, is critical to help developing countries to recover from shocks, such as COVID-19, and to become more resilient against future outbreaks of pests and diseases. As far as a more global approach to health is concerned, the Global Health Summit, held on 21 May 2021 in Rome, recognized that working across the human, animal and environmental health silos by adopting a “One Health” approach could help to address future risks and enhance resilience (G20, 2021). ‘One Health’ is an approach to designing and implementing programmes, policies, legislation and research in which multiple sectors communicate and work together to achieve better public health outcomes. A One Health approach is, among others, particularly relevant in food safety and the control of zoonoses.⁴⁶

5. International cooperation on trade policies can help cope with shocks

This subsection examines the role international cooperation can play in enhancing the positive impact on resilience of trade policy responses to shocks. Policies adopted unilaterally in response to shocks can generate positive or negative cross-border spillovers including by affecting efforts to build and support economic resilience. International cooperation can help reduce negative spillovers and increase positive spillovers. Negative cross-border spillovers can be addressed by imposing disciplines, or otherwise by promoting cooperative approaches that can substitute for the unilateral measures that induce negative spillovers. As for measures that generate positive cross-border spillovers, they can be encouraged through the adoption of disciplines or by being diffused as “best practices”.

- (a) Ensuring access to essential goods during a crisis
 - (i) *Dissuading governments from adopting export restrictions on essential goods*

As discussed in sections B5 and C3, some countries producing essential medicines and medical equipment, faced with a sharp increase in the domestic demand for medical supplies and

concerned with protecting their populations from COVID-19, decided to impose quantitative export restrictions. Such restrictions reduce the world supply of essential medicines, which in a global crisis can seriously limit the access of importing countries which do not have sufficient manufacturing capacity for these products themselves. In case of essential medical products, such as life-saving pharmaceuticals and equipment, allocation across countries could fail, leading to the accumulation of stocks in one country while patients are unnecessarily suffering or dying in others (Berden and Guinea, 2020).

In view of the negative consequences of these export restrictions, international organizations, G20 trade ministers and some WTO members appealed to governments, in the spring of 2020, to keep the trade of essential goods flowing, including by removing export restrictions on such goods as soon as possible. In the G20 statement of 14 May 2020, trade ministers indicated a number of actions to support world trade and investment in response to the COVID-19 crisis, several of which particularly targeted export restrictions. In a joint statement, the heads of the IMF and WTO called on governments to lift trade restrictions on medical supplies and food and expressed concerns at the decline in the supply of trade finance. The FAO, WCO and WHO pledged to work together to minimize the impact of policy measures on the flow of medical supplies and food. The WTO and WCO decided to establish a coordinated approach to facilitate cross-border trade and ensure that essential goods reach those who need them the most, including least-developed and land-locked countries. At the WTO, Singapore and New Zealand issued a joint declaration of principles to keep their markets open. They were joined in by five other WTO members. Canada led an initiative of 47 countries (counting the EU member states separately), pledging openness and good practices with respect to world agricultural trade. Finally, a Swiss-led initiative, supported by 42 countries (mostly middle-income economies), committed to lift export restrictions that had been imposed in response to the crisis as soon as possible. This encouraged the WTO to work on concrete actions to foster the cross-border flows of medical supplies, services and equipment, and to preserve agriculture supply chains and enhance food security. The signatories also pledged not to impose export restrictions on food, as such restrictions had been witnessed in a number of countries at the early stage of the pandemic.

In the context of a crisis such as the COVID-19 pandemic, it is crucial to maintain an open and predictable international trading system. While

seeking to preserve domestic supply in times of crisis is instinctive, it can artificially cause or worsen shortages, and it is important to coordinate international efforts to ensure a sufficient supply of essential goods for all. Given the issues raised since the outbreak of the pandemic by export restrictions, it may be necessary to further discipline or discourage their use. However, because of the challenges that this may raise, finding alternative approaches to increase the supply of essential goods has become the priority.

A key economic rationale for WTO rules is to enhance cooperation among trading partners in areas where unilateral actions can trigger detrimental consequences. Anticipatory negotiations of trade rules on essential goods are complicated by the diverging interests of net exporters and net importers of essential goods over time. While net exporters of essential goods benefit from low trade barriers before a crisis hits, there is an incentive to impose export restrictions in times of crisis in order to guarantee the domestic supply of essential goods. Inversely, net importers of essential goods seek to protect their markets before a crisis hits, in order to become less dependent on imports, and to develop domestic industries. In times of crisis, however, net importers of essential goods have an interest in keeping trade barriers low to ensure that there is a sufficient supply of essential goods available in their domestic markets. In view of these diverging interests, anticipatory negotiations on commitments to refrain from imposing export restrictions in times of crisis are difficult to conclude.⁴⁷ Still, to avoid any deterioration of global supply or shortages of essential goods, especially in times of crisis, international cooperation is in the common interest to ensure free and predictable trade flows. As a compromise, net importers might agree to lower import restrictions on essential goods in normal times in exchange for a credible commitment by exporters to abstain from export restrictions in times of crisis.

As discussed in Section B5, although governments adopted a larger number of trade-facilitating measures in response to the COVID-19 pandemic, many economies applied export restrictions to trade in critical goods such as food or medical products, primarily through export bans, quotas or licences, at the early stage of the COVID-19 pandemic. The resumption of international trade after the first wave of the pandemic rapidly contributed to alleviating the original shortages in PPE and other critical medical goods. However, the small number of countries producing COVID-19 vaccines, the agreements concluded between certain governments and pharmaceutical companies, and the decisions of

some countries to reserve their production or stocks of vaccines for their own residents may remain a cause of frictions for as long as the production of vaccines fails to meet global demand.

Quantitative import and export restrictions on goods, other than duties, taxes or other charges, are banned under Article XI:1 (“General Elimination of Quantitative Restrictions”) of the GATT 1994.⁴⁸ However, Article XI:2(a) of GATT 1994 permits the temporary imposition of quantitative export restrictions, on a non-discriminatory basis, to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting member.

WTO members may also unilaterally invoke Articles XX (“General Exceptions”) and XXI (“Security Exceptions”) of GATT 1994 and their equivalents in the GATS Agreement and in the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement), subject to certain conditions, to justify a measure that is otherwise inconsistent with one or more of the GATT 1994 obligations. For instance, Article XX(b) of the GATT 1994 concerns measures “necessary to protect human, animal or plant life or health”, thus potentially covering trade restrictions taken in response to such crises as natural disasters, zoonoses or pandemics. Article XIV (“General Exceptions”) of the GATS contains similar language and allows members, under certain conditions, to restrict the supply of services.⁴⁹ Export restrictions that may be applied pursuant to Paragraph (j) of Article XX of the GATT 1994 to meet emergency situations including “natural catastrophes”⁵⁰ must respect the principle that all WTO members are entitled to “an equitable share of the international supply”. These terms may support claims by some WTO members for access to a more equitable share of the worldwide production of, for example, COVID-19 vaccines.

Complex treaties such as the WTO Agreement usually contain built-in derogations that governments can invoke unilaterally with respect to specific obligations while they continue to fulfil their other commitments. Actually, the mere availability of such “escape clauses” can sometimes be sufficient to reassure governments and make them stick to their obligations. This is evidenced by the fact that the multilateral trading system has survived two of the most severe economic crises of the post-World War II period (i.e., the 2008-09 global financial crisis and the COVID-19 crisis) and that, particularly during the latter, many derogations adopted in the early stage of the pandemic were lifted by the end of 2020. In other words, the flexibility of the WTO legal system contributes to its resilience.

As far as RTAs are concerned, it seems that, even though the negative economic effects of quantitative restrictions (QRs) are largely acknowledged, on the grounds that they are generally prohibited in RTAs, the trend at the regional level is not to eliminate all QRs but to elaborate on the exceptions of Articles XI (“General Elimination of Quantitative Restrictions”) and XX (“General Exceptions”) of the GATT 1994 by expressly providing for situations in which QRs may be legally maintained or introduced.

A number of RTAs also contain provisions that operate in a similar manner to Articles XX (“General Exceptions”) and XXI (“Security Exceptions”) of GATT 1994 and their equivalents in the GATS and the TRIPS Agreements. As a result, a government engaging in policies departing from its international obligations – whether multilateral or regional – will be required to comply with two cumulative sets of conditions: those in the RTA in the context in which the government in question plans to depart from its obligations, and those in the WTO Agreement if this departure affects not only its obligations towards its RTA partners, but also its obligations *vis-à-vis* other WTO members. RTAs with exceptions do not always add any conditions of substance to those of the GATT 1994, the GATS or the TRIPS Agreement, but this two-tier control nevertheless adds to the obligations of transparency and to the international legal supervision over this derogation to accepted international rules on QRs.

The COVID-19 pandemic has shown the importance of QRs as policy instruments at a time when governments have wished to take, or to be seen to take, firm actions to protect their constituents’ lives and health, despite long-standing evidence that QRs are sub-optimal trade policy instruments. It therefore seems that QRs will continue to be used in a world increasingly prone to shocks. The challenge, therefore, is to ensure that there is a balance between allowing governments subject to heavy political pressure to use derogations, and making sure that those derogations are not abused and do not lead to the unravelling of the multilateral trading system. Criteria such as those defined by the G20 in the context of the COVID-19 pandemic, whereby “emergency measures [...], if deemed necessary, must be targeted, proportionate, transparent, and temporary, and that they do not create unnecessary barriers to trade or disruption to global supply chains, and are consistent with WTO rules”, act as useful reminders that countries have more to gain than to lose by exercising due restraint when invoking derogations to WTO norms, even in times of crisis (G20, 2020b).

(ii) *Other initiatives*

The COVID-19 pandemic has brought about new forms of international cooperation. For instance, the Trade and Health Initiative, proposed by a group of WTO members⁵¹ in November 2020, is an example of a new inter-governmental joint action (WTO, 2020j). According to this initiative, first, a special investment fund is to be created. Second, the initiative suggests an enforceable commitment on the part of participating countries not to place export restrictions on essential goods destined for other participating countries. Participating governments could therefore expect that the imposition of export restrictions on output would swiftly be met with joint restrictions, by their trading partners, of their exports of inputs. Third, the agreement suggests an informative monitoring system to improve transparency and coordinate policy actions. This system may be established on the model of the Agricultural Market Information System (AMIS), but would be broader in terms of its product coverage and would include information on any barriers to trade irrespective of their type (tariff and/or non-tariff).

(b) Boosting vaccine production and making vaccines available to poorer countries

(i) *Global demand and concentrated production*

One key element in the fight against the COVID-19 pandemic has been the development and deployment of safe and effective vaccines as quickly as possible (WHO, 2021). There is no doubt that vaccines are

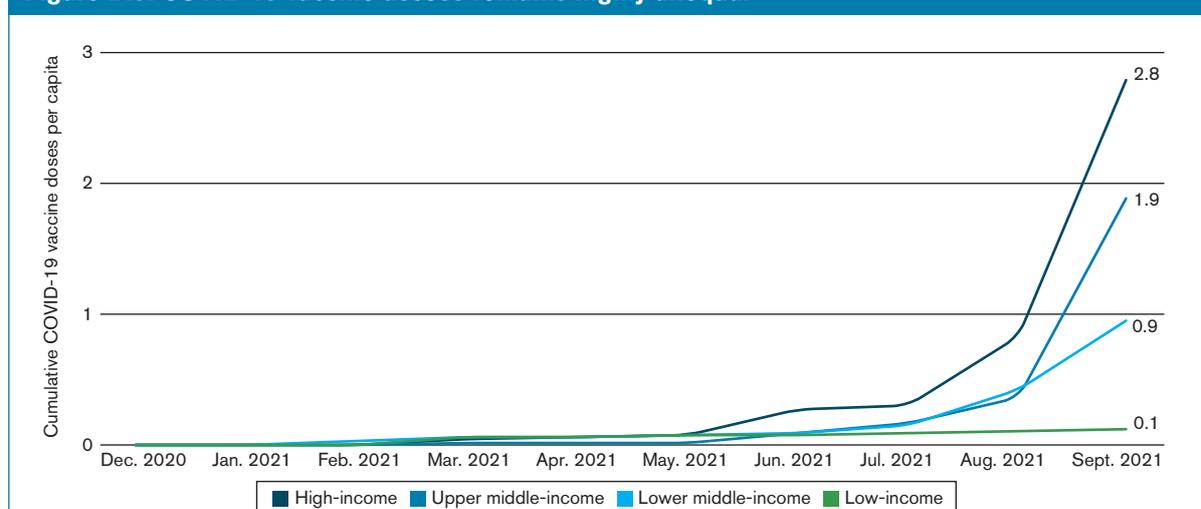
an essential product, and governments have been involved in different ways and at different phases of their development and deployment.

