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Global food trade and development

International trade of food and agricultural commodities has long been attracting the interest of development economists. In the XX century and after the second World War, the main focus was on the role of the nature and direction of these flows in determining the structural features of the economies involved and their mutual relationships. Structuralist economists highlighted the issue of the worsening terms of trade for developing countries. They argued that international trade worked against 'Third World' countries that relied on exporting primary products and on importing manufactured goods. They challenged the idea of mutual benefit maintained by the neoclassical theory, argued about an unfair transfer of economic gains. The world economy was made up of a centre and a periphery, and their relations, with the central role of trade, tended constantly to reproduce the conditions of underdevelopment and to widen the gap between the two.

More recently, also in consideration of the sustained demand for commodities expressed by emerging economies and China particularly at the beginning of the XXI century, the positions became smoother. The possibility of agro-based industrialization and, more generally, of development strategies in which structural change is based on competitive advantage in primary commodities, was reconsidered by policy makers and observers. Moreover, international trade of food and agricultural products gained attention for its implications for food security and sustainability of the food systems, under a social, economic, and environmental perspective. Now the COVID-19 pandemic is having a devastating impact on economies and caused a sharp decrease in global trade, with international trade of food also declining in early 2020. For this newsletter we collected three contributions from recent pieces of research about food trade in the present global context, with specific focus on developing countries and emerging economies.

The first article is **Water consumption and crop prices: an exploratory global data-driven study.** In this article Benedetta Falsetti, Elena Vallino, Luca Ridolfi and Francesco Laio explore interactions between economic and environmental issue through food prices. They present results from the analysis of the local farm-gate prices of some important crops worldwide in order to assess whether they reflect the value of water used to grow them. They also consider how international trade may affect the consistency of prices with water intensity and water scarcity. The second article is **Sicurezza alimentare e commercio internazionale dei paesi in via di sviluppo**. In this article Donatella Saccone, Marta Marson and Elena Vallino present some research findings on the impact of trade openness on undernutrition and showing how cereals exert a positive impact on food security but only under specific conditions (this article is in Italian). The last article is **COVID-19 and Agricultural Trade: The Way Forward.** In this article Adriana García Vargas focuses on the effects of the Covid-19 pandemic on international food trade and prices and on the policies adopted by countries as reaction, also providing important policy recommendation for international cooperation in the coming future.

Water consumption and crop prices: an exploratory global data-driven study*

by Benedetta Falsetti[†], Elena Vallino^{‡†}, Luca Ridolfi[†], Francesco Laio[†]

We analyze the farm-gate prices of twelve representative crops in 1991-2016, considering data from 162 countries. The association between crop price and unit water footprint is investigated, also accounting for the country's water scarcity and of the land footprint as possible confounding factors. We find that prices of staple crops (e.g. wheat, maize, soybeans, and potatoes) seem to embed the amount of water used for their production. Differently, food products whose production is more export-oriented (e.g. coffee, cocoa beans, tea, vanilla) exhibit weaker or negligible water price links. These variations may be ascribable to specific market dynamics related to the two product groups.

Water is crucial for all human activities, but agriculture consumes 70% of all freshwater withdrawals on the earth (FAO 2017). Moreover, every increase in the world population drives an increment in the demand for agricultural crops (Hejazi et al. 2014)). At the same time, researches estimated that an increase of one Celsius degree in global temperature is associated to a reduction of the renewable water resource availability by 20% for almost 7% of the global population (IPCC 2014). Moreover, higher incomes and urbanization trends generate an increase in consumption of livestock products that are highly water intensive (Molden et al. 2007). Therefore, according to these estimations water withdrawals are expected to increase constantly over time, despite undeniable progresses in technological solutions.

In this framework of growing water stress there has been a debate on the possibility to attribute a price to water (Young and Loomis 2014, Rey et al. 2019). Some scholars argue that assigning an economic value to water would improve the efficiency in its allocation, providing incentives for more sustainable patterns of consumption (Subramanian 1997, Rogers et al. 2002, Gomez et al. 2018).

On the opposite side, other streams of thought argue that water should not be considered as a private good because it is a fundamental human need and its allocation should not follow market dynamics (Brentwood et al. 2004, Savenije et al. 2002, Perry et al. 1997).

