How Could Trade Policy Better Address Food System Shocks?

IISD REPORT

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Written by Jonathan Hepburn, Kulthoum Omari-Motsumi, Carin Smaller, and Zakaria Zoundi

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Executive Summary

Shocks to the food system, such as the COVID-19 pandemic, can disrupt supply chains, exacerbate unemployment, and reverse progress fighting hunger and poverty. Climate scientists have also warned that shocks associated with more frequent and intense extreme weather events are among factors set to destabilize markets and undermine food security in years ahead. This paper examines how trade policy can help governments anticipate and respond to food system shocks while avoiding harm to producers and consumers in other countries. It also makes the case that major importing and exporting nations have a particular responsibility to help safeguard the stability of global food markets.

Debates over trade policy often look backward to past negotiating mandates, commitments, and historical market trends. Climate-related shocks suggest the future may not resemble the past: governments must start taking a forward-looking approach to policy making and trade rules, keeping firmly in their sights the question of how trade policy can respond to and anticipate food system shocks.

This paper looks at the role of trade policy in three recent examples of shocks to the food system: the COVID-19 pandemic, the Southern African drought of 2015–2016, and the United States–China trade war. Important differences exist between them, including scale, the importance of supply and demand factors, and the role of government policy. However, in each case, policies affecting trade and markets were relevant, affecting producers and consumers in the countries applying the measures as well as those elsewhere.

In order to place these three examples of shocks in a broader context, the paper also looks at the recent history of shocks affecting the food system, including price spikes in the late 2000s and the impact of the oil price shocks in the 1970s. It also looks at how projected trends are set to affect markets in the years ahead, including the implications of the increased frequency and intensity of extreme weather events. Finally, it looks at what governments can do to ensure that policies and rules on trade help improve resilience to future food system shocks. The 13 recommendations are structured around four key public policy objectives: 1) ensuring food access and availability for poor consumers; 2) safeguarding farmers' livelihoods in the event of sudden price depressions; 3) improving how food markets function by allocating resources more equitably and sustainably; and 4) rebuilding trust and confidence in global norms and institutions.

While existing trade policy frameworks allow considerable flexibility for governments to take action in support of more resilient food systems at home, they do relatively little to rein in measures that harm producers and consumers in other countries. World Trade Organization (WTO) members should therefore particularly tackle the shortcomings of the existing rulebook in three critical areas: food export restrictions, high tariffs for key farm goods, and harmful agricultural subsidies. In addition, they should establish a special safeguard mechanism that helps producers in low-income countries cope with sudden price depressions.

Public policy objective 1: Ensuring access to food for poor consumers

	Who should act?	Action required
1a	WTO members	Ban export restrictions or prohibitions on foodstuffs purchased for non-commercial humanitarian purposes by the World Food Programme.
1b	WTO members	Clarify when countries can impose quantitative export restrictions under General Agreement on Tariffs and Trade (GATT) Article XI by agreeing on a definition of "critical shortage" of foodstuffs.
1c	WTO members	Ban export restrictions on food staples while exempting least-developed countries and low-income food-importing countries.
1d	WTO members	Improve the stability and predictability of the global food system by agreeing to cuts to unusually high "tariff peaks" on key farm goods in major importing countries.

Public policy objective 2: Safeguarding farmers' livelihoods

	Who should act?	Action required
2a	WTO members	Establish a special safeguard mechanism, according more flexibility to members with lower bound tariffs to impose temporary safeguard duties.
2b	WTO members	Phase out or discipline the use of the existing special safeguard as part of the framework for cutting unusually high tariff peaks (1d).

Public policy objective 3: Improving how food markets function

	Who should act?	Action required
3a	WTO members	Harmonize levels of domestic support across countries over time: agree to new WTO ceilings and gradual cuts to all support classed as trade distorting, defined as a share of the value of production, while allowing all countries to provide a minimal level of this type of farm support.
3b	National governments	Make use of the existing options under WTO rules to support producers without harming those elsewhere—for example, through natural disaster relief programs or through income insurance and income safety net schemes.
3c	National governments	Help reverse long-term under-investment in the farm sector by supporting the provision of public goods for food and agriculture, especially in low-income countries, including by complying with the Malabo Declaration commitment to dedicate 10% of public budgets to agriculture in Africa.

Public policy objective 4: Rebuilding trust and confidence

	Who should act?	Action required
4a	New United States Administration	Work with other WTO members to unblock the appointment process for Appellate Body members, with a view to revitalizing the dispute settlement process.
4b	WTO members	At the WTO's General Council or next Ministerial Conference, adopt a forward-looking work program that improves the resilience of producers and consumers to food system shocks.
4c	Agriculture ministers	Review progress on trade, food security, and sustainable agriculture on a regular basis at the annual Berlin Agriculture Ministers' Conference.
4d	Donor governments	Ensure sustainable financing for the Agricultural Market Information System (AMIS), expanding it beyond the four major crops on which it currently focuses.

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Abbreviations and Acronyms

AMIS	Agricultural Market Information System
CFS	Committee on World Food Security
CFAP	Coronavirus Food Assistance Program
COVID-19	2019 novel coronavirus
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
G20	Group of 20
IPCC	Intergovernmental Panel on Climate Change
LDC	least-developed countries
OECD	Organisation for Economic Co-operation and Development
PIIE	Peterson Institute for International Economics
SSM	special safeguard mechanism
WFP	World Food Programme
WTO	World Trade Organization

1.0 Introduction

The coronavirus (COVID-19) pandemic has heightened the awareness of policy-makers to ways in which the global food system may be vulnerable to sudden shocks, at a time when extreme weather events are set to become more frequent and intense as a result of climate change (Intergovernmental Panel on Climate Change [IPCC], 2019).[1] Trade policies are among the tools that governments can use to address food system shocks; however, while some trade measures can help protect vulnerable producers and consumers at home, those same trade measures can negatively affect producers and consumers in other countries. Major importing and exporting countries, in particular, can have a disproportionate impact when they intervene in the face of sudden shocks. Small, low-income countries are especially vulnerable to the consequences.

Slow progress in updating global trade rules on agriculture at the World Trade Organization (WTO) has further complicated the challenge of ensuring trade rules contribute to food system resilience when shocks do occur (Hepburn, 2020).[2] In addition, growing trade tensions between major economies and the weakening of institutional mechanisms for resolving disputes between trading powers have raised further questions about the functioning of today's global governance frameworks and their ability to safeguard food security in the face of future shocks and disruptions.[3] While mechanisms such as the Agricultural Market Information System (AMIS) have improved transparency and helped rebuild trust over the last decade, governments should reconsider how other aspects of the international policy architecture could help improve how markets function, including at the United Nations Committee on World Food Security (CFS), in the G20 group of major economies, and in the WTO Committee on Agriculture through better sharing of information.

This paper examines in detail three different types of shocks that have recently affected food markets and looks at how governments have used trade policy to respond. It looks back to see how these developments fit within recent history and reviews the available analysis on climate change to consider the implications of more frequent and intense extreme weather events for global food markets in the future. Finally, it looks at how trade policy and rules could be improved to enhance the resilience of the food system to sudden shocks and makes some recommendations for the way forward.

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[1] "Food systems" can also be conceptualized as regional, national, or local entities. While aspects of today's food system are global, others may be confined to national or local areas. This paper focuses in particular on how policies affecting trade and markets can have implications for vulnerable economic actors in other countries.

[2] WTO agriculture negotiations are ongoing in seven areas: agricultural domestic support; public food stockholding; market access, including tariffs and other similar measures; a "special safeguard mechanism" for developing countries; export competition, including export subsidies and related measures; export restrictions; and cotton.

[3] The 1996 Rome Declaration on World Food Security defines food security as follows: "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (Food and Agriculture Organization of the United Nations [FAO], 1996). The provision of food security can be seen as an integral part of the realization of the right to food.

2.0 Some Recent Experiences With Food System Shocks

The following section looks at three very different types of shocks that have affected the food system: COVID-19, the Southern African drought of 2015–2016, and the United States–China trade war.

COVID-19 is exceptional in its scale and impact on the global economy as a whole, including but not limited to markets for food and agriculture. It has involved shocks to both supply and demand, as well as supply chain disruption, as logistics, planting, and harvesting have been affected by government response measures. At the time of writing, its effects are ongoing, as are the impacts of measures taken to mitigate and address the crisis. The main trade policy responses to the pandemic have included temporary food export restrictions, increased domestic support to the farm sector, and more flexible import restrictions.

The Southern African drought of 2015–2016, in contrast, was much more localized in its effects and primarily involved a supply shock resulting from the impact of the drought on agricultural production in the region. While other parts of the economy were also affected, the primary impact was on the food systems of countries in the region. Government support to affected producers, along with increased imports of food and agricultural products, were among the main forms of trade policy response.

Finally, the United States–China trade war involved primarily demand shocks in the United States and China as trade policy restrictions curbed demand for agricultural products. In other world regions, the diversion of surplus farm output meant that the opposite type of shock occurred as surplus U.S. production was exported to other markets. While the other two case studies mentioned above involved policy responses that may have exacerbated the effect of shocks or transferred impacts between different types of economic actors, the United States–China trade war was exceptional in being an example, first and foremost, of a policy-induced shock to markets.

While existing trade policy frameworks allow considerable flexibility for governments to take action in support of more resilient food systems at home, they do relatively little to rein in measures that harm producers and consumers in other countries. WTO members should therefore tackle in particular the shortcomings of the existing rulebook in three critical areas: food export restrictions, high tariffs for key farm goods, and harmful agricultural subsidies. In addition, they should establish a special safeguard mechanism that helps producers in low-income countries cope with sudden price depressions.

2.1 The COVID-19 Pandemic

2.1.1 What Happened, When?

The outbreak of the novel coronavirus known as COVID-19 and the measures taken by governments to control the infection have had significant, sudden, and far-reaching effects on

global public health and the world economy—with impacts on the food system among many other consequences of the pandemic.[4] While governments have taken varied approaches to tackling the epidemic, many have imposed lockdowns and similar restrictions on citizens and businesses, as well as closing national borders, in a bid to slow the spread of the disease and enable hospitals and healthcare facilities to cope with the sudden influx of patients requiring intensive care.

The outbreak of the disease and the policy measures taken to address it have had a number of different impacts (Schmidhuber et al., 2020). Initially, panic buying by consumers prompted temporary shortages in some countries; rapid and significant changes in patterns of consumer demand also affected markets. In many countries, the planting and harvesting of crops have been impacted by government-imposed restrictions on the movement of people (Organisation for Economic Co-operation and Development [OECD], 2020a; FAO, 2020b).[5] Transport and logistical services have also been disrupted, along with credit and input markets and exchange rates (Schmidhuber & Qiao, 2020; WTO, 2020e). In the Americas and parts of Europe, meat-processing plants were initially closed temporarily as a result of concentrated disease outbreaks among workers, causing knock-on effects through the food value chain, with livestock producers particularly affected.

Most importantly, the ability of many consumers to access food has been adversely affected by the temporary or permanent closure of businesses, the corresponding increase in unemployment, and the associated loss of income and livelihoods, against the backdrop of a historically significant collapse in economic growth and trade (International Monetary Fund, 2020; WTO, 2020h). Certain economic sectors have been particularly hard hit—such as the aviation, tourism, and hospitality sectors—with direct and indirect consequences, including the level of remittances that workers send back to their home countries. The pandemic continues to represent a particularly significant threat to the livelihoods of workers in the informal sector, self-employed workers, and those on temporary or insecure contracts. While almost all countries and world regions have been affected by the pandemic, food security in developing countries has been particularly vulnerable, in Small Island Developing States more so than others (Schmidhuber & Qiao, 2020).