The speed of the COVID-19 vaccine development has been unprecedented, thanks to the involvement of both the private and public sectors and to international cooperation. Several vaccines have been developed or are still being developed by private pharmaceutical companies. These companies have benefited from IP protection and, in some cases, from governmental financial support.

Production and deployment of vaccines have been more challenging. The main problem has been unequal access to vaccines caused by both supply and demand factors (see Figure D.3).

On the supply side, not only are vaccines patented, but their production process is complex, requiring inputs and know-how from several countries. Production is geographically concentrated and, partly for the reasons just mentioned, cannot easily be extended to other countries, particularly those with limited means to sustain such a complex production process. For reasons related to regulatory requirements, economies of scale or simply politics, as with other vaccines in the past, it is probable that almost 75 per cent of the COVID-19 shots expected to be manufactured in 2021 will come from only five countries (Airfinity, 2020; Evenett et al., 2021; Wang et al., 2020).⁵² The study by Evenett et al. (2021), using the European Union as an example, indicates that the situation with vaccine ingredients is analogous. Vaccine-producing countries are both the main sources and the destinations of exports

Figure D.3: COVID-19 vaccine access remains highly unequal



Source: Author's calculation based on data from Airfinity.

Notes: Figure D.3 displays the cumulative COVID-19 vaccine purchases by income level and as a proportion of purchaser population. The country income level is divided according to World Bank classifications. The data contain government purchases of vaccine doses per capita. Vaccine purchase deals that do not have specific purchase dates are not included.

OPINION PIECE

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The economic case for global vaccinations

Rolling out a vaccine to stop the spread of a global pandemic does not come cheap. Billions of dollars have been spent on developing drugs and putting in place a programme to get those drugs into people's arms. But amid the uneven distribution of vaccines – with poorer countries lagging far behind richer nations – another concern presents itself: the economic cost of not vaccinating everyone.

My colleagues and I sought to find out and measure the impact of uneven vaccination distribution on the global economy. To do this, we analysed 35 industries – such as services and manufacturing – in 65 countries, and examined how they were economically linked through trade and production networks in 2019, before the pandemic hit. For example, the construction sector in the United States relies on steel imported from Brazil; American auto manufacturers need glass and tyres that come from countries in Asia; and so forth. We then used data on COVID-19 infections for each country to demonstrate how all countries will lose out if the coronavirus crisis were to disrupt global trade, curbing shipments of steel, glass and other exports. The more a sector relies on people working in close proximity to produce goods, the more disruption there will be to that sector due to higher infections.

Our results showed that even if wealthier nations had been fully vaccinated by the middle of 2021 and developing countries had managed to vaccinate only half of their populations, the global economic loss would have amounted to around US \$4 trillion, and the United States, Canada, Europe and Japan would have shouldered almost half this burden, a whopping 48 per cent.

Our research underscores that no economy is an island, and it is in rich countries' direct economic interests to ensure that poorer nations are also fully vaccinated. Widespread vaccinations in wealthier nations will certainly help domestic businesses such as restaurants, gyms and other services, but industries such as the automobile industry, construction and retail, that depend on imports of materials, parts and supplies from developing economies, will continue to suffer from the lack or delay, caused by the pandemic, of supplies produced in developing economies.

Our estimates have been made weekly throughout 2021, on the assumption that prices will not adjust enough. When prices rise and these bottlenecks in global supply chains are smoothed out by the end of 2021, then losses will stop, but they will already have

been incurred in 2021.

In addition, as long as people are not vaccinated in the poorer countries of the world, exporting industries in rich countries will not fully recover because the continuing pandemic in developing economies reduces the demand for products from advanced economies. A full global economic recovery will only come when vaccines are made available worldwide and every economy recovers from the pandemic. We have already had a glimpse of the scenario modelled by our work, with uneven worldwide recoveries for the first six months of 2021.

It is primarily a humanitarian responsibility to produce and distribute vaccines to the whole world. Our results also highlight that this is not simply an act of charity, but an act of economic rationality from the perspective of advanced economies, by returning high returns to their investments in initiatives such as COVAX that aims to produce and distribute more vaccines to the rest of the world. This implies that global policy coordination of the supply of vaccines across the world is in the economic interest of all regions.

of key vaccine inputs, which results in a lack of bargaining power for economies in which there are no firms producing either the final vaccine or vaccine ingredients. Moreover, some countries with production capacity have restricted their exports.

On the demand side, the main issue is the vast global demand and the limited resources in low- and middle-income countries. With production concentrated in only a few countries and demand coming from all countries, trade is playing a key role in ensuring global access to vaccines. Without global coordination, however, countries may bid against one another, driving up the prices of vaccines and related materials (Bollyky and Bown, 2020).

International cooperation can help boost production and ensure universal access to vaccines. To meet the vast global demand for COVID-19 vaccines, it is necessary to ramp up production in the short run by using the capacities of existing facilities. As shown by Figure D.4, the production capacity of COVID-19 vaccines from developers that have licensure experience⁵³ will increase more than 20 times up until the end of 2022 compared to the level of the last quarter of 2020. Assuming that, under a two-dose regime, 16 billion doses will be necessary to immunize the world population, this is encouraging news, provided that it is coupled with equitable distribution arrangements.

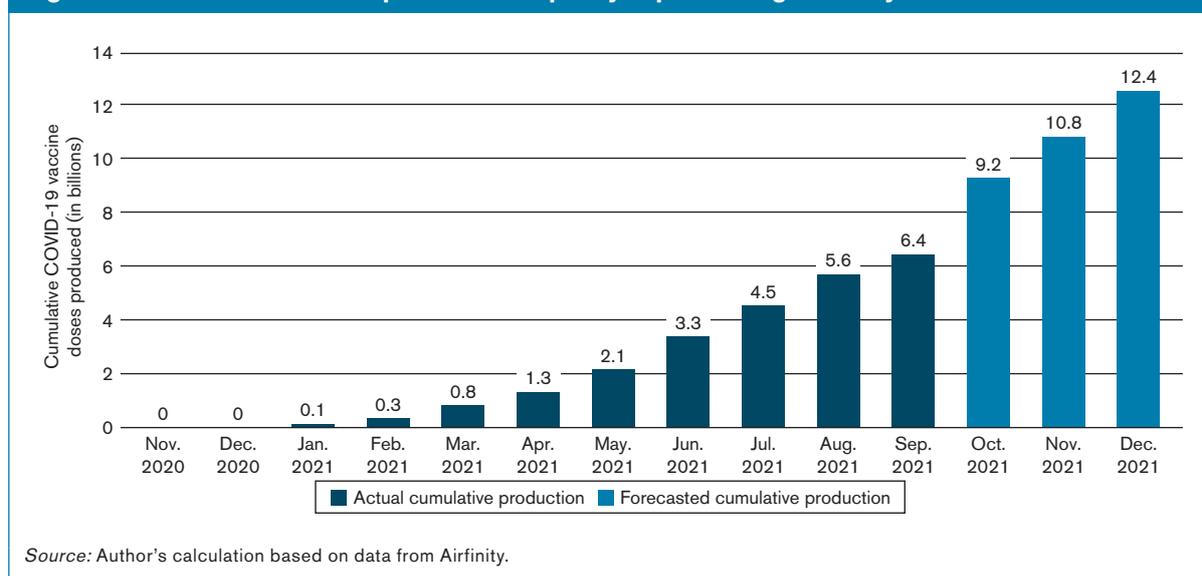
However, vaccines continue to be unevenly accessible, and other challenges persist in efforts to inoculate people in many developing economies. Hence, it is important to exploit all available production capacities by providing third-party countries with

access to the technologies that are necessary for the production of COVID-19 vaccines while, at the same time, ensuring that future innovation and investments in new technologies are not put at risk. As outlined in Section D4, international cooperation can play an important role in the identification and avoidance of potential concentrations and bottlenecks within the global production network by collecting and sharing information.

International cooperation also has an important role to play in ensuring that IPR does not impede the production and deployment of vaccines, while continuing to facilitate the necessary technology partnerships. This can give public and philanthropic research funders leverage over health technologies, while encouraging private investment into medical research.

Knowledge transfers through cross-border partnerships can facilitate manufacturing scale-ups in multiple contexts. Most straightforwardly, firms can manufacture a vaccine that was successfully developed by an originator firm under some form of licence or production contract that encompasses the transfer of know-how along with formal IP and access to regulatory dossiers. Alternatively, the transfer of knowledge can help competitors to develop vaccines with new properties (such a wider spectrum, a longer shelf-life, or that are easier to distribute and store in vaccination centres) (Price, Rai and Minssen, 2020). Finally, a transfer of knowledge which can be used irrespective of the type of vaccine to be produced could also facilitate the manufacturing of vaccines for other contagious diseases.

Figure D.4: COVID-19 vaccine production capacity expanded significantly in a few months



By early 2020, several WTO members had implemented specific IP measures aimed at facilitating the development and dissemination of COVID-19-related health technologies, as well as at relaxing procedural requirements and adapting deadlines for administrative IP matters. These government measures were complemented by voluntary actions by IP rights-holders, such as the sharing of IPR to support research and development (R&D) and to facilitate access to relevant health technologies (WTO, 2020e). Some developers of COVID-19 vaccines declared they would abstain from enforcing patents during the pandemic to allow other developers of COVID-19 vaccines to build on their technology (Moderna, 2020). Moreover, international vaccine alliances, public research centres and private companies are collaborating to coordinate the transfer of production licences in order to provide the vaccine on a non-profit basis, especially to low- and middle-income countries (AstraZeneca, 2020).

To ensure the global distribution of vaccines, it is also important to maintain a transparent and well-functioning multilateral trading system. Getting vaccines and their ingredients to where they are needed depends on borders being open. One obstacle to the free movement of vaccines is export restrictions, which, as discussed previously, have many disadvantages. Export restrictions, however, are not the only impediment to trade in vaccines.

As announced by various governments, exports of vaccine-related products have to undergo specific approval procedures, and subtle curbs on exports have been identified in this respect. Concerning these curbs on exports, a closer look at contracts between governments and vaccine producers reveals that certain arrangements lead to a *de facto* (although probably temporary) ban on exports of vaccines or of key vaccine inputs, even though no export restriction has been publicly announced. More precisely, such arrangements provide for a lock-up of output in favour of governments which have previously invested in the development and production of COVID-19 vaccines (The Economist, 2021). Some suppliers of important vaccine inputs receive subsidies in exchange for the guarantee that they will supply domestic vaccine producers first. Contractual arrangements between governments and private firms can limit exports of vaccines on the world market and trigger shortages along the global value chain of vaccines. Unanticipated delays along global value chains could induce retaliation from trade partners (Evenett et al., 2021). International cooperation may help shed light on such arrangements and find ways to reduce their negative spillovers on trading partners.

The COVID-19 pandemic has also revealed the degree of geographical concentration of vaccines production in general, and of the technology and know-how needed to develop and produce COVID-19 vaccines in particular.

In a context in which current producers are already running at full capacity, the granting of licences to produce vaccines or related ingredients, and the sharing of know-how with other manufacturers could address the problem of export restrictions if those IP rights are shared with producers located abroad. In addition, The TRIPS Agreement gives WTO members the right, where necessary, to issue compulsory licences to produce vaccines or related ingredients.

Securing licences on relevant IP rights and sources of supply of necessary ingredients may, however, prove insufficient to enable countries to engage rapidly in their own production of COVID-19 vaccines if they do not have the resources and expertise to upgrade existing facilities or build new ones, or if they lack the relevant human capital and know-how. In the short term, domestic regulations on the marketing of medical substances or materials may prevent or delay the importation of relevant vaccine ingredients or production equipment. Customs regulations may also make the importation of the relevant ingredients more difficult because of complex TBT or SPS requirements or slow or cumbersome clearance procedures. In this regard, cross-border regulatory cooperation, in the form of regulatory convergence and mutual recognition of regulatory outcomes, would allow significant progress towards the development of distribution and production capacities.