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In the context of this debate, some scholars claim that agricultural goods' prices do not reflect correctly the amount of water used for their production (Nature Food Editorial 2020, Hoekstra and Hung 2002). However, in this general framework, there is a lack of large scale data-driven analyses.

In this work we investigate whether the water consumption related to agricultural production is reflected in crop prices. We consider twelve crops which are cultivated worldwide over the period 1991-2016, encompassing 162 countries. We analyse the relation between the crop water footprints and crop prices, taking into account also the level of water scarcity at the country level and the role played by the land footprint, defined as the ratio between the harvested area and the tons produced for each crop. It is the reverse of the yield - *ton/ba* (Hogerboom and Hoekstra 2017).

There are two main innovative features in our work. First, we use a data-driven approach to explore the subject on a global scale, considering a wide temporal frame, and analysing a heterogeneous set of representative crops cultivated in an extensive range of countries. Second, we use a unique dataset that considers the time variability of the crop water footprint (Tamea et al. 2021).

In relation to some selected literature, our work aims to respond to the challenging issues raised, among others, by Hoekstra (2017), who argue that crops prices do not properly reflect the cost of the water used for their cultivation, and by Wichelns (2014), who discusses on whether crop water productivity estimates are useful for a better understanding of water management in agriculture. Our study is complementary to the one of Gower et al. (2016) that addresses the relation between water content and crop economic value and it discusses the clusterization of behaviours in the categories of subsistence and market crops. Moreover, it extends considerably the research of Fulton et al. (2019) who performed a similar analysis but considering only one single crop in a limited area (almond in California), in order to inform policy makers about the allocation of water in local agricultural practices.

We consider the following crops: wheat, maize, rice, soybeans, potatoes, apples, avocados, cocoa beans, coffee, cottonseed, tea, and vanilla. Wheat, maize, rice and soybeans are staple crops that, together with potatoes, cover roughly 60% of the global calorie intake (D'Odorico et al. 2014). Besides, the large-scale cultivation of the so-called cash crops such as cocoa, cottonseed, tea, coffee and vanilla is more oriented for export. Avocado and apple represent fruit items for tropical and temperate areas, respectively. These crops exhibit wide variability in average water footprint and price among them.

The data used in this study are the following: agricultural production (*tons*), farm-gate crop prices (in current US\$, translated in PPP), hectares harvested of each crop (*ha/ton*), evapotranspitation (*mm/ha*) (FAO 2019), total per capita renewable water resource (*m3/pc*) (AQUASTAT 2019), and crop water footprint (*m3/ton*) (Tamea et al. 2021). All data we use are at the country scale and refer to annual values from 1991 to 2016. All data except total water resource are also crop specific. In order to assess whether the water component is reflected in the market price of the selected goods, we perform multivariate regressions, considering both all 12 crops together (all-product analysis) and each crop separately (single-product analysis). The crop price in deflated PPP is the dependent variable while we utilize different explanatory variables such as the crop water footprint, the land footprint, the evapotranspiration and the per capita water deficiency indicator, constructed through the data presented above.

On the one hand, results illustrate that the prices associated to the products which contribute the most to human nutrition (e.g. wheat, maize, soybeans) tend to reflect the amount of water necessary for their production. On the other hand, agricultural commodities that are traditionally cultivated for export purposes (the so called 'cash crops', e.g. cocoa, coffee, tea) seem to have prices that do not reflect their water footprint. Paradoxically, this second finding is related to more water intensive crops. Moreover, in general, crop prices tend to raise in the presence of greater per capita water scarcity at the country level. Rice displays a particular behavior since it belongs to the staple crops category, but it shows a pattern similar to the one of the cash crops. This could be due to the fact that although the water footprint of rice documented in the Asian regions is high, relying extensively on irrigation water, on average it does not contribute excessively to water scarcity in the region, given the abundance of water resources (despite high heterogeneity within the area) (Chapagain and Hoekstra 2010). This may lead to a detachment of the dynamics of water use for rice production from those linked to prices. Moreover, more research is needed on the role of subsidies in the prices of irrigation water, that may lead to an under-representation of water in the final farm-gate price of rice.