2.1.2 How Were Food Markets Affected?

In contrast to the food price spike episodes of 2007/08 and 2010/11, a backdrop of abundant harvests and ample food stocks for most commodity groups meant that the COVID-19 outbreak has not to date translated into generalized shortages of food on global markets or a significant overall mismatch in supply and demand (FAO, 2020a; WTO, 2020e). A trend of low and falling prices for oil and other commodities has also provided a different market and policy environment than that which prevailed in 2008 (Murphy & Smaller, 2020). Nonetheless, localized problems have also been apparent. In addition to initial "panic buying" by consumers and changing consumption patterns, the imposition of export restrictions in

[4] At the time of writing, the pandemic is ongoing: its full implications for the global food system are still unclear.

[5] Drawing on IOM data, WTO (2020c) notes that as much as one quarter of all farm work globally is done by migrant workers, although figures vary considerably across countries.

some countries led to fears that the availability of basic foodstuffs would be reduced in food-importing countries.

While trade in agricultural raw materials has consistently been below trend, other sectors have been more seriously affected by the economic downturn and corresponding decrease in trade (WTO, 2020d, 2020f, 2020h). However, despite the overall story of resilience, trade in perishable products—such as cut flowers, fruits, and vegetables—was seriously affected in many countries, especially for air-freighted products. The FAO furthermore noted in a September report to the WTO Committee on Agriculture that the impact of the pandemic on food demand "would depend on the depth and length of the economic shock, the actual effect on employment, the availability of savings and access to credit and social safety nets" (WTO, 2020e).

2.1.3 Which Trade Measures Were Put in Place?

To date, discussion at the WTO of COVID-related measures has focused primarily on the areas of export restrictions and domestic agricultural support.[6] Some countries have also eased import restrictions in response to the pandemic.[7] Two distinct response phases can be identified: an initial response phase, in which policies focused on immediate emergency measures to protect public health and safeguard domestic food security, and a subsequent phase focused on mending broken supply chains and providing support to producers (WTO, 2020d).

2.1.3.1 EXPORT RESTRICTIONS

According to the International Food Policy Research Institute's Food Trade Policy Tracker,[8] nearly two dozen countries imposed or announced export restrictions on food in response to the COVID-19 outbreak, most of which were subsequently lifted or expired. Food-importing countries, in particular, expressed concern that such measures can push up prices on global markets, curtailing the supply of food in low-income food-importing countries and impeding access to food for poor consumers. Considerably fewer countries took steps to restrict food exports than was the case during the 2008 food price spikes when some 33 countries did so. Furthermore, the value of globally traded calories affected was around 5%—or just over a quarter of the level affected during the previous price spike episode (Hepburn et al., 2020).

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[6] This covers farm subsidies in the form of budgetary outlays as well as other legal measures of support to producers, such as those provided by market price support irrespective of whether budgetary outlays actually occur. Glauber et al. (2020) discuss how domestic support is defined and measured at the WTO and compare it to the conceptual approach adopted by other agencies, such as the OECD.

[7] The OECD (2020b) reviewed over 400 policy responses to COVID-19 and identified seven major categories of measures: 1) sector-wide and institutional measures; 2) information and coordination measures; 3) measures on trade and product flows; 4) labour measures; 5) agriculture and food support measures; 6) general support applicable to agriculture and food; and 7) food assistance and consumer support. Gruère and Brooks (2020) further build on this analysis. While the categories do not map directly onto those in use at the WTO, measures in categories 3, 5, 6, and 7 appear to be the most relevant. The WTO (2020c) also provides a good overview of the implications of COVID-19 for agricultural trade at the date of publication in August 2020.

[8] The tracker is online at ifpri.org/project/covid-19-food-trade-policy-tracker.

2.1.3.2 DOMESTIC SUPPORT

Several WTO members have responded to the COVID-19 outbreak by introducing or modifying the domestic support they provide to producers, processors, and the farm sector. These programs have needed to balance multiple, competing priorities: 1) providing assistance to market actors facing unexpected temporary challenges resulting from the COVID-19 crisis and associated government response measures; 2) avoiding creating distortions on domestic markets that adversely affect vulnerable market actors; and 3) ensuring that the support provided to producers at home does not unfairly disadvantage those in other countries and regions, including those in developing countries. These goals can complement or contradict one another, and governments have reached different conclusions about their priorities.

Box 1. WTO rules on domestic support

WTO rules in the Agreement on Agriculture (2014) allow many types of agricultural domestic support to be provided to producers without limits—including general services such as research, infrastructure, and advisory services; domestic food aid; and direct payments to producers that are "decoupled" from prices and production, such as income support programs, natural disaster relief programs, and environmental programs. However, support that is contingent on prices, production, or inputs is normally subject to an upper limit, which the WTO member in question has agreed to respect. The rules on domestic support vary across WTO members, with different limits on the support provided by developed and developing countries, and with many countries having in the past been allowed to set higher ceilings in return for commitments they made to cut subsidies that adversely affect producers in other countries and regions (Glauber et al., 2020).

Countries that have reported COVID-related domestic support measures include major agricultural exporting countries (the European Union [EU], the United States, Canada, and Brazil), some agriculture-importing countries (Japan, Norway, and Switzerland), and also some smaller economies (El Salvador, Israel, and Paraguay). With a view to improving transparency, these members have submitted voluntary ad hoc reports on their programs to the WTO, as a complement to the mandatory notifications that must regularly be submitted to the Committee on Agriculture under the global trade body's rules. Of the measures described in these ad hoc reports, the vast majority relate to domestic support (WTO, 2020c). China and India also introduced or modified support measures—as did a number of smaller developing country members—although they have not, to date, submitted ad hoc reports (WTO, 2020d).

Notably, many of the domestic support measures reported to the WTO do not imply additional costs or expenditures—for example, when existing measures have been simplified, compliance dates extended, or other forms of administrative flexibility introduced. In many other cases, WTO members have not yet made available details of the costs associated with the measures that have been introduced.

The types of domestic support measures adopted have varied across the WTO membership. Several governments have provided support to enable producers to dispose of surpluses, including through food aid programs, storage aid, and direct compensation for losses.[9] Others facilitated access to credit or to raw materials and other inputs[10]; postponed rural debt payments[11]; improved facilities and introduced hygienic measures[12]; and upgraded supply chain infrastructure[13] (WTO, 2020d). Smaller low-income economies tended to adopt different types of programs, for example, providing support for agricultural inputs or for the use of technology and production techniques[14]; providing cash transfers[15]; taking tax measures[16]; easing access to loans[17]; subsidizing interest or contributing to agricultural workers' insurance costs.[18]

The scale of COVID-related domestic support measures also varies widely across the WTO membership. In the WTO Committee on Agriculture, trade officials have expressed particular concern about successive U.S. support packages provided under Washington's Coronavirus Food Assistance Programs (CFAP-1 and CFAP-2).[19] CFAP-1 provided for payments of up to USD 250,000 per producer if prices for eligible products fell at least 5% since January 2020. It also allowed for direct payments to be made to producers facing significant additional marketing costs due to the carrying costs of unsold commodities or as a result of spoilage arising from market supply chain disruptions (Schnepf, 2020a). USD 16 billion was initially allocated under the program in April, of which the government had paid USD 10.5 billion by early December 2020 (Schnepf, 2020b). A second round of support payments (CFAP-2) of up to USD 14 billion was announced in September, with more expected to follow at the time of writing. The successive support programs could lead the United States to exceed its maximum permitted WTO limit on support, which is classed as trade distorting (Schnepf, 2020c).

The EU and its member states have also introduced significant COVID-related domestic support measures. Available data indicate these amounted to at least EUR 3.8 billion by the end of 2020.[20] While numerous measures have been voluntarily reported by the bloc to the WTO, eight of these are disproportionately significant in monetary terms, representing as much as 85% of the apparent total to date. Support measures in Italy, the Netherlands, the Czech Republic, and Hungary were particularly noteworthy. Measures introduced by the

[9] Brazil, Canada, the EU, Japan, Switzerland, and the United States

[10] Canada, the EU, the United States, China, and Japan

[11] Brazil

[12] Japan and Canada

[13] India

[14] Côte d'Ivoire, Fiji, and Paraguay

[15] Côte d'Ivoire

[16] Egypt

[17] Honduras and Namibia

[18] Montenegro

[19] For example, Canada, China, the EU, India, and New Zealand raised questions about these programs at the WTO Committee on Agriculture meeting on November 30 and December 1, 2020 (WTO, 2020g).

[20] IISD calculations based on data available in WTO (2020f).

EU or by EU member states include direct grants and loans, region-specific support, private storage aid, sector- or product-specific measures, and economy-wide schemes that also covered the agricultural sector (WTO, 2020c).

Other developed and developing countries have also introduced or modified COVID-19-related domestic support measures, although not all imply new financial outlays, and in many cases, the details of both program design and the implications for trade and markets remain unclear. While WTO members have asked questions about domestic support programs in the Committee on Agriculture's meetings in 2020, the answers to these have often been succinct invitations to await the details provided in the formal WTO notification once this is available.

2.1.3.3 IMPORT RESTRICTIONS

Some countries have eased import restrictions in response to the crisis by reducing tariffs or increasing tariff quotas. These measures sought to make it easier for consumers to access foodstuffs by reducing prices on domestic markets. For example, a WTO ad hoc notification from Israel indicated that voluntary tariff rate quotas had been expanded for onions, cucumbers, and eggs (WTO, 2020a), while Switzerland took similar steps for butter and eggs (OECD, 2020b). Similarly, several countries have lifted duties on food or taken other measures to facilitate trade, with Colombia, Ukraine, the Russian Federation, and Turkey lifting duties on grains, and China doing so on meat (OECD, 2020b). Australia and New Zealand established air freight schemes following the sharp decline in commercial aviation resulting from the COVID-19 crisis, while several countries eased restrictions at ports and borders.[21] Many countries also exempted the food and agriculture sector from lockdowns or introduced other types of measures aimed at facilitating trade in food and farm goods (OECD, 2020b; WTO, 2020d). Trade-restrictive measures appear to have been mostly applied to exports rather than to imports.

2.1.3.4 HOW WERE TRADE POLICIES RELEVANT?

The COVID-19 pandemic is a complex, large-scale, and multi-faceted shock that has had an impact far beyond markets for food and agriculture but which has also affected them in a number of important ways. Through its impact on food security and livelihoods, it has highlighted the importance of policies and frameworks outside the trade sphere—such as functioning and well-targeted social safety nets—as well as the relevance of policies on trade. It has also raised questions about the extent to which existing regulatory frameworks provide WTO members with the tools they need to respond meaningfully to shocks when they occur while refraining from adversely affecting economic actors abroad.

Political leaders such as the G20 Agriculture Ministers have responded by calling for "open, transparent and predictable" trade. They have also called for COVID-19 measures to be "targeted, proportionate, transparent, and temporary" (G20 Agriculture and Water Ministers, 2020). Ministers have said these measures should not create unnecessary barriers to trade or disrupt global food supply chains and should be consistent with WTO rules.

[21] Measures in this category were taken in Argentina, Brazil, Canada, Chile, China, the EU, India, the Philippines, and the Russian Federation.