Beside the facilitation of trade in vaccines, ingredients, equipment and related services, the question of funding the exportation and distribution of billions of doses, particularly for LDCs, remains particularly acute. At the request of the G20, a high-level independent panel – the G20 High Level Independent Panel on Financing the Global Commons for Pandemic Preparedness and Response – has proposed a number of solutions to ensure the perennial funding of vaccines production and supply having regard to the risk of the multiplication of pandemics.⁵⁴

An array of initiatives has also been proposed to create technology hubs in the developing world (such as South Africa's mRNA⁵⁵ centre) and to establish more evenly distributed production capacities with a view to longer-term resilience beyond COVID19. In this regard, the WTO is already involved in a number of programmes⁵⁶ which aim to diversify development and production sites, most notably the

COVAX Manufacturing Task Force, which has been established to identify and resolve issues impeding equitable access to vaccines through COVAX. The task force intends to leverage the capabilities of the global vaccine community to address short-term, medium-term, and long-term COVID-19 vaccine manufacturing challenges and bottlenecks. Of particular relevance for the WTO, one of the task force's most urgent objectives is to address shortages of raw materials and single-use materials (potentially by ramping up supply capacity) and to expedite the cross-border transit of these materials, vaccine components and finished products. The longer-term aim is to help strengthen regional health security for the future,⁵⁷ as the risk of future pandemics and the related costs for trade and the world economy underline the necessity of establishing reserve production capacities, while putting in place the financial means to ensure their continued funding.⁵⁸

(ii) *TRIPS and the expansion of vaccines production*

The WTO TRIPS Agreement establishes for all WTO members⁵⁹ a set of minimum standards for the protection and enforcement of an array of IP rights, including substantive obligations contained in World Intellectual Property Organization (WIPO) conventions incorporated by reference.⁶⁰ Equally, in line with the objective of promoting social and economic welfare from the IP system, the TRIPS Agreement is designed to assure governments a wide range of options for overriding the exclusive character of IP rights in the public interest. Such options can, for instance, be deployed to extend the production and distribution of pharmaceutical products even if these are covered by patents.⁶¹

Compulsory licensing of patents embraces a range of mechanisms to permit the use of a patented technology without the authorization of the patent-holder. For example, a government can directly authorize the local production of a vaccine in the public interest regardless of patent coverage, or it may permit the importation of generic medicines or critical ingredients without the patent-holder's consent. For non-commercial public use, such as government orders for the production of medicines, and during emergencies, such licences or government-use authorizations can be streamlined, for instance without prior negotiations with the patent-holder. The Doha Declaration on the TRIPS Agreement and Public Health of November 2001 affirms the right of members to grant compulsory licences and to determine their grounds, and clarifies that members have the right to determine what constitutes a national emergency or other circumstances of

extreme urgency. This expressly applies to public health crises.

Several countries have considered instituting compulsory licensing as part of their COVID-19 response. On 24 March 2020, Israel issued a compulsory licence to import generic versions of the lopinavir/ritonavir (AbbVie's Kaletra) treatment (Kass, 2020). The WTO monitors this and other compulsory licensing.⁶² South Africa and India,⁶³ are, however, pushing for a stronger measure in the form of a proposed waiver of certain provisions of the TRIPS Agreement in relation to the "prevention, containment or treatment" of COVID-19 (WTO, 2021b). Since it was tabled in October 2020, the proposal has been subject to extensive discussions among WTO members (WTO, 2020n), including intensive text-based discussions on a revised proposal.⁶⁴ While supporters of the request argue that vaccine manufacturing capacities in developing countries are not used due to IP barriers, and stress the shortcomings of the existing TRIPS flexibilities as a means of overcoming those barriers, other delegations⁶⁵ submit that existing TRIPS flexibilities are sufficient tools to address any IP hurdles encountered when ramping up and diversifying vaccine manufacturing (WTO, 2021b). The European Union has, for instance, tabled a proposal that aims to clarify the application of these options in a pandemic.⁶⁶ To date, no consensus on the TRIPS waiver proposal has been reached (see also the opinion pieces by Ellen 't Hoen and Patrick Gaulé). However, the TRIPS Council has agreed to continue discussions on the IP response to COVID-19.⁶⁷ In the meantime, calls for further voluntary collaborative efforts continue (WTO, 2020e).

RTA provisions that set standards for national IP systems may also have an impact on how the production of COVID-19 vaccines can be expanded. However, the nature of IP commitments differs from one RTA to the other. Most simply reaffirm parties' existing commitments to IP protection and the TRIPS Agreement, and promote cooperation (Valdés and McCann, 2014), in some cases also recognising the possibility of public health waivers under the TRIPS Agreement. However, a considerable number of RTAs aim at stronger protection of IP rights, above the standards of TRIPS (called "TRIPS+" provisions), for instance by limiting grounds for compulsory licensing of patents. Some RTA provisions explicitly promote technical assistance, coordination, cooperation and capacity-building between developing and developed economies, building on provisions which are well-established elements of the TRIPS Agreement itself. Such provisions could contribute to the facilitation of technology transfers to developing countries,

OPINION PIECE

By Ellen 't Hoen,
Lawyer and public health advocate

Vaccine knowledge needs to be a global public good

The global health crisis caused by the COVID-19 outbreak has laid bare the lack of an effective mechanism for the sharing of IP and technology required to produce the diagnostics, therapeutics and vaccines to respond to the pandemic.

The WHO established, in May 2020, well before the first vaccines came to market, the COVID-19 Technology Access Pool (C-TAP): a mechanism to allow the sharing of the IP, know-how, data and technology that are needed to meet the global need for 11 billion doses of COVID-19 vaccines, as well as diagnostics and treatments.

Companies have so far refused to collaborate with C-TAP, citing the age-old talking point that sharing IP is detrimental to future investments in pharmaceutical innovations – even though the development of COVID-19 vaccines has been de-risked with unprecedented amounts of public financing. Governments have spent 93 billion Euro on the development of vaccines, therapeutics, and diagnostics. It is therefore a reasonable expectation that both the products and the IP associated with them would be shared globally as public goods.

Instead of joining COVAX – a multilateral vaccine-sharing scheme to ensure the equitable distribution of vaccines – wealthy nations placed pre-purchase orders and hoarded vaccines, leaving developing nations behind in the queue.

The failure to deliver those goods has prompted various proposals for compulsory measures to close the know-how gap. On 2 October 2020, India and South Africa proposed a temporary waiver from certain obligations under the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) for the duration of the pandemic – a rather modest proposition that was nevertheless initially met with opposition from most high-income countries, except for the United States, which supports a TRIPS waiver but only for COVID-19 vaccines. The European Union is promoting the use of compulsory licensing of patents instead.

Such measures, however, have limitations when it comes to the COVID-19 vaccines, because their production and rapid scale up require the transfer of know-how and technology and therefore the collaboration of rights-holders. It is important that the discussions at the WTO on the TRIPS waiver address how the know-how gap can be closed.

Since the WHO declared COVID-19 a public health emergency of international concern on 30 January 2020, gross inequities have emerged. While rich countries are beginning to regain a level of pre-pandemic normalcy, the disease is surging in areas where vaccines are not sufficiently available, creating a breeding ground for new variants of the virus which puts everyone at risk. In July 2021, only 15 million people in Africa – just 1.2 per cent of the

African population – were fully vaccinated, and death rates were increasing rapidly on the continent, mostly affecting young people. This calls for an immediate action to donate vaccines and get them into people's arms.

To be better prepared for future outbreaks, the world needs new rules to ensure automatic access to technologies and IP in the case of a pandemic. The pandemic treaty negotiations scheduled to start in the fall of 2021 offer an opportunity to regulate this. Such regulations should have the following features:

- (1) Access to technologies to prevent and treat a pandemic-potential disease should not be burdened with monopolies. Sharing of know-how and technology should be assured and not subject to controversy in the middle of a pandemic.
- (2) Public financing for research and the development of vaccines and treatments should be abundant, predictable, and provided upon the conditions that (a) the know-how is open-sourced for others to use either in further research or to produce at-scale and (b) that resulting products are priced fairly.
- (3) Vaccine production capacity should be created in the regions in the world that currently have no or insufficient production capacity.

Preparedness for the next pandemic should start now, not when the next crisis is in full swing.

including in pharmaceutical domains such as vaccines, by reinforcing predictability and trust.

The degree of protection – and enforcement – of IP rights offered by RTAs can also play an important role in the dissemination of technology and know-how in the field of vaccination. Since around 2000, many RTAs have included TRIPS+ provisions, such as provisions which prevent national drug regulatory authorities from registering and allowing the sale of generics as long as the original medicine is still patented (also called “patent linkage”).⁶⁸ Other RTAs have obliged certain developing countries to provide various forms of exclusive protection of the clinical test data submitted to regulatory agencies to demonstrate the quality, safety and efficacy of new medicines,⁶⁹ which can prevent manufacturers of generics from using such data while applying for their own marketing authorizations. Along with limited convergence on regulatory procedures and standards, such data exclusivity may impact the availability of COVID-19 vaccines and impede the availability of COVID-19 treatments (Adetunji, 2021).

Other initiatives

The COVID-19 pandemic has highlighted the essential role of innovation and technologies to respond to shocks and, at the same time, the importance of making sure that the intellectual property system plays its part in meeting the demands of such a crisis (Santavicca, 2020). Beyond the existing multilateral, plurilateral and regional legal frameworks, a number of countries, as well as multilateral and regional organizations, have advocated for greater cooperation to ensure equitable and affordable access to medical care, which has led to enhanced cooperation⁷⁰ and several initiatives in domains such as information and transparency, policy support, technical cooperation and capacity-building, as well as support for innovation and technology transfer.⁷¹

For instance, in order to tackle barriers to mass manufacturing and distribution of products to prevent or cure COVID-19, Costa Rica and the WHO launched in 2020 the Solidarity Call to Action⁷² and the WHO COVID-19 Technology Access Pool (C-TAP)⁷³ (WHO, 2020) to improve equitable global access to COVID-19 health technologies through a voluntarily pooling of knowledge, IP and data to support technology transfer and rapidly expand manufacturing throughout the world in relation to the detection, prevention and treatment of COVID-19. It further called on funders, researchers, governments and holders of IP and know-how to support C-TAP, in particular by sharing IP in a transparent and non-exclusive manner and facilitating technology transfer

to multiple manufacturers (Garrison, 2020). This call was subsequently reiterated in an open letter from the President of Costa Rica and the Director-General of the WHO.⁷⁴

In May 2021, the Medicines Patent Pool (MPP) also expanded its mandate into the licensing of technology with an initial focus on COVID-19 vaccines and pandemic preparedness.⁷⁵ The MPP also developed a new patents database devoted to COVID-19 vaccines: VaxPaL, building on MPP’s experience in mapping patents on key health technologies through MedsPaL, the MPP Medicines Patents and Licences database. The patent information on COVID-19 vaccines was compiled for the purpose of providing greater transparency on patents relating to key COVID-19 vaccines and focuses primarily (though not exclusively) on patents filed by the entities that have developed each vaccine.⁷⁶

WIPO has also established a COVID-19 search facility within its global PATENTSCOPE database.⁷⁷ The tool offers predefined search strings that support the searching of COVID-19-related patent information. Regional patent organizations such as the European Patent Office (EPO), regional technical cooperation initiatives like PROSUR/PROSUL (which brings together Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Paraguay, Peru and Uruguay), and national IP authorities have developed similar tools.⁷⁸

In June 2021, the heads of the World Bank Group, IMF, WHO and WTO held the first meeting of the new Task Force on COVID-19 Vaccines, Therapeutics and Diagnostics for Developing Countries. In their joint statement, the heads of those organizations described the task force as a “war room” to help track, coordinate and advance delivery of COVID-19 health tools to developing countries and to mobilize relevant stakeholders and national leaders to remove critical roadblocks in support of the priorities set out by the task force members,⁷⁹ as well as in an IMF staff proposal, which explains how a US\$ 50 billion investment to defeat the pandemic would generate US\$ 9 trillion in global economic returns by 2025 and boost manufacturing capacity, supply, trade flows and the equitable distribution of diagnostics, oxygen, treatments, medical supplies and vaccines.⁸⁰

The Task Force on COVID-19 Vaccines, Therapeutics and Diagnostics for Developing Countries subsequently set up a website which provides an array of data on rates of vaccination and the purchase and deliveries of vaccines, diagnostics and therapeutics broken down by country, region and level of income.⁸¹

OPINION PIECE

By Patrick Gaulé,

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Patents and the availability of essential goods in crises: the case of COVID-19 vaccines

The development of safe and effective COVID-19 vaccines at an unprecedented speed has been a remarkable achievement for modern science and technology. However, scaling up the supply of COVID-19 vaccines remains a key challenge to quickly vaccinating the world's population (Agarwal and Gopinath, 2021).

In order to facilitate timely access to COVID-19 vaccines and other essential products, India and South Africa have proposed to WTO members that a waiver be applied to the relevant provisions of the WTO TRIPS Agreement until widespread vaccination is in place globally. The proposal has attracted both support and opposition from a number of quarters.

Because a pandemic-specific TRIPS waiver would target essential goods during the pandemic, it is unlikely to change incentives for the creation of future non-pandemic goods. A more pressing concern is the effect on incentives for innovation for essential goods in future pandemics. The COVID-19 experience suggests that, during a crisis, R&D efforts quickly scale up (Agarwal and Gaulé, 2021). However, before a crisis occurs, there tends to be far too little

R&D investment in pandemic preparedness (Abi Younes et al., 2020), and an IP waiver during the current crisis might accentuate such underinvestment. Increased public support for R&D into pandemic preparedness might alleviate that problem.

How effective would pandemic-specific IP waivers be in expanding access to COVID-19 vaccines?

In the case of therapeutics based on small molecules, intellectual property rights matter considerably for such access. In the early 2000s, for instance, the threat (or actual implementation) of compulsory patent licensing was used by a number of countries to obtain significant discounts for HIV antiretrovirals (WHO, 2014).

Vaccines, however, are different from small molecule therapeutics in ways that may be highly relevant for the effect of IP waivers on access. Whereas simple tests can be used to show that a generic small molecule drug has the same effects as the original, clinical safety and efficacy testing of copycat vaccines would be required for vaccines (Friede 2010). Moreover, a considerable amount of know-how is involved

in the production of vaccines (even for those based on older technological platforms), and most of the producers with the relevant experience and expertise are already engaged in the production of COVID-19 vaccines.

The existence of additional barriers to entry in the production of COVID-19 vaccines – above and beyond IP – implies that the effect of IP waivers on vaccine availability might be rather limited in the short run. Subsidizing the development of new production capacity is likely to be a more effective way to accelerate the COVID-19 vaccine supply.

IP policy is fundamentally a choice between the speed of creation of new products and the speed of their diffusion. In a crisis, the speed of diffusion of essential products naturally assumes greater importance. However, IP waivers may not be effective in quickly expanding access for essential goods when other barriers to entry are present. Non-IP policies, such as subsidizing R&D and manufacturing capacity, have a key role to play in accelerating the creation and diffusion of essential goods in crises.

(iii) *Other trade-related aspects of boosting vaccine production*

If countries which, until now, did not have the capacities to produce COVID-19 vaccines (or other related medical products for that matter) deem it necessary to develop their production, a number of actions are open to them under the WTO Agreement.

Governments may decide to lower tariffs on equipment and ingredients necessary to produce vaccines in order to obtain the materials they do not produce and/or lower their production costs, thanks to cheaper inputs. Countries may also adopt international standards or engage in mutual recognition of product specifications in order to facilitate the importation of equipment or ingredients needed for the production of vaccines.

Countries that do not have the necessary skills or know-how to produce vaccines or other medical products may, under the GATS, open their markets for engineers, technicians or other specialized professionals. Facilitating compliance with their domestic regulation in services may help in this regard, without lowering existing standards. These countries may also attract investment from services providers in those domains, such as pharmaceutical companies, by allowing their establishment through the constitution, acquisition or maintenance of a company for the provision of related services.⁸²

The COVID-19 pandemic has also exposed the risks attached to the dependency of certain countries on a limited number of foreign suppliers and their exposure to potential export restrictions by producing countries, given the geographical concentration of the production not only of vaccines, but sometimes also of other medical products. Diversifying sources of production could limit the consequences of such conduct by one or more producing countries, through access to alternative sources of supply. It could also dissuade countries from engaging in export restriction if global production is sufficient. The possibility of scaling up production in different regions of the world could also facilitate responses to another potential future pandemic if it developed through waves of contamination, in the same way that, during the first wave of the COVID-19 pandemic, some countries were able to resume or continue production of essential goods while others were in lockdown.

It is anticipated that many countries and groups of countries will expand their investments in research on emerging infectious diseases and in establishing clinical trial networks, developing vaccine manufacturing capacity, and expanding regional

collaborations, in preparation for potential future pandemics.⁸³ Some authors have also advocated the negotiation of a new and enforceable sectoral COVID-19 Vaccine Investment and Trade Agreement (Bown and Bollyky, 2021) Finally, during the Annual Ministerial Assembly of the WHO on 31 May 2021, the WHO Director-General, Dr Tedros Adhanom Ghebreyesus, called for the launch of negotiations on an international treaty to boost pandemic preparedness, as part of the reform of the WHO envisioned by its member states. The ministers from the WHO's 194 member states are to meet by the end of November 2021 to decide whether to launch negotiations on this treaty.⁸⁴

(c) Mitigating protectionist responses to shocks and disciplining emergency support

(i) *Mitigating protectionist responses*

International cooperation can help countries limit their use of protectionist trade policies in response to a crisis. Experience with the 2008-09 global financial crisis suggests that the multilateral trading system can help fend off protectionist impulses (Agah, 2015), for while its outbreak triggered concerns of a relapse into protectionist behaviours similar to the those observed during the Great Depression of the 1930s, barriers to trade did not increase as much as was initially feared (Bown and Crowley, 2012).

One key element contributing to this positive development has been the codification and institutionalization of rules within the multilateral trading system. International cooperation within the legal boundaries of the WTO and various RTAs have established a trade environment with transparent enforceable rules and the knowledge that improper trade measures could trigger legal and economic consequences (Agah, 2015). Based on the lessons drawn from the 2008-09 global financial crisis on the importance of transparent monitoring of trade measures, the WTO's Trade Policy Review Mechanism has been supplemented by the regular publication of trade policy monitoring reports and the introduction of reporting provisions to oblige WTO members to provide information to the Trade Policy Review Body on a regular basis (Laird and Valdés, 2012).

Alongside trade-related cooperation, empirical evidence also points to the relevance of collaborations in the field of monetary policies. Given that exchange rates (through their effect on competitiveness) and GDP shocks are among the main drivers of trade protectionism, the IMF provides

a platform for consultation and collaboration on international monetary problems that is essential to mitigate macroeconomic volatility and, ultimately, to discourage short-sighted protectionist actions (Bown and Crowley, 2012; IMF, 2000).

(ii) *Contingent trade remedies and economic resilience*

Although it has been demonstrated that letting trade flow as freely as possible is essential in times of crisis, governments may nevertheless feel pressed by domestic firms to reserve domestic markets or to protect essential (“strategic”) or fledging industries by having recourse to the contingent trade remedies allowed under the WTO, i.e., anti-dumping, countervailing or anti-subsidy or safeguard procedures. This can be particularly the case if demand shrinks due to economic difficulties, or if local producers suddenly find themselves confronted with more competitive foreign products or did not adapt to situations of overcapacity.

The 2008-09 global financial crisis saw an increased recourse to contingent trade remedies, primarily in developing countries (Bown, 2009). However, there is no indication yet that WTO members resorted to trade policy instruments such as safeguards or to anti-dumping or anti-subsidy measures in the context of the economic crisis that has resulted from the COVID-19 pandemic.⁸⁵

Pursuant to Article II:2(b) (“Schedules of Concessions”) of the GATT 1994, WTO members are allowed to impose additional duties on top of applied customs duties against imports found to be dumped or subsidized and which cause or threaten to cause material injury to a domestic industry. The WTO Agreement on Implementation of Article VI of the GATT 1994 (the Anti-dumping Agreement) nonetheless imposes limits on the use of anti-dumping by providing for disciplines on the determination of the existence of dumping, the injury that may be caused by such practices to domestic producers of like products, the measures that may be imposed and the duration of such measures. It also provides for detailed procedures to be followed by domestic authorities when investigating complaints of dumping practices.

The Agreement on Subsidies and Countervailing Measures (SCM Agreement) also imposes disciplines on the determination of the existence of a subsidy, of the injury to the domestic industry producing like products, and of the causal link between the two, on the measures that may be imposed on subsidized imports, and on the duration of such measures. It

also provides for detailed procedures to be followed by members when investigating complaints of subsidization. More generally, countervailing and anti-dumping procedures are subject to detailed but largely similar requirements. Safeguard measures are the third type of trade remedy that a WTO member may take to cope with a situation of economic downturn caused by a shock and resulting in a surge of imports threatening a domestic industry.

The WTO Agreement on Safeguards disciplines the use of safeguard measures. Safeguard measures have a different role from anti-dumping and countervailing duty instruments. They are intended to protect an industry or branch of industry temporarily against an increase in imports of competing products while the industry or branch of industry restructures itself. This is why they are applied on an MFN basis and are strictly limited in time. Unlike anti-dumping or countervailing measures, safeguard measures do not require any allegation of “wrongdoing”. Instead, safeguards may be adopted against any import surge causing serious injury to a domestic industry. In this regard, they are more an instrument to respond to the structural consequences of a domestic, regional or worldwide crisis than a response to unfair trade practices. Safeguards can play an important role by allowing an industry time not simply to recover from the economic consequences of a shock, but also to adapt to the new economic environment resulting from it.

Whereas RTAs cannot make it easier than the WTO agreements to impose anti-dumping duties, countervailing duties or safeguard measures, particularly on imports from third-party countries, they can impose more constraints on the use of these trade remedies between RTA parties or *vis-à-vis* third parties, and generally tend to do so. They can even decide to ban the use of trade remedies between RTA parties altogether.

A majority of RTAs have rules that go beyond the WTO Anti-Dumping and SCM Agreements in terms of disciplines imposed on investigating authorities (Mattoo, Rocha and Ruta, 2020). However, only a very small number of RTAs prohibit the use of anti-dumping procedures between RTA parties.⁸⁶ Likewise, few RTAs contain rules that curb subsidies or state aid⁸⁷ to the extent that they can dispense with intra-RTA countervailing duties.

RTA anti-dumping or SCM provisions that go beyond the WTO agreements impose, for instance, a higher *de minimis* volume of dumped/subsidized imports,⁸⁸ higher *de minimis* dumping or subsidy margins,⁸⁹ or mandate a shorter period of application of anti-

dumping and countervailing duty measures than do the WTO Anti-Dumping and SCM Agreements (generally three years instead of five).⁹⁰ Many RTAs also include joint oversight bodies, which tend to reduce the amount of anti-dumping and countervailing duty activity between parties and, thus, the risk that they have a protectionist, resilience-reducing effect.⁹¹

(iii) Import licensing and other customs procedures

Shocks and the urgent need for increased quantities of critical goods can lead governments to open up their import licensing regimes. This was, for instance, the case with Argentina's decision, in April 2020, to remove medical equipment and PPE from its list of imports subject to non-automatic import licences, in the context of the COVID-19 pandemic (WTO, 2021g).

Import licensing requirements can address legitimate public interests in certain circumstances, such as controlling the entry of hazardous goods. However, import licensing can also represent an unnecessary barrier to trade, and an impediment to resilience in times of crisis.⁹² The WTO's basic rules on import licensing are contained in Article XI:1 ("General Elimination of Quantitative Restrictions") of GATT 1994, which prohibits the use of trade policies based on non-automatic, as well as automatic, import licensing regimes "if such a regime restricts trade". For agricultural products, Article 4.2 ("Market Access") of the Agreement on Agriculture (AoA) prohibits quantitative import restrictions, including discretionary import licensing, in an effort to keep border measures on such products transparent.