These statements—and policies that reflect them—have helped to prevent the pandemic from triggering a more far-reaching food crisis. Measures such as export restrictions that were imposed initially were, for the most part, subsequently lifted, thereby averting a more serious crisis, while governments took steps to ease border restrictions on imports. While specific sectors—especially perishable foods—were hit hard, especially initially, markets for food and agriculture mostly continued to function as the pandemic struck, in part due to steps governments took to facilitate the free movement of food and farm goods. However, the crisis also served as a reminder that the existing WTO rulebook on both import and export restrictions contains significant loopholes that governments could exploit to the detriment of people in other countries when a crisis occurs (see recommendations **1a**, **1b**, **1c** and **1d** in Section 4.1).

COVID-19 has also exposed the limits of what can be achieved by ensuring agricultural trade policies remain consistent with WTO rules. In particular, the dramatic increase in types of agricultural domestic support that are linked to prices and production suggests that WTO members urgently need to re-engage in talks on updating global rules in this area. Clearly, the COVID-19 outbreak represented an exceptional event that required governments to intervene in food and agriculture markets to protect producers' livelihoods, especially where market failures had occurred; at the same time, WTO rules need to be improved to ensure that domestic support does not unfairly disadvantage producers elsewhere (Glauber et al., 2020) (see recommendations **3a**, **3b** and **3c** in Section 4.3).

2.2 The Southern African Drought of 2015–2016

2.2.1 What Happened, When?

The 2015–2016 El Niño-induced drought was the worst drought that Southern Africa[22] had experienced in 35 years, and the countries affected have still not fully recovered from its impacts. At least 18 million people in the region were severely affected by the drought in 2016, but the cumulative effect of recurrent droughts has led to approximately 41 million food-insecure people in 2020, with at least 11 million requiring urgent assistance in the region (World Food Programme [WFP], 2020; Food Security Information Network, 2020). The inadequate and poorly distributed rains during the 2015–2016 drought had a significant impact on crop production, reducing grain production across the region by approximately 30% (Kornher, 2018). In South Africa, 2015 was the hottest recorded year since 1904, with unusually high temperatures that led to a decrease of approximately 8% in agricultural production (Masipa, 2017). Poor rural communities and small-scale farmers are highly dependent on rain-fed agriculture as a source of food and income, and these tend to be most exposed to the effects of drought (Masipa, 2017). The decline in food production in the region associated with the 2015–2016 drought led to chronic food insecurity and undernourishment, including a higher prevalence of childhood stunting, which has affected about 30% of all children in the region (FAO, 2018a). Droughts are therefore among the main threats affecting

[22] Southern Africa refers to the southernmost geographical region of Africa, which typically includes Angola, Botswana, Eswatini, Lesotho, Malawi, Mozambique, Namibia, South Africa, Zambia, and Zimbabwe.

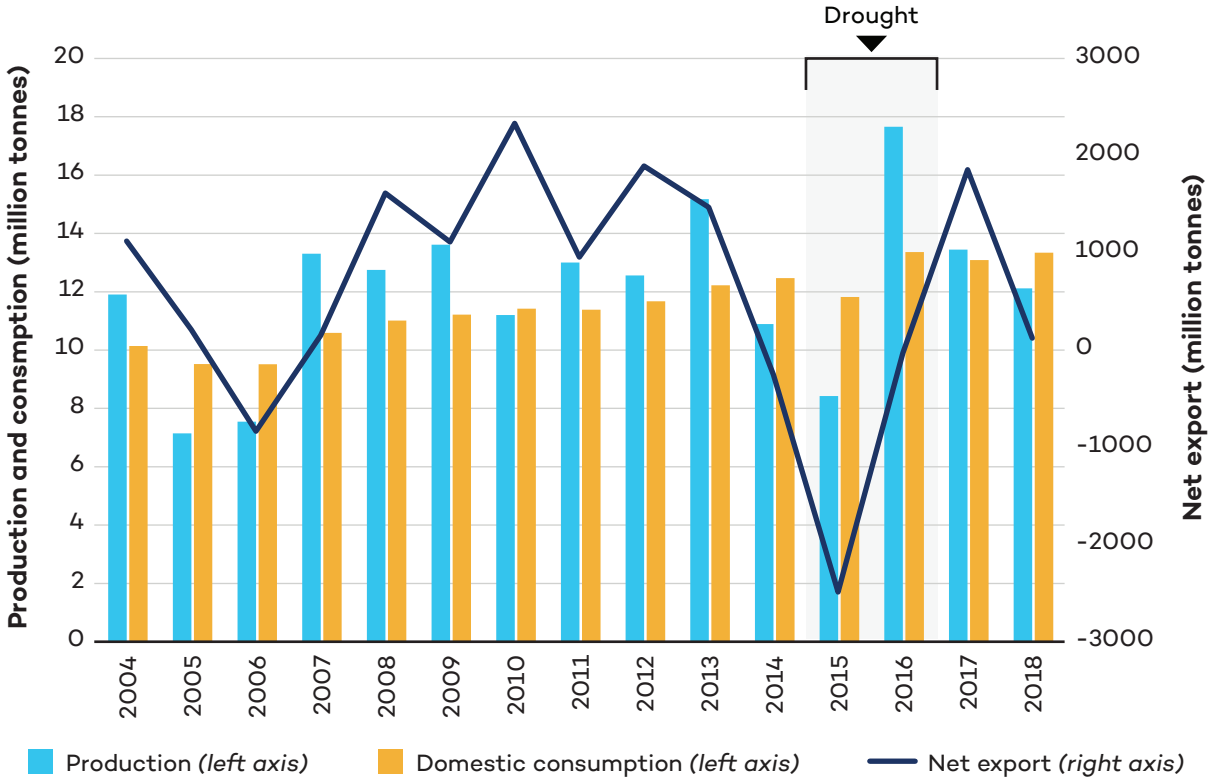
and undermining agricultural productivity, household food security, health, and nutrition (Masipa, 2017).

Agriculture is particularly vulnerable to droughts, which are one of the most devastating natural disasters, affecting more people than any other natural hazard, especially the poor and the most vulnerable (Hollins & Dodson, 2013). Globally, droughts account for almost 8% of natural disasters; however, for Africa, droughts are more frequent and account for about 25% of all natural disasters (Shiferaw et al., 2014). With approximately 43% of its area being classified as arid, Southern Africa is considered highly vulnerable to droughts (Shiferaw et al., 2014). The spatial extent of drought has increased in Southern Africa, the region is warming at a faster rate than the global average, and the IPCC (2014) anticipates that droughts will intensify in magnitude and intensity across the region.

2.2.2 How Were Food Markets Affected?

Maize is a staple crop and a major source of livelihood in the region. In sub-Saharan Africa, maize accounts for at least 30% of total calorie intake (Ekpa et al., 2019), and therefore the availability of the crop during drought years is critical for food security. In South Africa, domestic production of maize is usually enough to meet demand, and the country often generates surpluses, which it exports to the region. However, during the drought, there was a maize deficiency in all countries in the region apart from Zambia, leading to the importation of maize to augment supply (Bureau for Food and Agricultural Policy, 2016). Figure 1 shows the impact of the 2015–2016 drought on maize production in the region: production in 2015 was at its lowest level since 2006/07. The maize deficits led to sharp price increases for the staple across the region. Maize prices in 2016 increased by up to 30% in Lesotho, 156% in Malawi, 177% in Mozambique, 22% in South Africa, 66% in Swaziland, 35% in Zambia, and 29% in Zimbabwe (Ainembabazi, 2018). As many poor agropastoral households depleted their food stocks, resulting in reliance on market purchases, high food prices had an impact on food security. Furthermore, the devaluation of currencies in Southern Africa, such as the South African rand and the Zambian kwacha, weakened the purchasing power of citizens in the countries concerned (FAO, 2016).

Figure 1. Southern Africa's maize imports rose as domestic output fell during the 2015–2016 drought



Source: Author calculations based on United States Department of Agriculture, n.d.

Note: In this figure, Southern Africa, as defined by FAOSTAT, includes only five countries within the region: Botswana, Eswatini, Lesotho, Namibia, and South Africa. Import, export, and net export are trade year values.

Drought also affected the livestock sector. Poor livestock grazing conditions, lack of water, and exceptionally high prices of livestock feed resulted in a large number of farmers engaging in distress sales of livestock. In countries such as Botswana, the livestock sector is well developed and represents an important source of income and livelihoods for producers, as well as export revenue. The following section discusses how government policies affecting trade and markets were relevant to this sector.

2.2.3 Which Trade Measures Were Put in Place?

Traditionally, policy responses to drought have included measures that affect trade and markets—such as easing export duties, facilitating imports of food and feed, or subsidizing farm inputs—as well as non-trade measures—such as domestic food aid packages, strengthened social safety nets, and, in extreme cases, providing humanitarian aid. A number of these measures were taken by governments in Southern Africa during the 2015–2016 drought.

As all countries in the region other than Zambia were dependent on South Africa for maize, about 1.2 million tonnes of white maize and 2.6 million tonnes of yellow maize were imported from Mexico and the United States to offset declining regional supply (Bureau for Food and

Agricultural Policy, 2016). These were then re-exported to the countries with a deficit. South Africa also relaxed its strict restrictions on the import of genetically modified organisms in order to respond to the shortage in the region (United States Department of Agriculture, 2019). Figure 1 shows the quantities of maize imported and exported in Southern Africa. In 2016 the greatest volume of maize was imported into the region since 2000. The same figure also shows how net exports in that year also fell significantly as a result of the drought.

In countries such as Botswana, where there is a well-developed livestock industry, the government has tended to provide approximately 30% subsidies on livestock feed (Botswana Daily News, 2019) during droughts, but the severe drought of 2015–2016 saw an increase in subsidies from 25% to 50% (Kayawe, 2015). However, feed prices were still unaffordable for poorer farmers, and many resorted to selling their livestock to avoid animal mortality (Dessus & Tovey, 2016). During the 2019 drought and in an effort to avoid cattle mortality and low livestock prices, for the first time, Botswana permitted the export of live cattle to the Southern African region for 30% of the cattle herd. This initiative was nonetheless not well received by the rest of the Southern African Development Community countries, as they were concerned that it might reduce local prices of cattle in their own markets, putting further pressure on struggling farmers in South Africa.

In addition to easing maize import restrictions and raising restrictions on livestock exports, governments in the region also took steps to ensure consumers could still access food, including affected people living in rural areas. In particular, governments announced drought relief packages that included social safety nets for vulnerable populations (African Development Bank, 2016). Relief packages also typically include measures targeted at producers, such as subsidies on livestock feed and subsidies on crop production inputs such as improved seeds, fertilizers, and farming implements. Facilitating drought relief programs and food aid provides greater food availability, easing food prices and making food more affordable for the most vulnerable and the most impacted.

2.2.4 How Were Trade Policies Relevant?

As Section 2.2.3 illustrates, trade can help countries respond to food system shocks by enabling them to respond to disruptions in the balance between supply and demand, including in the case of climate-related supply disruptions such as drought. Easing restrictions on food imports is an important policy response that governments can use to help consumers respond to sudden shortages by improving the availability of food on domestic markets and helping to attenuate sudden price spikes.