More elaborate rules are set out in the WTO Agreement on Import Licensing Procedures. Import licensing procedures may be used to monitor the volume and value of trade in certain goods without limiting their importation. They may also be used to administer quotas and tariff quotas.

Under the Agreement on Import Licensing Procedures, an import licensing system must guarantee transparency and impartiality, and must not be operated in such a way as to restrict trade.⁹³ Exceptions may apply, for example, in order to relieve critical shortages of foodstuffs and/or safeguard balance of payments.⁹⁴

Other forms of customs processing-related requirements were resorted to during the 2008-09 global financial crisis and have been used since the outbreak of the COVID-19 pandemic. These could breach Article XI:1 ("General Elimination of Quantitative Restrictions") of the GATT 1994, for

example, when countries limit the number of ports of entry where the customs clearance of specific goods can take place. Other restrictions relate to services, and their legality depends on the commitments undertaken by the members concerned.

Most RTAs contain provisions that seek to ensure that all automatic and non-automatic import licensing procedures are implemented in a transparent and predictable manner and applied in accordance with the WTO Agreement on Import Licensing Procedures. Most of them incorporate by reference the obligations contained in Article XI:1 of the GATT 1994⁹⁵ or in the WTO Agreement on Import Licensing Procedures.⁹⁶

(iv) Disciplining emergency support

In the context of both the 2008-09 global financial crisis and the economic crisis triggered by the COVID-19 pandemic, governments have been and are still providing emergency support to sectors, firms and workers in the form of subsidies or grants (OECD, 2021f) to help them to cope with the effects of these crises, thus seeking to enhance their resilience to these shocks. As explained above, emergency support can be used for industrial policy purposes, and it can distort competition in the long run. If it generates negative cross-border spillovers, it should be addressed through international cooperation.

This cooperation can take several forms. On the one hand, there exists a number of key principles for government interventions in times of crisis which can help minimize negative cross-border effects, as listed in Box D.4 (OECD, 2020d). On the other hand, support measures which distort competition in the manufacturing and agricultural sectors are subject to WTO disciplines. As discussed below, however, certain forms of distortive support are not or are insufficiently covered by existing WTO disciplines, which may be a source of international tensions and may require discussion among members and, if deemed necessary, new negotiations.

With regard to multilateral rules, OECD (2021f) identifies four areas where possible gaps in disciplines could be discussed at the multilateral level.

Improving transparency comes first. Information on the nature and scale of current government support is essential to developing both baselines for reductions and effective rules to address existing and potential new support. Yet such information remains limited.

A second important finding concerns the importance of adopting a value chain approach. This is because

Box D.4: Key principles for state intervention in times of crisis**Seven key principles to design support**

1. Distinguish viable from non-viable firms.
2. Match tools to problems.
3. Consider equity assistance when suitable.
4. Safeguard integrity.
5. Ensure transparency.
6. Make financial support conditional on advancing public policy goals.
7. Strengthen government capacity to handle support to the private sector.

Governments need to manage their role in the economy carefully, especially if the state becomes an “unintended owner”:

1. Plan for an exit.
2. Where governments need to stay, invest in effective state ownership.
3. Lead by example on responsible business conduct.
4. Governments must ensure that market competition is not distorted, including internationally, to uphold rules-based global trade.
5. Transparency will be key in global efforts to discipline government support.
6. Ensure coherence-of-government interventions and monitor the impact of the support measures.

identifying the ultimate beneficiary of government support is not always evident, as the effects of support in industrial sectors propagate through entire value chains that span multiple industries and countries.

A third finding concerns state-owned enterprises, which can be both significant recipients and providers of support. According to OECD (2021f), it is unclear whether existing trade rules cover all of the support provided by government-invested firms.

The fourth finding is with regard to support provided through the financial system (below-market loans and government equity injections), which, according to the OECD, is significant in a number of sectors, and is complex and hard to measure.

International cooperation to support industries heavily affected by shocks can also take other forms, as can be seen from the example of the tourism sector (see Section B4). With the aims of guiding countries

towards recovery after COVID-19, mitigating the adverse impacts from future crises, and building resilience, in April 2020 the United Nations World Tourism Organization (UNWTO) proposed a package of 23 recommendations that countries could adopt. These recommendations stress the roles that trade openness in the travel and tourism sectors will have in facilitating recovery and resilience, by creating new businesses and jobs that contribute to economic growth and sustainable development (UNWTO, 2020). On the one hand, these recommendations advise governments to cooperate by lifting travel restrictions, facilitating work visas and liberalizing air transport to reactivate employment and business activity across sectors and boost air capacity and connectivity for recovery. On the other hand, the recommendations also provide action points for local and central governments, businesses and banks to collaborate in creating tourism recovery committees with specialists in trade, transport, education, foreign affairs and governance (UNWTO, 2020).

The support programmes that have been relied upon by developed countries during the COVID-19 pandemic, the 2008-09 global financial crisis and earlier crises like the 1970s oil shocks, have often taken the form of extensive stimulus packages involving financial contributions or income or price support schemes for consumers or sectors of the economy. Multilateral trade rules do not specifically or formally distinguish between less trade-distortive domestic emergency support measures, the objective of which is essentially to help an economy cope with the immediate effects of a shock, and more trade-distortive longer-term support, granted, for example, in the context of an industrial policy plan.

When governments decide to grant financial assistance to individuals or households particularly affected by a shock, this may not amount to a subsidy as set out by the SCM Agreement. Indeed, financial support is not normally subject to WTO disciplines on subsidies, unless it is granted specifically to an enterprise or industry, or a group of enterprises or industries, within the jurisdiction of the granting authority. Therefore, stimulus packages in the form of tax breaks or other forms of changes in the rates of generally applicable taxes, whether locally, regionally or nationally, are not specific subsidies within the meaning of the SCM Agreement if applied automatically, non-discriminatorily and on the basis of objective criteria. Provided that the above requirements are complied with, governments can, for instance, suspend, delay or waive the payment of generally applicable taxes by individuals or enterprises affected by economic difficulties while they try to cope with the immediate effects of a shock, without breaching the SCM Agreement.

The issue of stimulus packages in the form of financial contributions or income or price support schemes granted to industries or branches of industry particularly affected by a shock is more delicate. Governments with sufficient fiscal space may decide to put in place resilience policies in the form of financial support intended to help certain sectors of the economy to withstand the consequences of a shock or even recover. This support will be subject to the disciplines of the SCM Agreement if granted in such a way as to become “specific” to a group of enterprises or industries. Therefore, conferring a financial benefit exclusively to a sector of industry affected by a shock may be considered to be a subsidy. The reasons for which a subsidy (except a prohibited subsidy)⁹⁷ is granted (e.g. to develop new technologies) are in themselves irrelevant, since Article 8 (“Identification of Non-Actionable Subsidies”) of the SCM Agreement ceased to be applicable, consistent with the provisions of Article

31 of the SCM Agreement, five years after the entry into force of the SCM Agreement (Coffin and Horowitz, 2018).

Domestic support and export subsidies to agricultural products are subject to specific disciplines under the AoA,⁹⁸ derogating from the SCM Agreement (Article 21.1 (“Final Provisions”) of the AoA). As long as it conforms with certain conditions, domestic support to agricultural products is not subject to a maximum ceiling or to reduction commitments when it is provided as part of certain government service programmes, including public stockpiling programmes for food security purposes or for domestic food aid programmes to support poorer parts of the population.⁹⁹ These can make them useful tools to cope with shocks,¹⁰⁰ and a number of countries have therefore set up such stockpiling programmes for disaster relief purposes.¹⁰¹ However, coupled with import duties, domestic support to agriculture can have a strong protectionist effect, as this combination may reduce or prevent price-based competition from imported products.¹⁰²

Finally, as experienced during the recent crises, governments may decide to financially support services sectors hit by a shock, as they did for the banking and insurance sectors during the 2008-09 global financial crisis or, during the COVID-19 pandemic, airlines and the tourism industry affected by travel restrictions and lockdown. As far as trade in services is concerned, it should be recalled that, apart from any commitments members may have undertaken on national treatment in their schedules, subsidies are not regulated under the GATS. This means that, to this day, WTO members have a large margin of discretion for subsidizing services and services providers. This may lead to trade distortions in the services sector. For instance, during the 2008-09 global financial crisis, individual bailouts were offered to banks on condition that they lend or provide guarantees to domestic industries which might not otherwise have been eligible for such loans (Baldwin and Evenett, 2009a). Financial packages granted to airlines during the COVID-19 pandemic most probably cannot give rise as such to a challenge under the WTO, even if they have an impact on international competition, also because the essence of the air transport sector has been carved out from the scope of the GATS.¹⁰³

The relationships of RTAs with subsidies are quite diverse. Some RTAs to which the European Economic Area or the European Union are parties exempt aid related to natural disasters from their disciplines on subsidies. RTAs also tend to “revive” the WTO category of non-actionable subsidies.¹⁰⁴ Some RTAs

allow subsidies that pursue horizontal or general objectives (such as environmental protection), public services or regional development,¹⁰⁵ as well as subsidies to categories of industries (for example, to steel or coal). Some RTAs permit particular forms of horizontal or sectoral aid, by providing that the prohibition of aid to ailing companies “does not apply to subsidies granted as compensation for carrying out public service obligations and to the coal industry”,¹⁰⁶ thereby allowing governments to maintain industries afloat which would otherwise probably become insolvent. Horizontal aid was common during the COVID-19 pandemic (Van Hove, 2020).

A problem related to subsidies has often been the lack of transparency of the stimulus packages used to kickstart domestic economies after a shock. Whereas members have no obligation under the WTO Agreement to consult each other or coordinate before taking such measures, consultations and coordination between countries planning to implement stimulus packages could significantly increase the efficiency of those domestic packages, while avoiding the adoption of countermeasures by countries which consider themselves negatively affected by such policies.

(v) *Strengthening compliance with multilateral and regional trade norms*

As demonstrated in Section C, during a crisis, governments should comply with the international norms that they have set for themselves, since acting otherwise can have negative spillovers and lead to domino effects. Members who believe themselves harmed by other members’ violations of WTO disciplines, for example due to measures taken during crises, are not allowed to reach a determination of violation of the WTO Agreement, of nullification or impairment of benefits, or of impediments to attaining any objective of the WTO Agreement, without first resorting to the WTO Dispute Settlement Mechanism.¹⁰⁷

The WTO Agreement and many RTAs provide for dispute settlement mechanisms but generally these are not suited to dealing with measures adopted in response to shocks which remain in place for a few weeks or months only, even though these measures may, temporarily or for longer periods, suppress or divert pre-existing trade flows, and can thereby seriously disrupt existing trade patterns.

For instance, in the case of the WTO Dispute Settlement System, there is no “public prosecutor”, which means that at least one WTO member must have an interest in challenging the legality of a protectionist measure taken by another member. In

this respect, governments may not be too keen to make such a challenge when they are all engaged in similar practices.

But, even if those concerns are put aside, the ultimate limitations are the dispute settlement mechanisms themselves, even in the case of the WTO Dispute Settlement System. A member alleging that another member has breached its obligations before the WTO Dispute Settlement Body – the body supervising the functioning of the Dispute Settlement Understanding – has to go through consultations, an elaborate two-tier review and an implementation stage, a process which, even if timelines are strictly adhered to, remains relatively long.¹⁰⁸

Dispute settlement is not, however, the only channel open to countries whose trade is affected by emergency policies adopted by some other country. The increasingly global nature and impact of shocks exposes WTO members to similar effects which, as already highlighted, are better addressed through closer international or regional cooperation and by maintaining trade flows. This means that, as more crises occur, more global experience is acquired and more exhaustive information on supply and demand becomes available in real time, governments may increasingly adopt similar responses to benefit from the multiplying effect of positive spillovers that results from international cooperation on crisis preparation and management.

6. International cooperation on trade policies can help recovery after shocks

(a) Trade policies and recovery

Once a shock dissipates or becomes manageable, the phase of recovery can typically start. As discussed in Section B, recovery strategies cover a broad range of actions and policies with a view to repairing, rebuilding, restoring and, in some cases, adapting to new structural, infrastructural, agricultural and environmental conditions. Depending on the country’s financial resources, recovery policies can include monetary, fiscal, industrial, labour market and infrastructure policies. Although many recovery strategies are similar to the coping strategies adopted by firms, households and governments, they tend to be framed in a longer-term perspective. In addition, aspects of recovery strategies that focus on adapting to new conditions and building a more sustainable system, can contribute to risk prevention, reduction and preparedness strategies, underscoring the dynamic and ongoing nature of economic resilience.

Trade policy can contribute to accelerating economic recovery through improved market access and greater diversification. The types of recovery policies that have an impact on trade are more likely to be those involving support for sectors of domestic economies in the form of industrial policy measures (e.g., local content requirements and reshoring of GVCs or of industries deemed “strategic” to face future shocks) or financial support to assist all or certain branches of industry in transitioning to a greener and more digital economy. International cooperation can mitigate the risk that trade-related recovery measures in one country delay or impede recovery in other countries. It can also build synergies between recovery plans.

Most WTO rules and WTO-compatible RTA provisions not only facilitate the response of governments to shocks, but they can also contribute to economic recovery, to the extent that they create the legal framework for a return to regular trade flows and dissuade members from resorting to trade policies or measures which, by disrupting or diverting such trade flows, can delay recovery, including recovery through adaptation and innovation. In this respect, the discussions of the multilateral, plurilateral and regional normative set-up in the previous sections apply equally to the topic of recovery. Indeed, the relevance of those rules and disciplines does not depend on the shorter or the longer-term dimension of the policies involved, respectively, in coping and recovery. Therefore, they will be addressed in this subsection only where the longer-term and more structural nature of recovery measures will make it necessary.

(b) International cooperation and recovery

(i) *International disciplines and initiatives*

As already mentioned above in Section D3(a), a number of the financial measures which governments may implement, including as part of recovery plans, are not disciplined by WTO agreements. Moreover, actionable subsidies, i.e. those that fall within the scope of the definition contained in Article 1 (“Definition of a Subsidy”) of the SCM Agreement, but which are not prohibited pursuant to its Article 3 (“Prohibition”), may have to be removed only if they cause adverse effect to the interests of another member, and only to the extent that they cause this adverse effect. In other words, they may not always have to be eliminated, only adapted so that they cease to have an adverse effect on the interests of another member, within the meaning of the SCM Agreement.

Besides trade policy, some recovery policies may have a trade dimension by affecting exports and

imports directly or indirectly. For instance, policies to enhance digital infrastructure can allow some socioeconomic categories to engage in trade in goods and services, including through e-commerce, which is already addressed in a number of RTAs (see Section D4). Enhancing trade capacity also can be key to ensuring that trade opportunities materialize, in particular in developing countries and LDCs, which are more exposed to risks, hit hardest by shocks and have limited financial resources, including fiscal space, to recover faster from shocks.

As emphasized in Section B4, one area that has received increasing attention is the digital divide between advanced economies, developing countries and LDCs (WTO, 2020g), as well as between men and women, the young and the old, the poor and the rich, and large and small firms within a country (Antonio and Tuffley, 2014; Morrow-Howell, Galucia and Swinford, 2020; WTO, 2020g). Poor digital infrastructure, particularly in rural areas, excludes millions from productive activities or access to essential services. Limited access to digital technologies and lower IT skills rates further reduce teleworking and e-commerce opportunities in LDCs, for MSMEs and for women, thus slowing down recovery from the crisis.

Aid for Trade programmes have already proved particularly valuable in mitigating the impacts of COVID-19 on women entrepreneurs, helping women take advantage of e-commerce opportunities and bridging the gender digital divide. In this context, the Informal Working Group on Trade and Gender, created in 2020 further to the Joint Declaration on Trade and Women’s Economic Empowerment adopted at the 11th WTO Ministerial Conference, has proposed, among other things, to include issues concerning women’s economic empowerment in the regular work of WTO bodies and to improve the impact of Aid for Trade on women by mainstreaming gender considerations into programmes and strategies.

Through international cooperation, developing countries and LDCs can be provided with trade-related financial and technical assistance to support and accelerate their recovery, which in turn can sustain the recovery of other countries. Several WTO initiatives adopted for development purposes can also assist developing countries to build and support their recovery, with the objective of increasing the economic resilience of these countries to future risks and shocks by integrating them more into international trade.

Such initiatives are essential because, while high-income countries have the means to adopt large

recovery packages, developing countries have limited financial and other resources. International cooperation can help address this gap. More particularly, the Aid for Trade initiative (discussed above in Section D4(b)(ii)) can assist in building economic resilience through recovery, including from the economic impact of the COVID-19 pandemic. LDCs can also seek the support of the Enhanced Integrated Framework (EIF), a multilateral partnership which helps LDCs to use trade for growth, sustainable development and poverty reduction, and which is the main mechanism by which LDCs access Aid for Trade. The EIF helps to bridge the gap between demand for, and supply of, Aid for Trade, and to include trade in national development plans. It provides a procedure for clearly mapping out and prioritizing key LDC needs in terms of trade-related assistance and capacity-building, including trade infrastructure, supply and productive capacity, and for submitting these demands to the donor community of each country, to access funding beyond the resources available in the EIF's own trust fund.

The Standards and Trade Development Facility (STDF), a global partnership to facilitate safe trade and contribute to sustainable economic growth, poverty reduction and food security, also maintains close contacts with the Aid for Trade initiative. It complements Aid for Trade with projects and monitoring of aid flows at an operational, issue-specific level in the field of SPS measures. The STDF provides funding both to develop and to deliver innovative, cross-cutting projects. STDF projects help public and private sector stakeholders in developing countries to improve food safety and animal and plant health to facilitate safe trade, thus reducing the risks of zoonoses.

Finally, the capacity-building part of the WTO Trade Facilitation Agreement (TFA), through which donors can help developing countries to streamline their import and export procedures, can also contribute to recovery. When a new crisis hits, TFA-assisted countries will be able to import essential goods more rapidly and safely. This could be achieved, for instance, by promoting the development of e-customs.

Given that trade-opening can lead to some disruptions in the labour market, because some sectors tend to expand while others tend to contract, adjustment policies, including labour market adjustment policies, can be important complementary policies to lower the adjustment costs for displaced workers who have to change jobs or occupations. Since the use of adjustment measures can have an impact on other countries through trade, and some parties do

not necessarily have the relevant knowledge and experience, some RTAs include explicit cooperation provisions on labour adjustment measures, including human resources development, vocational training, skills development, life-long learning programmes, unemployment assistance and social protection programmes (WTO, 2017). Reducing the costs of adjustment for workers can contribute to preventing the rise of trade protectionism, which in turn undermines economic recovery, and ultimately economic resilience.

(ii) *“Green recovery” and economic resilience*

Some governments have adopted, or are in the process of adopting, post-COVID-19 economic recovery plans with sustainable development objectives, including on climate change and inclusiveness.¹⁰⁹ The scope of such plans is broader than traditional recovery plans and covers environmental, social, energy, information and communications technology, health and education policies, among others, with a view to triggering investment and behavioural changes from firms and households, so that vulnerabilities and exposures are reduced and future risks avoided or mitigated.

Plurilateral initiatives, such as the negotiation of an environmental goods agreement (EGA), which originally failed to reach consensus, received renewed attention in 2021. The intention to resume EGA negotiations was expressed on 5 March 2021 as part of the new “structured discussions on trade and environmental sustainability”. A joint submission from Australia, the Republic of Korea and Singapore, as well as separate individual submissions, has called for a resumption of negotiations on environmental goods and for discussions on environmental services, to support international commitments to combat climate change and contribute towards a more sustainable world economy.

As part of a broad and overarching sustainability objective, efforts are being made to promote dialogue and information-sharing at the WTO on issues where trade and environment policies intersect, including on the circular economy, natural disasters, climate change, fossil fuel subsidies reform, plastic pollution, combatting illegal, unreported and unregulated fishing, ensuring legal and sustainable trade in wildlife, the conservation and sustainable use of biodiversity, the Blue Economy (i.e., the sustainable use of ocean resources), and sustainable agriculture, as well as trade in environmental goods and services.

Two main initiatives related to risk prevention and reduction are currently being pursued by a number of

WTO members at the plurilateral level: the Trade and Environmental Sustainability Structured Discussions (TESSD) and the informal dialogue on plastics pollution. The TESSD initiative ranks resilience of the multilateral trading system to climate risks (climate adaptation) as one of its top priorities. This initiative was launched in November 2020 during the WTO's Trade and Environment Week, at which 53 WTO members declared that they planned "to collaborate, prioritize and advance discussions on trade and environmental sustainability," naming, among other priorities, the pressing challenge of climate change and the lessons learned from the COVID-19 pandemic.

7. Conclusion

International cooperation can leverage synergies to promote economic resilience. International cooperation on economic resilience can play an important role in preparing for, coping with and recovering from shocks. It can amplify the positive cross-border spillovers effects of individual policy actions taken to promote economic resilience. It can also mitigate possible negative cross-border spillovers from individual policy actions.

Trade-restrictive domestic measures adopted in anticipation or response to shocks are often characterized by negative cross-border spillovers, such as those associated with export restrictions, which can undermine economic resilience. Global policy coordination can, therefore, be an important means to prevent trade policies from becoming a source of shocks and to mitigate the risks from trade policy uncertainty.

Open and predictable international markets are key to supporting economic resilience by enabling import and export diversification. Although governments can open up to trade unilaterally, international trade cooperation can help to achieve a higher level of openness and predictability, and can limit the use of protectionist trade policies in response to crises. International cooperation at the multilateral or regional level can help governments to open their markets to services that play a key role in handling shocks, such as weather forecasting, insurance, telecommunications, transportation, logistics and health services.

International cooperation can also play an important role in increasing the resilience of global value chains and securing the supply of essential goods and services, including COVID-19 vaccines, at reasonable cost. Besides discouraging reshoring policies, it can help to promote transparency, in particular on production capacities; to identify and

avoid bottlenecks; to facilitate cross-border trade; to enhance mutual recognition of standards; and to manage inventories to prevent excessive stockpiling. Short of substituting for national policy options, international cooperation can usefully complement national diversification or stockpiling policies.

International cooperation at the WTO participates in supporting economic resilience. Although the term "resilience" does not appear in the WTO agreements, the existing WTO framework supports the conditions underpinning economic resilience by contributing to more open and predictable international markets, through more transparent and predictable trade policies.

The WTO obligation to publish relevant laws and regulations, the Trade Policy Review Mechanism or the trade policy monitoring reports significantly enhance multilateral transparency. The WTO Trade Facilitation Agreement helps to smooth customs procedures for the importation of critical goods in times of crisis. Cooperation through mutual recognition agreements on TBT and the SPS standards on essential products enhances predictability and contributes to ensuring supplies of essential goods in times of crisis. Initiatives such as Aid for Trade, the EIF and the STDF support more diversified import and export structures in developing countries. Collaboration between the WTO and other international and regional organizations contributes to greater policy coherence regarding economic resilience.

In a number of areas, the WTO could help members further enhance economic resilience through improved access to, and coordination of, relevant trade policy information. All WTO agreements provide, one way or the other, for the transparency of trade policy measures (mainly through publication and notification) and, during the COVID-19 crisis, the rate of notification and the speed at which governments notified to the WTO policies with potentially significant trade impact – such as import facilitation measures or export restrictions – were quite high. However, the degree of compliance with WTO notification requirements continues to vary between members and agreements, with some categories of measures likely to be used in times of crisis (e.g., subsidies) facing "chronic" underreporting. Stronger international commitments to improve trade policy transparency are therefore essential.

Given the negative spillovers that can be generated by export restrictions during crises such as the COVID-19 pandemic, international cooperation is needed to discipline or discourage the use of such export restrictions and to find alternative approaches,

in order to increase the supply of essential goods. Tariff reductions or elimination can reduce the cost of essential goods. Trade facilitation reforms can help smooth customs procedures for the importation of critical goods in times of crisis. Negotiations on services domestic regulation could assist in overcoming the scarcity of essential services in some countries, particularly in the health or telecommunications sectors.

Greater cooperation to improve the predictability and transparency of measures affecting cross-border mobility is also essential to limit barriers to the provision of cross-border services and the delivery of essential goods. Global rules on electronic commerce could further facilitate the delivery of services and goods. Promoting access to government procurement and the international coordination of domestic procurement policies could allow more effective use of public resources, particularly in the procurement of

medical products, including vaccines. New initiatives in relation to IP and investment could also promote access to relevant technologies in middle and low-income countries.