Avoiding the application of export restrictions and prohibitions in major food-exporting countries can also be important in ensuring that food is available for importing countries in a crisis and is accessible to low-income consumers (see recommendations **1b** and **1c** in Section 4.1 below). In particular, WTO members could usefully ensure that humanitarian food aid procurement by the WFP is not subject to these measures in order to ensure that emergency food assistance is available in a timely and cost-effective manner in emergencies (see recommendation **1a** in Section 4.1 below).

Current WTO rules place no limits on the ability of governments to provide domestic food aid to poor consumers.[23] However, international collaboration on sustainable financing mechanisms would help ensure that low-income governments have the resources they need to set in place domestic food aid schemes and functioning social safety nets targeted at people living in poverty. A global "food stamp" scheme could be one way to do so (Josling, 2011) and could potentially also help countries to address adjustment challenges associated with trade opening.

As the 2015–2016 Southern African drought shows, governments also need the flexibility to be able to temporarily increase support to producers when a shock occurs. Current WTO rules on agricultural domestic support include provisions for natural disaster relief programs and for income insurance and income safety net programs, as well as provisions that enable developing countries to provide input and investment subsidies to low-income, resource-poor producers.[24] At the same time, global rules in this area need updating to ensure that countries with the financial resources to do so do not provide support in ways that undermine fair competition and adversely affect producers—including those in low-income countries (Glauber et al., 2020). Section 4.3 examines this question in more depth (see recommendation **3a**).

In the longer-term, governments also need to support the provision of public goods that are needed for the proper functioning of markets for food and agriculture, including through measures that improve the resilience and climate adaptation capacity of low-income countries (see recommendation **3c** in Section 4.3). This can include support for extension and advisory services for farmers to help boost yields sustainably; support for locally led research, including for more resilient plant varieties and animal breeds; and investments from climate-related funds such as the Green Climate Fund in areas such as improved early warning systems to help better inform market actors about the risks associated with extreme weather events.

2.3 The United States–China Trade War

2.3.1 What Happened, When?

The Trump Administration, which took office following the 2016 U.S. presidential election, initiated an explicitly confrontational approach to trade policy, not only with China but also with other trading partners, including Canada, Mexico, the EU, Japan, Turkey, and South Korea. While the resulting tensions have often been characterized as a "trade war," the Peterson Institute for International Economics (PIIE, 2020) identifies five separate "battles," each with its own separate legal basis and affecting different economic sectors and products, although with some areas of overlap between them. Food and agricultural products have been affected by disagreements in other economic sectors (such as steel and aluminum, or solar panels and washing machines), as well as by tensions over alleged unfair trade practices affecting technology and "intellectual property"— not least as China and other countries

[23] Under paragraph 4 of the WTO Agreement on Agriculture.

[24] The former are covered under paragraphs 7 and 8 of Annex 2 of the WTO Agreement on Agriculture, and the latter are covered under Article 6.2 of the same accord.

affected by the United States' use of tariffs in non-agricultural sectors have retaliated by restricting U.S. agricultural exports in response (Regmi, 2019). Products such as soybeans and sorghum were targeted in particular, although a wide range of product groups have been affected (Grant et al., 2019).[25] The United States also announced successive farm subsidy packages with a view to compensating its domestic producers for the impact of retaliatory measures affecting U.S. farm exports (Glauber, 2019; Glauber et al., 2020; Schnepf, 2020c).

Throughout 2018 and 2019, the United States repeatedly announced successive rounds of new tariffs and retaliatory measures affecting China's exports, with China repeatedly imposing retaliatory measures as trade tensions escalated, prior to an agreement being reached in January 2020 (PIIE, 2020). During the two-year period, the United States imposed gradually increasing duties on a growing value of China's exports, ultimately reaching a 25% tariff on USD 250 billion of Chinese exports—although threats to impose still higher duties on a larger value of trade did not materialize prior to the conclusion of the agreement between the two trading powers. This accord, dubbed the "Phase 1" deal in anticipation of further talks on unresolved issues, committed China to buy an extra USD 200 billion of U.S. exports over 2020 and 2021 (relative to 2017 levels) (United States Trade Representative, 2020). In exchange, the United States agreed to cut (but not remove) the tariffs that had been imposed. Actual Chinese purchases of U.S. exports nonetheless fell far short of the target levels established by the agreement (including for agricultural products), representing only 59% of the targeted year-to-date level for U.S. exports of covered goods or 58% of the level of Chinese imports (Bown, 2021).

2.3.2 How Were Food Markets Affected?

By July 2019, the unresolved United States–China tensions were among the major factors shaping markets (AMIS, 2019a). In particular, the soybean sector was expected to be affected disproportionately, with China accounting for two thirds of global soybean imports and the United States representing some 40% of all annual soybean exports to China (AMIS, 2019b).

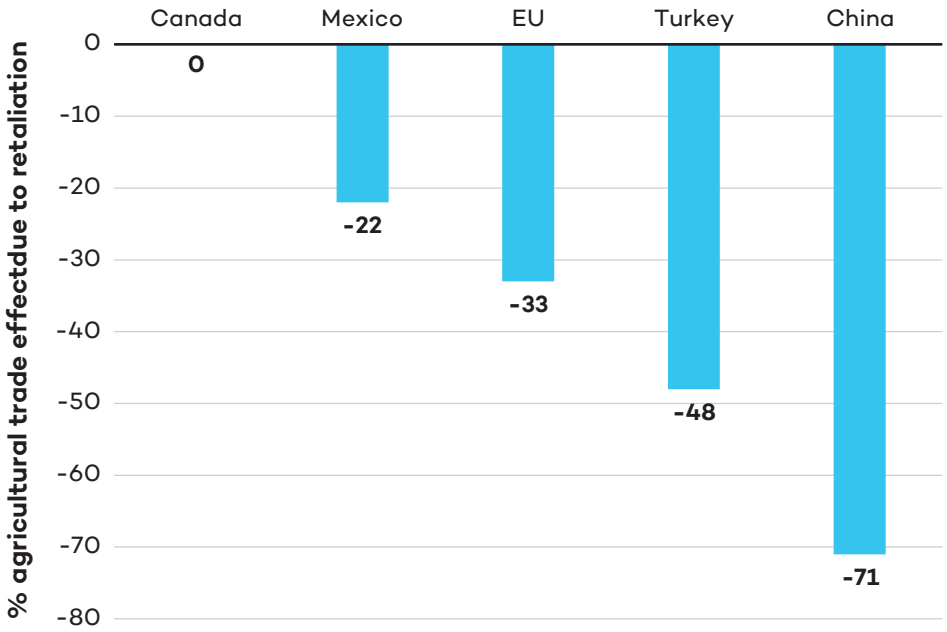
By November 2019, fish and milk products were also impacted (FAO, 2019a). For fish products, the trade war drove potentially permanent transformations in key markets. Soybean futures prices hit a one-year high after touching an 11-year low in May following massive hog culling in Asia and the imposition of China's retaliatory tariffs (FAO, 2019a).

One estimate found that, once other factors such as the impact of African Swine Fever in China had been excluded, trade barriers imposed in 2018/19 caused U.S. agricultural exports to China to fall by as much as 71% on average, compared to the same months and product lines in 2016/17, as Figure 2 shows (Grant et al., 2019).[26]

[25] These included grains, livestock, dairy, horticulture, specialty crops, processed foods, beverages, tobacco, and cotton.

[26] A growing body of literature has sought to provide both ex ante assessments of the trade war (based on modelling projected impacts) and ex post analysis (based on observable changes in empirical data) (WTO, 2019). The focus here is primarily on the latter category.

Figure 2. The effect of retaliation on U.S. agricultural exports by destination



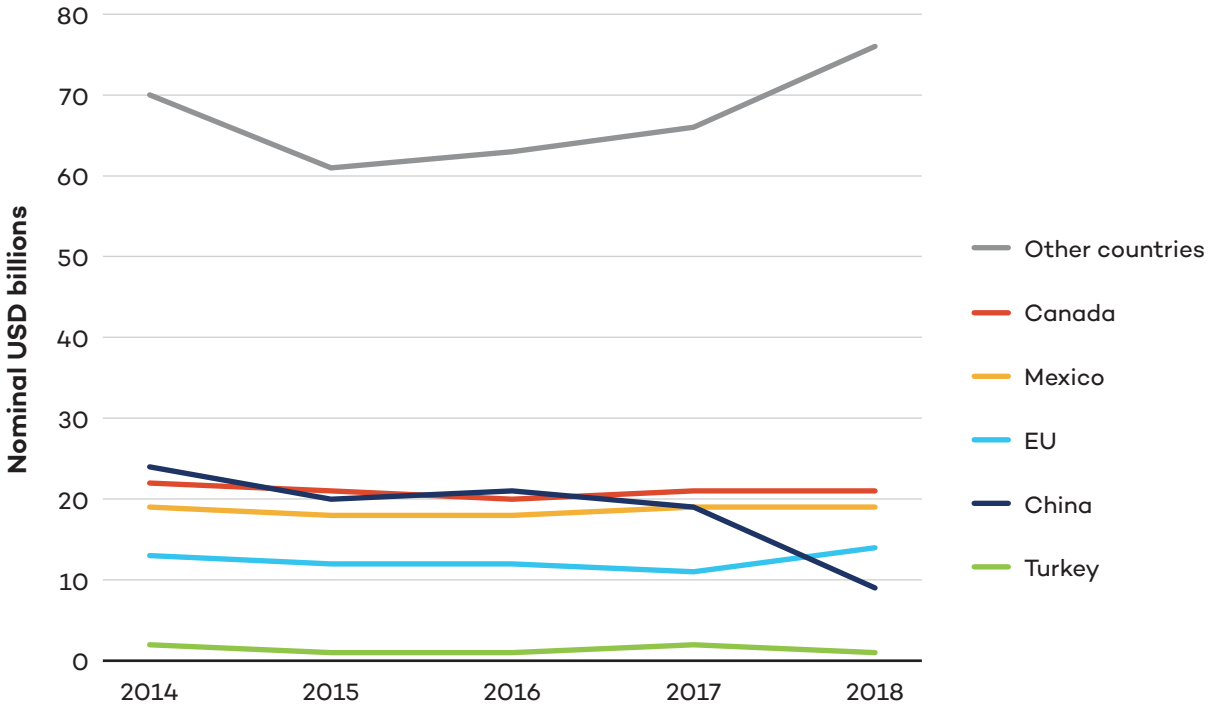
Source: Grant et al., 2019, based on authors' calculations from an econometric model.

The trade barriers imposed also caused significant impacts on specific product groups in certain U.S. export markets, with U.S. exports to China falling by more than 50% for cereals, meat, oilseeds, beverages and tobacco, cotton, and dairy, and a similarly significant decline in U.S. cereal exports to the EU (Grant et al., 2019). Brazil, Australia, and New Zealand, along with Argentina, Canada, and Mexico, were among the countries increasing their agricultural exports to meet China's demand (Grant et al., 2019). Thailand and Indonesia also increased their exports to China in specific product markets (fruit, malt, nuts, starches, and fats and oils), and Russia could gain in the longer term from recent United States–China trade tensions (Regmi, 2019).

Importantly, African countries could also benefit from recent trade tensions under certain conditions—although analysts have also cautioned that the continent would be adversely affected if the United States–China trade war were to become global (Bouët et al., 2019).