Although trade and trade policy can play an important role in building and supporting economic resilience, they cannot overcome other obstacles that may prevent economic resilience from fully materializing. Given the broad spectrum of risks and shocks and the cross-cutting nature of economic resilience, strengthening the cooperation between the WTO and international and regional organizations specializing in aspects that are key for economic resilience, such as risk prevention, disaster relief, public health, climate change, environmental protection and financial stability, is key to promoting coordination and coherence in the various efforts to build and support economic resilience.

Endnotes

- 1 A good example is the case of carbon emission reduction policies to reduce the risks associated with climate change.
- 2 WTO official document number WT/MIN(17)/60 of 13 December 2017.
- 3 All WTO official documents mentioned in this report can be accessed via <https://docs.wto.org/>.
- 4 WTO official document number WT/MIN(17)/59 of 13 December 2017.
- 5 WTO official document number WT/MIN(17)/61 of 13 December 2017.
- 6 WTO official document number WT/MIN(17)/58 of 13 December 2017.
- 7 In contrast with the other initiatives made at the 11th Ministerial Conference, this initiative is the result of a communication. See WTO official document number WT/CTE/W/249 of 17 November 2020.
- 8 See Article XXIV:8 (“Territorial Application — Frontier Traffic — Customs Unions and Free-trade Areas”) of the GATT 1994.
- 9 “Deep preferential trade agreements” range from bilateral agreements (e.g., the China-Australia Free Trade Agreement (ChAFTA)) to “mega-regional agreements” such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP).
- 10 In addition to these priorities, the Sendai Framework outlines seven global targets. Targets C, D and F especially relate to economic losses. Among other things, they aim to enhance international cooperation with developing countries through adequate and sustainable support, as well as by increasing public and private investment in disaster prevention and reduction.
- 11 See <https://www.undrr.org/implementing-sendai-framework/what-sendai-framework>.
- 12 Some examples of disaster reduction framework initiatives include the Recommendation of the Council on the Governance of Critical Risks, adopted in 2014 by the OECD (<https://www.oecd.org/gov/risk/Critical-Risks-Recommendation.pdf>).
- 13 See also WTO official documents numbers WT/L/847 and WT/L/918 (on preferential treatment to LDCs’ services and service suppliers by developed and developing countries).
- 14 Duties can be imposed on imports and exports. Although the latter have generally received less attention during negotiations, they can have an effect on trade equivalent to a quantitative export restriction if there are no or only limited supply alternatives to the country imposing such export duties. Quantitative export restrictions are discussed later in this section.
- 15 Members can also raise import duties above their bound rate by negotiating a new bound rate or by means of contingent trade remedies such as safeguard, anti-dumping or countervailing measures.
- 16 The concessions agreed to in the negotiations were incorporated into the WTO’s schedules of concessions of the participating members via the Procedures for Modification and Rectification of Schedules of Tariff Concessions (1980 Procedures) (Decision of 26 March 1980, GATT document L/4962). The goods covered include finished pharmaceutical products, pharmaceutical active ingredients and chemical compounds used by the pharmaceutical industry, enumerated in four annexes. As a result of the Pharma Agreement and its subsequent reviews, participating members committed to eliminating customs duties and all other duties and charges, not only on all finished pharmaceutical products, whether sold in bulk or in dosified packages for retail sale (paracetamol, antibiotics, vaccines, etc.), but also on over 7,000 pharmaceutical active ingredients and chemical components used in pharmaceutical supply chains. (see GATT documents L/7430 and L/7430/Add.3).
- 17 Four reviews have taken place since the establishment of the WTO: in 1996 (WTO official document G/MA/W/10), 1998 (WTO official document G/MA/W/18), 2007 (WTO official document G/MA/W/85) and 2010 (WTO official document G/MA/W/102).
- 18 For example, limitations may be imposed on the number of services suppliers, service operations or employees in the sector, on the value of transactions, on the legal form of the service supplier, or on the participation of foreign capital.
- 19 See, for instance, the European Union, the Gulf Cooperation Council and the East African Community.
- 20 See, for instance, the Southern African Customs Union (SACU).
- 21 The WCO published, in 2014, Guidelines on Certification of Origin, aimed at providing guidance for WCO members to design and develop origin-related procedures. Section II of the Guidelines deals with the certification of origin with regard to preferential rules of origin, which is used to determine whether a preferential tariff rate is applicable under preferential schemes such as FTAs (WCO, 2018).
- 22 See the Declarations by the Informal Working Group on Micro, Small and Medium-sized Enterprises (WTO, 2020b; 2021a).
- 23 The “Legal Entity Identifier” (LEI) is a unique system of 20 digits that identifies companies, governments or entities that are involved in financial transactions. The primary use of LEIs is to help financial institutions find due diligence information about their customers, including small businesses, transparently and quickly (WTO, 2020c).
- 24 For example, during the first eight months of the pandemic, the US demand for protective masks was roughly 100 times larger than the amount in their national stockpile (Cohen, 2020).
- 25 See the WTO trade monitoring reports (WTO, 2021f).
- 26 Agreement on Subsidies and Countervailing Measures Article 3 (b) (“Prohibition”).
- 27 See, e.g., Appellate Body Report, EC – Asbestos (2001); Appellate Body Report, US – Clove Cigarettes (2012); Appellate Body Report, US – Tuna II (Mexico) (2012); Appellate Body Report, EC – Seal Products (2014); Appellate Body Report, Russia – Railway Equipment (2020); and Panel Reports, Australia – Tobacco Plain Packaging (2020).

- 28 See, e.g., EC – Hormones (1998); Australia – Salmon (1998); Japan – Agricultural Products II (1999); Australia – Salmon (Article 21.5 – Canada) (2000); Japan – Apples (2003); Japan – Apples (Article 21.5 – US) (2005); EC – Approval and Marketing of Biotech Products (2006); US – Poultry (China) (2010); Australia – Apples (2010); India – Agricultural Products (2015); US – Animals (2015); Russia – Pigs (2017); and Korea – Radionuclides (2019).
- 29 China, for instance, issued an immediate and comprehensive ban on all wildlife trade and consumption in February 2020. Indonesia introduced a certification requirement for the importation of live animals from countries not free from COVID-19 in April 2020. The Republic of Korea imposed a temporary import restriction on wild animals considered to be possible intermediate hosts for COVID-19 transmission in February 2020 (ITC, 2021).
- 30 In the SPS area, the term “conformity assessment” is not commonly used. While mutual recognition is less common, “equivalence agreements” exist where the authority of an importing country may, for example, recognize the results of tests or inspections carried out in the exporting country.
- 31 For instance China, confronted with diverging technical regulations and conformity assessment procedures for PPE produced in different countries in the early stages of the COVID-19 pandemic, issued guidelines on emergency imports of PPE. These allowed the importation of products from the European Union, Japan, the Republic of Korea and the United States, which were not yet registered with China’s Medical Products Administration, provided that manufacturers could present the results of tests performed under their domestic technical regulations and a declaration of conformity as a written assurance of conformity with those technical regulations. Likewise, the United States allowed, for a certain period, the use of respirators which were not certified by the National Institute for Occupational Safety and Health (NIOSH) by explicitly listing the countries concerned, their technical standards and the acceptable product classifications. See also Fu and McMahon (2021).
- 32 See Article 6.5 of the India-Malaysia RTA.
- 33 See, e.g., Article 6.5 of the China-Republic of Korea RTA.
- 34 See, e.g., the EU-Singapore or EU-Japan RTAs. The New Zealand-Singapore RTA is illustrative of how the parties to the RTA struck a balance between the sovereign right to regulate and the abstention from creating unnecessary obstacles to trade between the parties “where appropriate and consistent with good regulatory practice”. However, this “soft” requirement may not facilitate trade between the parties in times of shock, as it leaves open the possibility of restrictive measures. Only a few RTAs negotiated between developed and developing countries include provisions on mutual recognition. For instance, the Japan-Thailand RTA contains a horizontal chapter on mutual recognition with detailed commitments where parties accept the results of conformity assessment procedures conducted by registered/accredited conformity assessment bodies.
- 35 This includes the following RTAs: EU-Japan; Hong Kong, China-Georgia; EU-Canada; EU-SADC; Australia-China; EU-Georgia; EU-Moldova; EU-Ukraine; New Zealand-Chinese Taipei; New Zealand-Malaysia.
- 36 See, for instance, the Food and Agriculture Organization (FAO) and other UN specialized agencies and funds and programmes for foodstuffs, the World Health Organization (WHO) and the United Nations Children’s Fund (UNICEF) for medical products; the EU Joint Procurement Agreement for the joint procurement of medicines, medical devices and “other services and goods” that mitigate or respond to cross-border threats to health (De Ruijter, 2019); and the ASEAN Plus Three Emergency Rice Reserve Agreement (APTERR) to address potential food shortages in the region in the light of climate and market uncertainties.
- 37 Articles XX(b) and XX(g) of the GATT 1994 refer, respectively, to the “General Exceptions” “(b) necessary to protect human, animal or plant life or health” and “(g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption”.
- 38 Pursuant to Article III:8(a) (“National Treatment on Internal Taxation and Regulation”) of GATT 1994, national treatment obligations do not apply “to laws, regulations or requirements governing the procurement by governmental agencies of products purchased for governmental purposes and not with a view to commercial resale or with a view to use in the production of goods for commercial sale” (see also Article XIII (“Government Procurement”) of the GATS on procurement in services).
- 39 The GPA 2012 applies to procurement for governmental purposes of goods, services, and construction services by central, sub-central and other entities, above threshold values as specified in the Parties’ schedules to the Agreement.
- 40 GPA 2012, Article IV:1(a) and (b) (“General Principles”).
- 41 GPA 2012, Articles VII to XVI (“Notices”, “Conditions for Participation”, “Qualification of Suppliers”, “Technical Specifications and Tender Documentation”, “Time-Periods”, “Negotiation”, “Limited Tendering”, “Electronic Auctions”, “Treatment of Tenders and Awarding of Contracts” and “Transparency of Procurement Information”).
- 42 See Article XXII:7 (“Final Provisions”) of the GPA 2012.
- 43 See Article III, Annex IV of the Japan-Switzerland FTA.
- 44 See Article 8.32 of the EU-Japan Economic Partnership Agreement.
- 45 The Comprehensive and Economic Trade Agreement (CETA), for instance, calls for, among other things, the simplification of procedures, and the observance of standards of impartiality and independence in the decision-making process. See Article 12.3 of the CETA.
- 46 <https://www.who.int/news-room/q-a-detail/one-health>
- 47 This phenomenon is discussed as a time-inconsistency problem by Leibovici and Santacreu (2020b).
- 48 Panel Report, Japan – Semi-Conductors (1988), paragraph 104. See also: Panel Report, India – Quantitative Restrictions (1999), para. 5.129. The panel in this case further noted that: ‘the scope of the term “restriction” is also broad, as seen in its ordinary meaning, which is “a limitation on actions, a limiting condition or regulation”’.
- 49 Article XX of the GATT 1994 and Article XIV of the GATS add that such measures must not be applied in a manner that would constitute a means of arbitrary or