At the same time, the trade war has led to a sharp increase in U.S. exports to countries not imposing retaliatory measures. As Figure 3 shows, U.S. exports to these countries rose from USD 66 billion in 2017 to USD 76 billion in 2018 (Regmi, 2019). To the extent that these agricultural exports benefited from production-linked domestic support payments, they may also represent unfair competition for producers in other world regions. Successive U.S. "trade aid" packages affect markets for food and agriculture and could expose the United States to litigation under the WTO's dispute settlement process if support is found to contravene existing commitments (Glauber, 2019).

Figure 3. U.S. agricultural exports to retaliating and non-retaliating countries



Source: IISD, based on U.S. Census Bureau trade data presented in Regmi, 2019.

2.3.3 Which Trade Measures Were Put in Place?

While the COVID-19 pandemic and the Southern African drought shock resulted in production shortfalls, the United States–China trade war only resulted in shortages in China, with increased levels of imports in other markets as U.S. exporters looked to sell their goods elsewhere. Furthermore, in contrast with the COVID-19 pandemic and the Southern African drought of 2015–2016, the United States–China trade war is exceptional insofar as it represents an example of a shock to the food system that is primarily policy-induced. Furthermore, while trade policy was relevant to the other two phenomena considered above, it was the central cause of the disruption to food markets in the case of the trade war.

As discussed in the previous sections, the main trade policy instruments used by governments during this episode were tariffs to block imports and producer subsidies to compensate producers. Notably, the "Phase 1" deal that established a temporary truce on further tariff hikes and retaliatory measures was conditional upon China purchasing predetermined levels of U.S. exports, targets that observers expect the government to pursue through purchases by state-owned enterprises. The quantitative targets entailed in the accord have the effect of undermining principles of non-discrimination and create long-term obstacles toward the establishment of more equitable markets (Hufbauer, 2020).

The trade war also raises other important questions concerning the governance of the global trading system and the mechanisms available for peacefully settling disputes, should these arise. Several countries have contested the legality of U.S. measures, with multiple dispute

panels established as a result (Baliño, 2019).[27] However, the Trump Administration also vetoed the appointment of new members of the WTO's Appellate Body, with the result that there is no longer the quorum required to consider appeals. Disputes with the United States that have emerged in connection with the trade war can therefore be "appealed into the void" after the panel stage, leaving them unresolved.

2.3.4 How Were Trade Policies Relevant?

The United States–China trade war highlights the limits of what can be done to enhance the predictability and stability of global markets when key actors are determined to disregard multilateral rules on trade. It also underscores the need to ensure that global governance mechanisms for trade function properly in the future and that they can be relied upon to help settle disputes peacefully and equitably when these do occur. The concerted efforts of the Trump Administration to weaken and undermine the normal functioning of the rules-based trading system, including its dispute settlement process, are likely to continue to have far-reaching implications for global markets for food and agriculture in the years ahead, even if the trade war protagonists are able to overcome their differences and agree to mutually acceptable reductions in the trade barriers that have been introduced.

In the United States, the Biden Administration has an opportunity to help rebuild trust and confidence by taking a number of concrete steps forward, including in ways that will help improve the predictability and stability of global markets for food and agriculture. High on the agenda should be contributing constructively to revitalizing the dispute settlement process by unblocking the appointment process for Appellate Body members (see recommendation **4a** in Section 4.4 below). The new administration can and should also prioritize working with China and other major economies to resolve trade tensions, to progressively lower the market access barriers that were introduced under the Trump presidency, and to reorient trade in food and agriculture around underlying market dynamics rather than artificially imposed export targets.

With tariff hikes and retaliatory border measures central among the policy tools used by parties to the conflict, world leaders and other policy actors need to agree on a framework for reducing these trade barriers over time. With the existing multilateral framework providing considerable leeway for certain WTO members to increase tariffs on "sensitive" farm goods to prohibitive levels, or instead to lower them rapidly in times of shortages, trade negotiators need to take concrete steps in this area to improve the predictability of global markets for food and agriculture by agreeing to cuts to the highest tariff peaks for farm goods in major importing countries (see recommendation **1d** in Section 4.1). Capitalizing on existing regional and bilateral trade integration to date could be one way forward.

The sharp increase in support to U.S. producers adversely affected by the trade war has also shone a spotlight on the need to ensure global disciplines in this area limit support that is linked to prices and production (Glauber et al., 2020) (see recommendation **3a** in Section

[27] Disputes on steel and aluminum have been brought against the United States by Turkey (DS 564), China (DS 544), India (DS 547), the EU (DS 548), Canada (DS 550), Mexico (DS 551), Norway (DS 552), the Russian Federation (DS 554), and Switzerland (DS 556). Complaints brought by Canada and Mexico were subsequently withdrawn or resolved mutually.

4.3). In a handful of major economies, substantial levels of support that is linked to prices and production continue to undermine the competitiveness of producers elsewhere, even though current WTO rules also provide substantial flexibility for governments to both support the farm sector in other ways and provide room for low-income countries to redress the persistent under-investment in agriculture that has steadily undermined rural livelihoods and farm productivity in many regions. Paired with strong environmental regulations and implementation mechanisms at the national level, agreeing to new support ceilings and cuts in this area would also help to improve the sustainability of the global food system by allocating scarce resources more efficiently.

With the trade war suddenly causing surplus U.S. farm output to be diverted to other markets, WTO members can and should take a new approach to the long-running question of a "special safeguard mechanism" for developing countries by establishing an instrument tailored specifically to the challenge of price volatility. Section 4.2 explores how members might consider reinvigorating talks in this area by reconsidering how the design of any such safeguard relates to the underlying policy objectives, as well as the level at which tariffs have been bound at the WTO (see recommendation **2a**).

3.0 Food System Shocks: Looking back and looking forward

The previous section examined three recent experiences of food system shocks and explored their implications for markets, policies, and rules. While these provide some insights into how shocks can affect markets for food and agriculture and the role of trade policy in anticipating and responding to unexpected events, they necessarily provide only a partial picture. In this section, we seek to place these experiences in a broader historical and conceptual context and look concisely at the available literature on how trade and markets for food and agriculture are expected to evolve, with a view to informing our assessment of how trade policy can improve the resilience of the food system in the future.

3.1 Food Markets, Volatility, and Shocks

Regular variations in commodity prices—or "normal volatility"—are common features of well-functioning and competitive markets and are not intrinsically problematic (FAO et al., 2011).[28] However, shocks occur when fluctuations fall outside households' and planning agencies' expectations (Prakash, 2011). It is the unpredictable nature of shocks that can render them problematic for market actors such as producers, consumers, or traders, due to their potential extreme repercussions (FAO et al., 2011; Tangermann, 2011).[29] Shocks can be short-term or long-term events, although otherwise separate or recurrent shocks can—and do—combine to cause complex or extended crisis situations.[30]

The effect of a shock on food markets is normally apparent through its impact on prices. Shocks can be identified as a degree of volatility that falls outside a "normal range" of prices relative to an overall trend (Díaz-Bonilla & Ron, 2010). Similarly, price volatility refers to short-term fluctuations of prices around their long-term movements (Hull, 2012).

Nominal food prices have generally tended to rise over the last five decades, with occasional spikes, while gradually declining or remaining relatively flat in real terms (see Figure 4). Global food markets experienced spikes in the early 1970s and again in 2007/08, when prices of major staples such as wheat and rice more than doubled (Headey, 2010), and most recently in 2010/11, with the index since remaining on a higher plateau than in the previous three

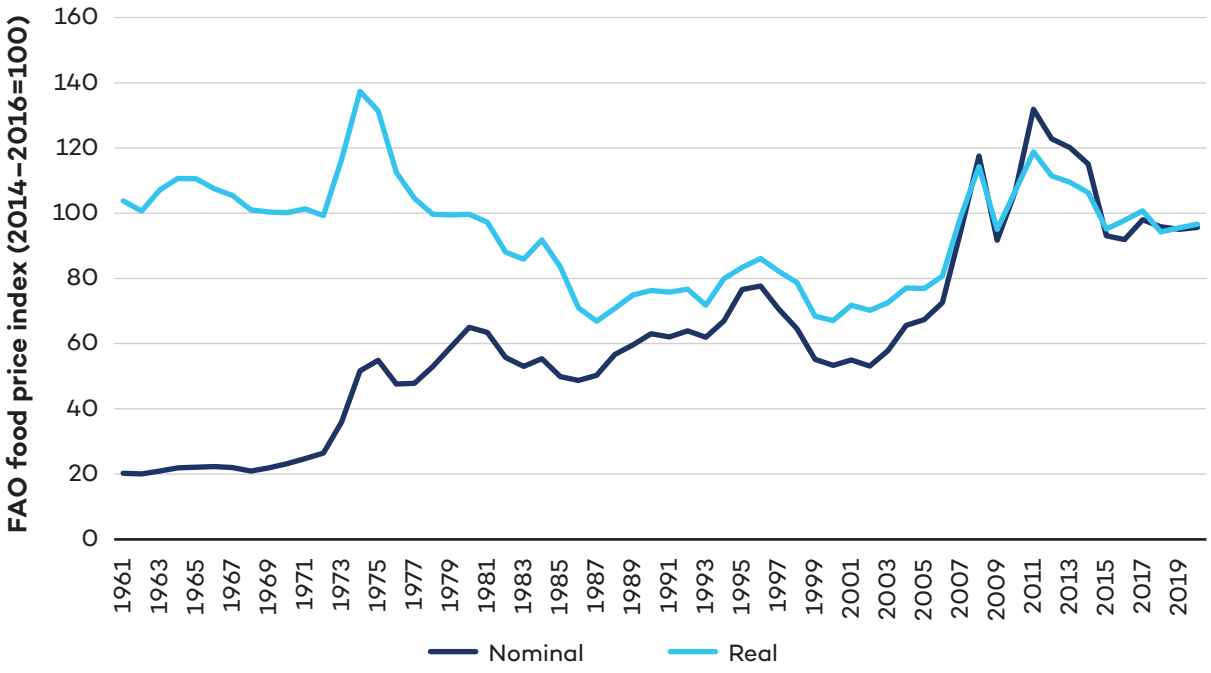
[28] The interagency report to the G20 defines volatility as "variations in economic variables over time" (FAO et al., 2011).

[29] Prakash (2011) notes that volatility can be characterized both by variability and uncertainty, with variability describing overall movement and uncertainty referring to unpredictable movement. Tangermann (2011) also notes that not all price changes over time imply uncertainty and discusses the nature of volatility on agricultural markets. Shocks may generate impacts that create winners and losers (both within a country and in other countries), and may not always be considered negative: for example, shocks generated by new technologies (such as the Internet revolution or new types of software) can contribute to higher production at lower costs, creating benefits for both producers and consumers (Jorgenson, 2001; Schilling, 2015).

[30] Konandreas (2012) notes that 40% of least-developed countries (LDCs) have faced an emergency situation during half of the 30-year period since 1980, while some have experienced an emergency in all years during that period.

decades. These price spike incidents spurred discussion among policy-makers about how the trading system can help respond to—and anticipate—shocks and volatility on global markets.

Figure 4. Occasional spikes in real food prices have deviated from longer-term trends



Source: Author's calculations based on FAO, n.d.a

Agricultural markets share characteristics with those of other storable commodities: they tend to be asymmetric, marked by extended periods of relatively limited volatility, occasional more pronounced price troughs, and less frequent but more extreme upward price spikes (Tangermann, 2011). The asymmetry between spikes and troughs can be explained by the fact that, while prices cannot be negative or null, no natural limit exists to a price increase. The following sections consider in more detail two of the most significant recent price spike episodes, those associated with the oil crises of the 1970s and those that occurred in the late 2000s.

3.2 The 1973 and 1979 Oil Crises

In October 1973, the Organization of Arab Petroleum Exporting Countries[31] agreed to curtail the supply of oil, driving oil prices 400% higher within just a few months (FAO, 2009). The associated global food price spike was triggered by several combined factors. Firstly, in the preceding year, food production had already shrunk for the first time in two decades, as bad weather hit crops worldwide. Secondly, the oil supply shock increased petroleum prices and input costs, meaning many low-income countries had little revenue with which to purchase

[31] In retaliation for President Nixon's request for USD 2.2 billion in emergency aid to Israel during the Yom Kippur War (Smith, 2006, p. 329), the Organization of Arab Petroleum Exporting Countries imposed an embargo on the United States (Reich, 1995).

the chemical inputs required for their farm sectors. Thirdly, poor harvests in 1974 in the United States, Canada, the former Soviet Union, and much of Asia were compounded by the effect of a U.S. grain embargo, which further pushed up prices on world markets. At the end of 1974, world food reserves hit a 22-year low (FAO, 2009), and prices of staples such as rice and wheat increased by 200% and 160%, respectively (Headey & Fan, 2008).

The second oil crisis of 1979 again contributed to driving global food prices higher. Once again, the crisis had origins in political tensions, as production was cut back during the Iranian revolution. Oil prices were also pushed higher due to a boom in the world economy and sharp increases in precautionary demand (Kilian, 2009). Although food prices surged in both oil crises, producers in low-income countries did not benefit for several reasons, including low levels of global market integration, high input costs, inadequate access to credit, and a lack of infrastructure (FAO, 2009).

Notwithstanding the price spikes of the 1970s, the 1986–1994 Uruguay Round, which led to the establishment of the WTO and the Agreement on Agriculture, focused primarily on problems faced by producers in net agricultural exporting countries, with relatively little attention given to the issues facing consumers in net food-importing countries. Price suppression associated with trade-distorting subsidies in the United States and the EU, alongside high tariff barriers in protected markets, meant that domestic support and market access were constrained under the new trade rules, while minimal limits were imposed on measures such as food export restrictions.[32] Recommendations **1a**, **1b** and **1c** in Section 4.1 look at how this imbalance can be rectified, while recommendations **1d** and **3a**, **3b** and **3c** in sections 4.1 and 4.3 look at how existing trade rules on domestic support and tariff barriers can be strengthened.

3.3 The 2007/08 and 2010/11 Price Spikes

An accumulation of events, partially due to oil price shocks, contributed to the 2007/08 and 2010/11 global food price spikes. Tangermann (2011) details the following series of events: a) weather conditions before 2008 in Canada, Australia, Russia, Ukraine, and the EU, all of which are major cereal exporters; b) record low global stocks in the years before 2007[33]; and c) rising energy prices, particularly for crude oil, affecting agricultural input costs from late 2006 onwards.[34] From January 2004 to May 2008, staples prices increased by around 125%, with rice prices rising 224% and wheat 108%. Most developing countries took several measures in response, including market interventions, production support, and consumer protection (Table 2).

[32] General Agreement on Tariffs and Trade (GATT) Article XI, along with Article 12 of the Agreement on Agriculture, provide the legal basis governing the application of export prohibitions and restrictions. Anania (2011) discusses this further.

[33] Due to weather conditions, economic expansion, and cereal stockholding policies in China and the EU.

[34] Other triggers included the growing demand for biofuels as energy prices rose; low interest rates and monetary supply policies in the United States that diverted investments toward more physical assets and commodities and contributed to inflating their prices; the weak U.S. dollar that led to a rise in the price of tradable goods; and speculation in commodity futures (Tangermann, 2011).

After a sharp decrease in food prices in 2009, a second wave of price spikes was caused by the 2010/11 oil crisis. The Arab Spring and civil war in Libya created a tight global oil market as supply plummeted from producers in the Organization of the Petroleum Exporting Countries, while steadily growing demand for food in emerging economies maintained pressure on markets. Although the 2010/11 oil crisis drove food prices as high as they had been in 2007/08, the degree of food price volatility was not as significant as in the earlier price spike episode.

Table 1. Policy measures in response to the 2007/08 food crisis

Policies	Africa	Asia	Latin America	Overall
Countries surveyed	33	26	22	81
Market interventions				
Trade policy				
Reduction of tariffs and customs fees on imports	18	13	12	43
Restricted or banned export	8	13	4	25
Domestic market measures				
Suspension/reduction of value-added tax or other taxes	14	5	4	23
Released stocks at subsidized prices	13	15	7	35
Administered prices	10	6	5	21
Production support				
Production support	12	11	12	35
Production safety nets	6	4	5	15
Fertilizer and seed programs	4	2	3	9
Market interventions	4	9	2	15
Consumer safety nets				
Cash transfers	6	8	9	23
Increase in disposable income	4	8	4	16

Source: Abbott, 2012.

The price spikes of the 2000s drew high-level political attention to the issue of food price volatility and its implications for food and nutrition security, including its trade policy dimension. In 2011, the French presidency of the G20 placed the issue squarely on the group's agenda; it commissioned a report on the subject early in the year from a consortium of 10 international agencies and agreed to refrain from imposing export restrictions or

extraordinary taxes on humanitarian food aid provided by the WFP. However, an attempt by WTO members to agree to a similar commitment at the trade body's Ministerial Conference that December foundered (see recommendation **1a** in Section 4.1 below). G20 members also set up mechanisms to improve transparency in global food markets, in particular through the establishment of the AMIS, discussed in Section 4.4 below (see also recommendation **4d** in the same section).

3.4 Looking Forward: Climate-related food system shocks

3.4.1 Increasing Frequency and Severity of Extreme Weather Events

Climate change is expected to have significant implications for the global food system in the years ahead, especially as a result of the increased frequency and intensity of extreme weather events. While trade can help mitigate the impacts of localized shocks, it is important also to note that the impacts of climate change are expected to differ considerably across different countries and regions, with low-latitude regions particularly vulnerable to adverse climate impacts. Box 2 summarizes some of the key findings from the most recent major report produced by the IPCC.

Box 2. A changing food system: IPCC analysis

Food supply stability "is projected to decrease as the magnitude and frequency of extreme weather events that disrupt food chains increases," according to the IPCC's recent special report on climate change and land (IPCC, 2019). The same report also finds, again with high confidence, that "climate change has already affected food security due to warming, changing precipitation patterns, and greater frequency of some extreme events." In low-latitude regions, yields of crops such as maize and wheat have been negatively affected by observed climate change, while in many higher-latitude regions, yields of crops such as maize, wheat, and sugar beets have been affected positively over recent decades (IPCC, 2019).

These challenges are expected to continue affecting agriculture and rural areas throughout the coming century. The IPCC (2019) cautions that "the frequency, intensity and duration of heat related events including heatwaves are projected to continue to increase," while "the frequency and intensity of droughts are projected to increase particularly in the Mediterranean region and southern Africa." In addition, the frequency and intensity of extreme rainfall events are projected to increase in many regions. The increase in extreme weather events is set to be accompanied by gradual shifts in climate zones, as these move toward the poles in mid- and high-latitude regions.

Policy-makers will need to anticipate both "linear" developments, such as the expected shifts in ecological zones and the resulting consequences for food systems, and "non-linear" changes, such as the increase in frequency and intensity of extreme weather events. The existing focus on how economies adjust to structural change (including in the area of trade) therefore needs to be complemented with a more rigorous focus on how policy regimes address and

respond to non-linear changes associated with risk and uncertainty. Section 4 explores both issues associated with the structural transformation of the food system needed to enhance resilience to shocks (Section 4.3, including, specifically, recommendations **3a**, **3b** and **3c** and recommendations **1d** and **2b**), as well as the extent to which governments have the tools they need to respond to unexpected shocks without harming producers and consumers in other countries (recommendations **1a**, **1b** and **1c**, and **2a**).

3.2.2 Expected Impacts on Agricultural Trade and Food Security

Because climate change is due to alter agricultural conditions, comparative advantages across regions, and production and consumption patterns, it is also expected to affect global trade in food and farm goods (FAO, 2018b). It is furthermore set to affect food security through its impacts on stability, through the impact of extreme weather events on crops and livelihoods, and through the risk of short-term disruptions to trade due to the effects on transportation systems.

Agricultural trade can play a role in responding and adapting to climate change, including by contributing to market stabilization and by reallocating food from surplus to deficit regions. These adaptive measures will be relatively slow-acting, important for coping with the underlying shifts climate change implies—but not the sharp shocks that are also associated with climate change in the form of extreme weather events.

Box 3. The impacts of climate change on production and trade

Africa, the Middle East, and Southeast Asia are projected to experience overall declines in production due to climate change-induced changes in growing conditions (Cui et al., 2018). Relative to a baseline scenario, West Africa and India are expected to see particularly steep falls in production (2.9% and 2.6%, respectively). In higher latitudes, production increases are forecast, for example, in Canada (2.5%) and the Russian Federation (0.9%). Trade flows are also expected to evolve, with North and West Africa significantly increasing their net food imports, along with India and other parts of South Asia, while most countries in sub-Saharan Africa also deepen their net food-importing profile. Canada is set to increase its net food exports, while food-importing countries in the Russian Federation and the Caucasus are expected to import less and export more (FAO, 2018b).

As many low-income countries become more heavily dependent on food imports, meaningful measures to limit the use of food export restrictions in major exporting countries will become increasingly important: Section 4.1 explores this issue in more detail, including recommendations **1a**, **1b**, and **1c**.

4.0 Toward Trade Policies and Rules That Improve Resilience to Shocks

The following section looks at what governments can do to ensure that policies and rules on trade help improve resilience to future food system shocks. The 13 recommendations are structured around four key public policy objectives: a) ensuring food access and availability for poor consumers in times of shortage; b) safeguarding farmers' livelihoods in the event of sudden surpluses; c) improving how food markets function by allocating resources more equitably and sustainably; and d) rebuilding trust and confidence in global norms and institutions, by navigating the United States-induced crisis in multilateralism.

4.1 Food Shortages: Ensuring access and availability for poor consumers

One way in which shocks can affect how food systems function is by suddenly reducing the availability of food on domestic markets—for example, as occurred in the Southern African drought discussed in Section 2.2.[35] While some domestic producers might benefit from associated price increases, consumers would be hurt, with acute food shortages translating into an increased incidence of hunger and malnutrition. Low-income consumers are disproportionately vulnerable to the effect of price increases, as their lower levels of purchasing power mean that price hikes are more likely to impede their ability to access safe, sufficient, and nutritious food.

While increased trade can help overcome inadequate food availability on domestic markets, other policy interventions can be necessary in order to address the problem of inadequate access to food among poor consumers (FAO, 2018b). Consumer subsidies that are targeted at people with low incomes are one effective response (Gouel, 2013): these are allowed without any limits under WTO rules.[36] Governments generally require time and planning to set in place functioning consumer subsidy schemes so that these can provide due assistance to people with low incomes when sudden shocks do occur. As these programs can also be costly, governments ought to work together to provide a sustainable financing mechanism to safeguard poor consumers' food security in the long term, improve the resilience of the food system in the future, and potentially also address adjustment costs associated with trade opening (Josling, 2011).