- unjustifiable discrimination between countries where the same conditions prevail, or as a disguised restriction on international trade.
- 50 GATT Analytical Index, Article XX, pages 593-594.
- 51 Australia, Brazil, Canada, Chile, the European Union, Japan, Kenya, Republic of Korea, Mexico, New Zealand, Norway, Singapore and Switzerland.
- 52 China, France, India, the United Kingdom and the United States.
- 53 “Licensure experience” encompasses reported production capacities from developers which have at least one other vaccine in their current portfolio that has been licensed for use by a national regulatory authority.
- 54 See <https://www.g20.org/high-level-independent-panel-urges-the-g20-to-launch-a-global-deal-to-prevent-catastrophic-costs-of-future-pandemics.html>
- 55 mRNA stands for messenger ribonucleic acid.
- 56 One of those initiatives has involved the establishment, by the heads of the World Bank Group, IMF, WHO and WTO of the Task Force on COVID-19 Vaccines, Therapeutics and Diagnostics for Developing Countries (https://www.wto.org/english/news_e/news21_e/covid_30jun21_e.htm).
- 57 See <https://www.gavi.org/vaccineswork/covax-manufacturing-task-force-tackle-vaccine-supply-challenges>.
- 58 On this matter, see the Report of the G20 High Level Independent Panel on Financing the Global Commons for Pandemic Preparedness and Response, 9 July 2021 (<https://www.g20.org/high-level-independent-panel-urges-the-g20-to-launch-a-global-deal-to-prevent-catastrophic-costs-of-future-pandemics.html>).
- 59 The TRIPS Agreement acknowledges the difficulties that LDC members may face in implementing their obligations under this Agreement and their need for flexibility to create a viable technological base. It thus provided a transition period of 10 years for implementation of TRIPS obligations, aside from those of national treatment and MFN treatment, for these members (see Article 66.1). This transitional period has been extended by the TRIPS Council until 1 January 2033.
- 60 Specific provisions of the Paris Convention for the Protection of Industrial Property of 1967 (Paris Convention); the International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations of 1961 (Rome Convention); the Treaty on Intellectual Property in Respect of Integrated Circuits of 1989 (Washington Treaty); and the Berne Convention for the Protection of Literary and Artistic Works of 1971 (Paris Act) are integral parts of the TRIPS Agreement.
- 61 See the amendment to the TRIPS Agreement which entered into force on 23 January 2017, and which aims to improve the access of poor countries to affordable medicines. The amendment integrates in the TRIPS Agreement a decision on patents and public health originally adopted in 2003.
- 62 See https://www.wto.org/english/tratop_e/covid19_e/covid19_e.htm.
- 63 See WTO official document number IP/C/W/669. This proposal has since been co-sponsored by the Plurinational State of Bolivia, Egypt, Eswatini, Kenya, Mongolia, Mozambique, Pakistan, Venezuela, Zimbabwe, the African Group and the Least Developed Countries Group. Fiji, Indonesia, Jordan, Maldives, Mauritius, Namibia, Vanuatu have voiced their support.
- 64 See WTO official document IP/C/W/669/Rev.1.
- 65 See, e.g., “Statement by President von der Leyen at the joint press conference with President Michel and Prime Minister Costa following the informal meeting of EU Leaders and the EU-India leaders’ meeting,” 8 May 2021, https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT_21_2361.
- 66 See WTO official document IP/C/W/681.
- 67 See https://www.wto.org/english/news_e/news21_e/trip_20jul21_e.htm.
- 68 See Chapter 18 of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP).
- 69 For instance, El Salvador, Guatemala, Honduras, Jordan, Morocco and Nicaragua in their RTAs concluded with the United States.
- 70 On 24 June 2021, the heads of the WHO, WIPO and the WTO agreed to build further on their existing commitment to WHO-WIPO-WTO trilateral cooperation on IP and public health (see https://www.wto.org/english/tratop_e/trips_e/who_wipo_wto_e.htm), which aims to support and assist all countries as they seek to assess and implement sustainable and integrated solutions to public health challenges. On this occasion, they agreed to collaborate on the organization of practical, capacity-building workshops to enhance the flow of updated information on current developments in the pandemic and responses to achieve equitable access to COVID-19 health technologies, and to implement a joint platform for tripartite technical assistance for countries relating to their needs for COVID-19 medical technologies (https://www.wto.org/english/news_e/news21_e/igo_23jun21_e.htm).
- 71 The WTO makes available to its members and observers a list of measures regarding TRIPS in relation to the COVID-19 pandemic. This non-exhaustive list, compiled by the WTO Secretariat from official sources, represents an informal situation report and an attempt to provide transparency with respect to measures related to IPR taken in the context of the COVID-19 crisis (https://www.wto.org/english/tratop_e/covid19_e/trade_related_ip_measure_e.htm).
- The WIPO COVID-19 IP Policy Tracker (<https://www.wipo.int/covid19-policy-tracker/#/covid19-policy-tracker/ipo-operations>), meanwhile, provides information on measures adopted by IP offices in response to the COVID-19 pandemic, such as the extension of deadlines. In addition, the policy tracker provides information on legislative and regulatory measures for access and voluntary actions.
- 72 See <https://www.who.int/initiatives/covid-19-technology-access-pool/solidarity-call-to-action>.
- 73 See <https://www.who.int/initiatives/covid-19-technology-access-pool>.
- 74 See [https://www.who.int/news/item/27-05-2021-the-president-of-the-republic-of-costa-rica-and-the-director-general-of-the-world-health-organization-call-once-again-on-all-who-member-states-to-actively-support-the-covid-19-technology-access-pool-\(c-tap\)](https://www.who.int/news/item/27-05-2021-the-president-of-the-republic-of-costa-rica-and-the-director-general-of-the-world-health-organization-call-once-again-on-all-who-member-states-to-actively-support-the-covid-19-technology-access-pool-(c-tap))

- 75 See <https://medicinespatentpool.org/news-publications-post/covid-19-vaccine-technologies-mandate-expansion/>.
- 76 See <https://medicinespatentpool.org/what-we-do/disease-areas/vaxpal/>.
- 77 See <https://www.wipo.int/patentscope/en/>.
- 78 See https://www.wto.org/english/res_e/booksp_e/extract_who-wipo-wto_2020_e.pdf.
- 79 See <https://www.who.int/news-room/commentaries/detail/a-new-commitment-for-vaccine-equity-and-defeating-the-pandemic> and <https://www.worldbank.org/en/news/statement/2021/06/03/world-bank-group-and-international-monetary-fund-call-to-action-on-covid-vaccine-access-for-developing-countries>.
- 80 See <https://www.who.int/news/item/01-06-2021-new-50-billion-health-trade-and-finance-roadmap-to-end-the-pandemic-and-secure-a-global-recovery>. The IMF proposal is available at <https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2021/05/19/A-Proposal-to-End-the-COVID-19-Pandemic-460263>.
- 81 See <https://www.covid19taskforce.com/en/programs/task-force-on-covid-19-vaccines> and https://www.wto.org/english/news_e/news21_e/igo_28jul21_e.htm.
- 82 Articles I:2(c) (“Scope and Definition”) and XXVIII(d)(i) (“Definitions”) of the GATS.
- 83 See, for example, A Global Deal for Our Pandemic Age (<https://www.bruegel.org/2021/07/a-global-deal-for-our-pandemic-age/>), report presented by the G20 High Level Independent Panel on Financing the Global Commons for Pandemic Preparedness and Response (HLIP) at the third G20 Finance Ministers and Central Bank Governors meeting in Venice on 9 July 2021. For countries seeking to expand their investments in health security, the Coalition for Epidemic Preparedness Innovations (CEPI) can also offer multisectoral partnerships and expertise (CEPI, 2021).
- 84 See <https://www.reuters.com/world/china/who-agrees-study-major-reforms-meet-again-pandemic-treaty-2021-05-31/>.
- 85 In fact, the opposite occurred when Argentina suspended its anti-dumping duties on imports of certain medical products from China and when Brazil introduced a temporary suspension of the anti-dumping duties on vacuum plastic tubes for blood collection imported from Germany, the United Kingdom and the United States (WTO, 2021g).
- 86 See, for example, Australia-New Zealand (ANZCERTA); Canada-Chile; China-Hong Kong, China; China-Macao, China; the Common Economic Zone (CEZ); the original EC and its various expansions; the European Economic Area (EEA); the European Free Trade Association (EFTA); EFTA-Bosnia and Herzegovina; EFTA-Chile; EFTA-Hong Kong, China; EFTA-Montenegro; EFTA-Serbia; and EFTA-Ukraine.
- 87 See, for example, Canada-Chile, Australia-New Zealand, Canada-Costa Rica, Chile-Colombia, Chile-Nicaragua, Dominican Republic-Central America, which prohibit certain subsidies on agriculture.
- 88 A *de minimis* volume is a volume of imports below which such imports are deemed insufficient to justify proceeding with the anti-dumping case (see Article 5.8 (“Initiation and Subsequent Investigation”) of the Anti-Dumping Agreement).
- 89 A *de minimis* dumping margin is a margin of dumping deemed insufficient to justify proceeding with the anti-dumping case (See Article 5.8 (“Initiation and Subsequent Investigation”) of the Anti-Dumping Agreement).
- 90 The Andean Community has a higher *de minimis* volume requirement and a shorter period of application of anti-dumping measures. The New Zealand-Singapore FTA has a higher *de minimis* dumping margin (5 per cent) and a higher *de minimis* volume requirement (5 per cent) than the WTO benchmark. The Southern Common Market (Mercosur) limits the duration of anti-dumping duties to three years, compared to five years under the WTO Agreement.
- 91 See, e.g., Canada-Costa Rica, Canada-Chile, Caribbean Community and Common Market (CARICOM), Common Market for Eastern and Southern Africa (COMESA), the North American Free Trade Agreement (NAFTA).
- 92 This ambivalence is at the origin of disputes regarding import licensing regimes, from the GATT 1947 panel on EEC – Minimum Import Prices (1978) to, more recently, the panel report on Indonesia – Import Licensing Regimes (2017).
- 93 Article 1 (“General Provisions”) of the Agreement on Import Licensing Procedures.
- 94 Articles XI:2(a) (“General Elimination of Quantitative Restrictions”) and XVIII:B (“Governmental Assistance to Economic Development”) of the GATT 1994, respectively.
- 95 See, for example, the USA-Chile FTA, Article 3.11.
- 96 See, for example, the Regional Comprehensive Economic Partnership (RCEP), Article 2.19.
- 97 See Article 3 (“Prohibition”) of the SCM and Section D.3.
- 98 See Articles 6 to 10 (“Domestic Support Commitments”, “General Disciplines on Domestic Support”, “Export Competition Commitments”, “Export Subsidy Commitments” and “Prevention of Circumvention of Export Subsidy Commitments”) of the AoA.
- 99 See paragraphs 3 and 4 of Annex 2 to the AoA, as well as footnotes 5 and 6 thereto.
- 100 See Hepburn et al. (2021) for a comprehensive discussion of how policies affecting trade and markets in agricultural products taken during recent crises have had an impact on both producers and consumers in the countries applying the measures and elsewhere, as well as what governments can do to ensure that policies and rules on trade help improve resilience to future food system shocks.
- 101 For instance, rice and grains have been stockpiled in India, Indonesia, Malaysia, the Philippines, Thailand and Viet Nam to mitigate food supply instability during disasters. See Chen et al. (2020).
- 102 Countries’ public stockholding programmes can be challenged at the WTO under the AoA, as well as the SCM Agreement. Getting the right metrics on the amount of support to provide through public stockholding programmes is, therefore, important for countries’ compliance with the WTO agreements.

- 103 Air transport services are covered by a specific annex of the GATS. The annex excludes from the agreement the largest part of air transport services: traffic rights and services directly related to traffic. These services are nevertheless subject to a regular review by the Council of Trade in Services, with a view to considering the possible further application of the GATS to the sector.
- 104 The SCM Agreement originally provided, in its Article 8 (“Identification of Non-Actionable Subsidies”), for a category of non-actionable subsidies. Subsidies meeting the conditions of Article 8 could neither be subject to countervailing duties, nor contested under the WTO Dispute Settlement Understanding. This category included, subject to a number of conditions, subsidies granted for research activities, assistance to disadvantaged regions, and subsidies intended to assist firms adapting to new environmental requirements. The provisions of the SCM Agreement relating to this category of subsidies were intended to apply for a period of five years from the date of entry into force of the WTO Agreement. Upon the expiry of this period, no decision was taken to extend their application.
- 105 Some RTAs recognise that certain subsidies, while favouring certain firms or the production of certain goods and distorting or threatening to distort competition, may be adopted to pursue public policy objectives. See, for example, Article 41 of the EU-South Africa Free Trade Agreement.
- 106 See the EU-Republic of Korea FTA, Article 11.11.
- 107 See the Dispute Settlement Understanding, Article 23 (“Strengthening of the Multilateral System”).
- 108 See, for example, Articles 20 (“Time-frame for DSB Decisions”) and 21.4 (“Surveillance of Implementation of Recommendations and Rulings”) of the Dispute Settlement Understanding.
- 109 G20 financial minister have already manifested that they will “commit to support an environmentally sustainable and inclusive recovery” (G20, 2020a).