Food export restrictions can suppress domestic prices when a sudden shortage occurs but also push prices up on global markets, undermining access to food in other countries, especially for consumers on low incomes (Anania, 2011; FAO, 2018b; Sharma, 2011). In

[35] Food security has long been seen as entailing four components: availability, access, utilization, and stability. The most recent report of the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security (2020) furthermore identifies two additional components—agency and sustainability—as core dimensions.

[36] Paragraph 4 of Annex 2 to the WTO's Agreement on Agriculture exempts these measures from counting toward maximum limits on support.

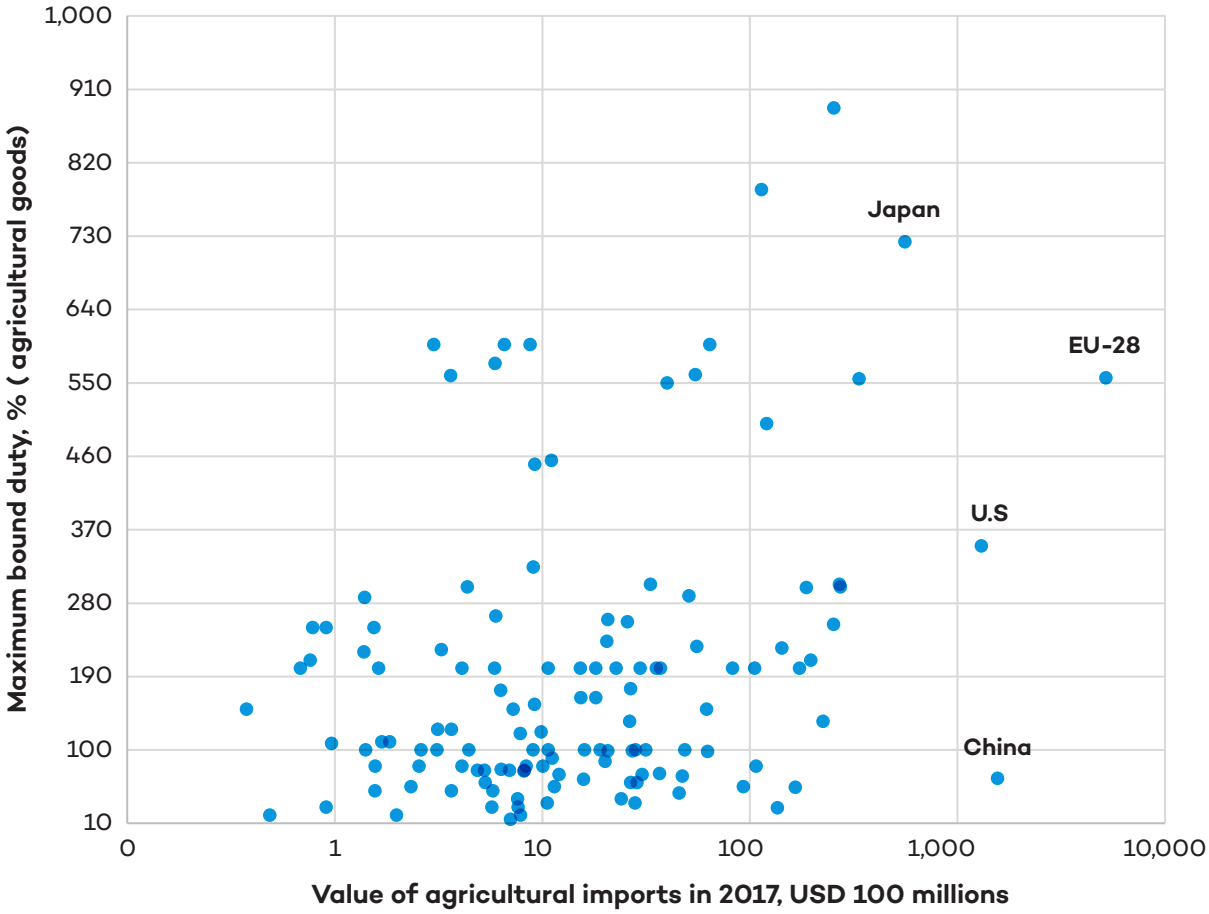
the country imposing restrictions, producers and traders tend to be adversely affected by these measures, which tend to disincentivize investment in the longer-term. The impact of food export restrictions on consumers abroad is particularly significant when the country imposing the restriction is a major exporter of the foodstuff concerned. Countries should also agree on an operational definition of a "critical food shortage" situation that might justify the consideration of an export-restricting measure (FAO, 2018b). Negotiations to strengthen WTO disciplines on food export restrictions should also exempt LDCs and other low-income food-importing countries, as measures imposed by these countries have only minimal impacts on global markets. However, at a minimum, all WTO members could reduce the negative impact of food export restrictions on poor consumers in emergencies by agreeing not to impose these measures on purchases of humanitarian food aid, such as procurements made by the WFP.

Countries facing a sudden shortage can also lower tariffs to increase the availability of food and improve access for consumers on domestic markets. Nothing in the rule book would prevent a country from unilaterally deciding to lower tariffs to address food shortages. However, if a country is a major importer of the foodstuffs concerned and the decrease in tariffs is substantial, global prices for the affected product may increase—potentially adversely affecting consumers in other countries and regions.

The extent to which countries are legally able to raise or lower their actual "applied" tariff rates depends on the maximum level that they have committed not to exceed at the WTO (the "bound" tariff rate).[37] While some WTO members have bound tariffs at exceptionally high levels for certain agricultural products, others are constrained by much lower levels. At the WTO, major importers therefore ought to agree on a framework for cuts to unusually high tariff peaks on key farm goods, with a view to improving the predictability and stability of the global food system over time. Talks in this area should also ensure that countries at lower levels of per capita income have the trade policy tools they need to respond to unexpected events. Negotiators should consider both the level at which tariffs are bound as well as the significance of the WTO member as an importer of food and agricultural goods relative to the global market. Figure 5 below seeks to illustrate this by showing that just a handful of big importers (the EU, China, the United States, and Japan) account for the lion's share of imports, and, apart from China, are also among those with relatively high tariff ceilings.

[37] Another important consideration is the commitments that countries have made in this area under bilateral and regional trade agreements.

Figure 5. Agricultural products: Import value and maximum bound duty (logarithmic scale)



Source: Authors' calculations: data on the value of agricultural imports is from FAOSTAT, n.d.b; tariff data is from WTO et al., 2019.

Note: Egypt, Singapore, Switzerland, Norway, and Brunei Darussalam have maximum bound duties above 1,000% and are not displayed. All five countries have a total value of agricultural imports below USD 14 billion.

Finally, WTO members should fast-track talks on public stockholding for food security purposes, alongside a comprehensive reform of the trade body's rules on agricultural domestic support. WTO rules currently place no limit on procurement at market prices under public stockholding programs for food security;[38] however, if food is procured at government-set prices, these purchases must be counted toward the maximum limit on support, prompting calls from a number of developing countries for greater flexibility in this area (International Centre for Trade and Sustainable Development [ICTSD], 2018). Progress in this area may require WTO members to revisit the methodology for calculating farm subsidies at the WTO, for example, by updating the reference prices used to assess domestic support levels. Options for doing so could include adopting a rolling 3-year or 5-year period instead of the current fixed external reference prices (which for most countries are those that prevailed in 1986–1988), perhaps excluding the highest and lowest values if a longer time period is chosen.

[38] Paragraph 3, Annex 2 of the Agreement on Agriculture.

Members could also discount purchases that are made at administered prices set below the international market price (Glauber et al., 2020) or exempt self-consumption by subsistence farmers when calculating the overall value of farm output (Galtier, 2017). A more pragmatic approach could involve discounting procurement that represents only a small share of farm output when calculating support levels for these programs (ICISD, 2018).

Trade policy recommendations:

	Who should act?	Action required
1a	WTO members	Ban export restrictions or prohibitions on foodstuffs purchased for non-commercial humanitarian purposes by the World Food Programme.
1b	WTO members	Clarify when countries can impose quantitative export restrictions under General Agreement on Tariffs and Trade (GATT) Article XI by agreeing on a definition of "critical shortage" of foodstuffs.
1c	WTO members	Ban export restrictions on food staples while exempting least-developed countries and low-income food-importing countries.
1d	WTO members	Improve the stability and predictability of the global food system by agreeing to cuts to unusually high "tariff peaks" on key farm goods in major importing countries.

4.2 Safeguarding Farmers' Livelihoods: Addressing sudden surpluses

Shocks can also sometimes lead to a sudden and unexpected surplus of food on global markets. These events tend to suppress prices received by producers and can happen when output levels of a farm good are unexpectedly high or as a result of government policies—such as a production-linked subsidy provided to producers in a different country or region, or as trade is displaced when a major importing country imposes higher tariffs (FAO, 2018b). The example of trade diversion resulting from the United States–China trade war (discussed in Section 2.3) illustrates both phenomena. Food surpluses can also result from a sudden collapse in consumer demand, such as that experienced in certain markets as a result of the COVID-19 pandemic discussed in Section 2.2.

The G33 coalition, a group of large and small developing countries with a significant share of small farmers, have long argued in favour of establishing a new "special safeguard mechanism" (SSM), which all developing countries would be able to use in order to raise tariffs temporarily to protect domestic producers from sudden surges in import volumes or a price depression (Bellmann et al., 2013; Morrison & Mermigkas, 2014). At the WTO's 10th Ministerial Conference in Nairobi in 2015, members agreed to a decision mandating talks on this question under a separate negotiating track (Dhar, 2016; WTO, 2015). However, trade talks

have progressed only slowly, with the Cairns Group of agricultural exporters[39] arguing that the mechanism should be linked to tariff reductions and other improvements in market access (WTO, 2020b). A price stabilization rationale might simplify talks by averting the need for inclusion of a volume safeguard, as Table 3 indicates.[40] In order to improve the ability of low-income countries to respond to sudden shocks, WTO members should fast-track the talks and agree on a special safeguard mechanism, according more flexibility to members with lower bound tariffs to impose temporary safeguard duties.

Table 2. The underlying rationale for a new SSM could affect its design

	Exceed bound tariffs?	Include volume safeguard?	Apply to unsubsidized exports?	Apply to preferential trade?
Adjustment instrument?		✔	✔	
Countervailing mechanism?	✔			✔
Price stabilization?	✔		✔	✔

Source: Authors' elaboration
Note: The authors are grateful to Christophe Bellmann for his insights on this conceptual framework.

At the same time, some three dozen mostly high-income WTO members are able to make use of the SSM for farm goods provided under Article 5 of the Agreement on Agriculture, which allows for a temporary increase in tariffs in the event of a surge in import volumes or a price depression.[41] Eligible members are essentially those that agreed to convert non-tariff border measures into tariffs during the Uruguay Round of multilateral trade negotiations. Some of these members, such as Japan or the EU, also maintain high "tariff peaks" on farm goods—including in the form of "complex tariffs" expressed as a share of a product's weight or volume rather than as a percentage of its value (ICTSD, 2018; Yamashita, 2015). Exporting countries, in particular, remain concerned that these safeguard duties can have the effect of displacing volatility onto global markets, thereby harming producers elsewhere—especially when these safeguards are recurrently applied, in combination with pre-existing high tariffs on farm goods. WTO negotiators should therefore agree on a

[39] The group includes developing country exporters, such as Argentina, Paraguay, and Uruguay, which have expressed concern that the SSM could impede access to markets for their own producers, including small farmers.

[40] SSM proponents also argued that the SSM was needed to protect producers from the impact of tariff cuts under the Doha Round (the "adjustment rationale"). Other WTO members have countered that, on this basis, preferential trade should be excluded and that safeguard duties should not exceed bound tariff levels. Proponents have also argued that the SSM is needed to counteract the impact of subsidized imports (i.e., as a countervailing mechanism), leading other members to argue that non-subsidized exports should be excluded, along with preferential trade.

[41] Thirty-nine WTO members reserved the right to use this mechanism, according to the WTO Secretariat document G/AG/NG/S/9/Rev.1 (WTO, 2002).

process for phasing out or disciplining the use of the SSM as part of the framework for cutting unusually high tariff peaks mentioned in Section 4.1.

Trade policy recommendations:

	Who should act?	Action required
2a	WTO members	Establish a special safeguard mechanism, according more flexibility to members with lower bound tariffs to impose temporary safeguard duties.
2b	WTO members	Phase out or discipline the use of the existing special safeguard as part of the framework for cutting unusually high tariff peaks (1d).

4.3 Improving How Food Markets Function: Allocating resources fairly and sustainably

In order to enable both producers and consumers to withstand shocks more easily, governments could usefully take measures to improve how global food markets function (FAO, 2018b). For example, the climate crisis has increased the urgency of ensuring that environmental costs in the food system are taken into consideration by market actors (Bellmann et al., 2019; FAO, 2018b). Reform in key policy areas such as fossil fuel subsidies would be important in addressing the persistence of perverse incentives that affect markets for food and agriculture, both directly and indirectly.[42] Governments therefore need to identify those subsidies to fossil fuels that act against sustainable development and reform them.

Similarly, action to address persistent poverty and inequality is critical to ensuring that vulnerable individuals and communities can cope with unexpected events[43]: while policies beyond trade are relevant, including in areas such as education and health, trade policies can also contribute to creating jobs and raising incomes insofar as they are coherent with broader national strategies on sustainable development.[44] Both national measures affecting markets (such as how rules on land tenure and inheritance affect gender equality) and global measures (such as efforts to improve how the price of carbon is captured in economic activity) can be relevant in this respect (FAO, 2018b). However, at the national level, governments need to take a comprehensive and coherent approach that goes beyond trade in agriculture goods and addresses policies affecting the entire food value chain, including trade in services (FAO, 2019b).

[42] The FAO (2018b) considers in some depth issues around climate change mitigation and trade and their relevance for supporting a transition toward a more sustainable and equitable global food system.

[43] As noted in Section 4.1, governments should work together on a sustainable financing mechanism to ensure poor consumers can access food as one concrete step towards this.

[44] For example, Laborde et al. (2019) find that trade policy reform (in areas such as tariffs, export taxes, export promotion, and sectoral policies) was particularly instrumental in enabling agricultural transformation in Vietnam, Chile, Costa Rica, and South Africa.

Many governments have introduced producer subsidies with a view to helping farmers to withstand the impact of sudden unexpected events on world markets. As the preceding sections illustrate, recent shocks associated with the COVID-19 pandemic or the imposition of retaliatory tariffs during the United States–China trade war have prompted policy-makers to introduce new producer support packages. Of these two shocks, COVID-19 arguably represented an exceptional event that required governments to intervene in markets for food and agriculture to protect producers' livelihoods, especially where market failures had occurred. Current WTO rules do provide room for countries to provide domestic support to producers and the farm sector in response to unexpected events, for example, in the form of income insurance and income safety net programs or through natural disaster relief payments. So long as they comply with certain conditions, payments under these programs are allowed without limits under paragraphs 7 and 8 of Annex 2 of the Agreement on Agriculture (dubbed the "green box" by trade negotiators). Payments under environmental programs are also allowed without limit under paragraph 12 of Annex 2, as are direct income support payments (paragraph 6). When shocks occur, governments should make use of these options to support producers to minimize harm to producers in other jurisdictions.

At the same time, WTO rules continue to provide considerable scope for major economies to provide support that adversely affects producers in other countries and jurisdictions. The impact of domestic support programs depends very much on how they are designed: schemes where support is linked directly to prices and production or to inputs can effectively displace shocks and volatility onto global markets, especially when these are implemented by countries that are major food exporters of the subsidized product or products concerned. Although this type of support is subject to maximum limits under WTO rules, existing disciplines do little to meaningfully constrain the support provided by those economies, which have the resources to provide significant levels of subsidies to the farm sector.

While progress in updating the WTO rulebook in this area could contribute to a better allocation of scarce resources and more equitable, sustainable markets over the long term, it could also help improve the ability of members to respond to food system shocks without adversely affecting producers in other countries. As a priority, WTO negotiators need to update the rulebook in this area, simplifying domestic support rules by allowing countries to provide a certain minimal level of trade-distorting support, based on a percentage of the value of production. A blueprint for doing so is set out in IISD's April 2020 paper with International Food Policy Research Institute on this issue (Glauber et al., 2020).

Furthermore, increasing investment in public goods is important to improving the ability of agriculture to withstand sudden shocks, including the types of extreme weather events associated with climate change. Support for general services such as research, pest and disease control, rural infrastructure, and extension and advisory services will be important in this respect (FAO, 2018b; Glauber et al., 2020). As with consumer subsidies in the form of domestic food aid, current WTO rules place no limits on the amounts of support that can be provided in this category. Especially in low-income countries, governments should help reverse long-term under-investment in the farm sector by supporting the provision of public goods for food and agriculture.

Trade policy recommendations:

	Who should act?	Action required
3a	WTO members	Harmonize levels of domestic support across countries over time: agree to new WTO ceilings and gradual cuts to all support classed as trade distorting, defined as a share of the value of production, while allowing all countries to provide a minimal level of this type of farm support.
3b	National governments	Make use of the existing options under WTO rules to support producers without harming those elsewhere—for example, through natural disaster relief programs or through income insurance and income safety net schemes.
3c	National governments	Help reverse long-term under-investment in the farm sector by supporting the provision of public goods for food and agriculture, especially in low-income countries, including by complying with the Malabo Declaration commitment to dedicate 10% of public budgets to agriculture in Africa.

4.4 Rebuilding Trust and Confidence: Navigating the crisis in multilateralism

Many WTO members are acutely conscious that there may be limited value in negotiating new global trade rules if those that already exist are disregarded by major economies. In this respect, the challenges facing the multilateral trading system bear important similarities to those facing other parts of the international architecture that has been established in the post-war period. Political leaders will need to address this problem effectively in order to ensure that trade policy contributes to more equitable and sustainable outcomes in the future (Bernasconi-Osterwalder & Wooders, 2020), including through promoting more resilient markets for food and agriculture.

In part, this will require a more sustained and engaged conversation with key constituencies in major economies about the extent to which participation in multilateral rules-based processes and commitment to them are ultimately relevant to achieving national public policy goals in all countries, irrespective of size or income levels. Although this necessarily goes beyond trade and trade policy, it is also relevant to ensure that trade policies and rules are equipped to address future food system shocks. More informed national-level conversations about climate change will also be key in this respect.

As noted in Section 3.3, the new U.S. administration can take concrete steps to rebuild trust by working with other WTO members to unblock the appointment process for Appellate Body members, with a view to revitalizing the dispute settlement process. It can and should also prioritize working with China and other major economies to resolve trade tensions, to progressively lower the market access barriers that have been introduced under the Trump

presidency, and to reorient trade in food and agriculture around underlying market dynamics rather than artificially imposed export targets.

All WTO members should also seek to establish a pathway for progress on trade and food system shocks as part of a forward-looking work program on trade, agriculture, and food security, for adoption by the trade body's General Council or at the next Ministerial Conference.

Rebuilding trust and confidence through other forums where trade and food security are aspects of a high-level political process will also be important. In addition to established processes such as those under the UN Framework Convention on Climate Change and the CFS, political leaders will need to engage with one another in spaces such as the G20 to build an understanding of one another's concerns and rebuild consensus on how to advance shared public policy goals, such as those set out under the Sustainable Development Goals (Hepburn, 2018). The annual Berlin Agriculture Ministers' Conference is another space where countries could agree to regularly review progress on trade, food security, and sustainable agriculture, taking the 2020 ministerial communiqué as a starting point.

One possible model for doing so is the AMIS, which G20 leaders set up in 2011 in the wake of the food price spikes of 2007/08 and 2010/11. This mechanism sought to enhance transparency and improve policy responses affecting food markets with a view to improving food security outcomes. Four major crops—wheat, maize, rice, and soybeans—are covered by the initiative, while a "rapid response forum" convenes senior officials from participating countries as required. Information sharing through this mechanism has been critical in helping to avert policies that could worsen shortages and lead to spikes in food prices in the period since the COVID-19 outbreak first occurred. Governments need to ensure that sustainable financing mechanisms are in place to ensure that AMIS can continue to function in the long term, including by providing the support necessary to expand its focus beyond the four major crops.

	Who should act?	Action required
4a	New United States Administration	Work with other WTO members to unblock the appointment process for Appellate Body members, with a view to revitalizing the dispute settlement process.
4b	WTO members	At the WTO's General Council or next Ministerial Conference, adopt a forward-looking work program that improves the resilience of producers and consumers to food system shocks.
4c	Agriculture ministers	Review progress on trade, food security, and sustainable agriculture on a regular basis at the annual Berlin Agriculture Ministers' Conference.
4d	Donor governments	Ensure sustainable financing for the Agricultural Market Information System (AMIS), expanding it beyond the four major crops on which it currently focuses.

5.0 Conclusion

The COVID-19 pandemic has underscored the importance of improving the resilience of the global food system to sudden, unexpected shocks and cast a spotlight on whether the current trade policy toolbox equips countries to do so without adversely affecting vulnerable producers and consumers elsewhere.

Climate change is expected to mean that extreme weather events—such as the Southern Africa drought of 2015–2016—will become more frequent and intense, with harmful consequences for the stability of food markets. In addition, policy-induced shocks to the food system, such as the United States–China trade war, are creating new sources of uncertainty and risk at a time when the existing institutional mechanisms for resolving trade disputes are being subjected to unprecedented forms of stress.

Growing attention to the structural transformations required by climate change means that policy-makers have begun to think through the challenges associated with "linear" developments, such as the gradual impact of changing ecological zones on the food system and the policy responses required as a consequence. However, less attention has been paid to the extent to which current policy frameworks provide governments with the mechanisms they need to respond to "non-linear" developments, such as sudden shocks to global markets, including in the area of trade.

This short discussion paper makes 13 specific recommendations under four key public policy objectives through which governments can ensure trade policy helps improve the resilience of the food system to sudden shocks. The public policy objectives are 1) ensuring food access and availability for poor consumers; 2) safeguarding farmers' livelihoods in the event of sudden price depressions; 3) improving how food markets function by allocating resources more equitably and sustainably; and 4) rebuilding trust and confidence in global norms and institutions. The recommendations are detailed in full in Section 4 as well as in the paper's Executive Summary.

While existing trade policy frameworks allow considerable flexibility for governments to take action in support of more resilient food systems at home, they do relatively little to rein in measures that harm producers and consumers in other countries. WTO members should therefore particularly tackle the shortcomings of the existing rulebook in three critical areas: food export restrictions, high tariffs for key farm goods, and harmful agricultural subsidies. In addition, they should establish an SSM that helps producers in low-income countries cope with sudden price depressions.

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