In general, we infer that the difference between staple and cash crops in the water-price relation can be ascribable to specificities in the production and commercialization dynamics of the two product groups, although more research is needed to understand these emerging behaviours. Although many exceptions may apply, staple crops are often cultivated in contexts of more competitive market dynamics, in which producers, in order to maximize profits, are more dependent on the value of inputs, including water. Differently, cash crops are often produced in situations of oligopsony and oligopoly, where the farmgate price is more influenced by few producing or trading firms that are in a "price-taker" position with respect to the international markets. In oligopsony, few companies buy cash crops from many small producers and re-sell them on the international market at a fixed price (Piyapromdee et al. 2013, Porto et al. 2011). In an oligopoly, few corporations are directly involved in the extensive production of those crops. In both cases, large firms own the market power for setting final prices according to the incentives provided by the international trade trends and can afford to decouple the price making from the cost dynamics related to some inputs, such as water. Paradoxically this process concerns those products that require relatively more water for their cultivation if compared to the others included in this study. Few companies that produce cash crops have the freedom to decide the economic parameters of the commercialization processes and for example coffee experienced abrupt price changes over time (Henkel et al. 2015). The coffee markets are indeed controlled by a few corporate groups through a restriction of the export quotas with the aim of keeping the prices high (Distefano et al. 2019, Gilbert and Morgan 2013). As another example of market concentration, 80 percent of all cocoa exported by Sierra Leone is handled by one single firm (Bulte et al. 2018). From a theoretical standpoint, our results address the unequal consideration given to the different production inputs of crops, from which water is often excluded (Nature Food Editorial 2020). From a more practical point of view, the result may help in designing targeted solutions for contexts in which a clear tendency of overuse of water is present, such as one of the cash crops.

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Sicurezza alimentare e commercio internazionale dei paesi in via di sviluppo

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While the importance of trade policies for food security is usually recognized, the overall impact of trade openness on hunger remains uncertain. We discuss it by relying on a preliminary analysis of recent data for a sample of developing economies and showing how total trade and, more specifically, trade of cereals seem to exert a positive impact on food security but only under specific conditions.

Il presente contributo anticipa alcuni risultati preliminari di uno studio più approfondito ancora in corso, i cui aspetti metodologici ed esiti verranno riportati in una pubblicazione di carattere scientifico. La sicurezza alimentare è un obiettivo globale fondamentale e gli Obiettivi di Sviluppo Sostenibile (OSS) identificano proprio come obiettivo numero 2 porre fine alla fame nel mondo assicurando un accesso da parte di tutte le persone ad alimenti sani, nutrienti e in quantità sufficiente per tutto l'arco dell'anno (UN, 2015, Target 2.1). Questo target è misurato da un indicatore specifico e cioè la percentuale di persone denutrite sul totale della popolazione di ciascun paese (Indicatore 2.1.1 degli OSS, UN, 2019). Negli ultimi decenni questo indicatore ha registrato delle riduzioni, quindi dei progressi nella lotta all'insicurezza alimentare, ma il numero di persone denutrite è in crescita con l'8,9% della popolazione che ha sofferto la fame ancora nel 2020 (FAO et al., 2020). Inoltre, anche se gli effetti negativi della pandemia da Covid-19 sono ancora di difficile quantificazione, le stime preliminari che si possono calcolare sono allarmanti e le proiezioni della FAO suggeriscono che questa potrebbe causare un aumento delle persone denutrite tra gli 83 e i 132 milioni (FAO et al., 2020).

La pandemia è anche all'origine di importanti cambiamenti nelle filiere alimentari globali, attraverso le politiche per il commercio internazionale di prodotti agricoli e l'introduzione di restrizioni temporanee alle esportazioni da parte di molti paesi (FAO, 2020; Kerr, 2020; WTO, 2020). Inoltre, la guerra commerciale tra Stati Uniti e Cina aveva già determinato un ritorno di politiche protezionistiche (Fajgelbaum et al., 2020). Malgrado le politiche commerciali siano generalmente riconosciute come strategiche per la sicurezza alimentare, l'impatto dell'apertura commerciale dei paesi sul loro livello di insicurezza alimentare è tuttora oggetto di dibattito. Le ricerche empiriche in materia sono scarse, in particolare se le si confronta con quelle che invece hanno stimato gli effetti del commercio internazionale su altri aspetti e questioni di rilievo nel dibattito sullo sviluppo, quali la crescita economica, la povertà e la disuguaglianza (Ravallion, 2018, Irwin, 2019, Lechthaler and Mileva, 2019, Ramirez-Rondàn et al., 2020). La letteratura su commercio e sicurezza alimentare è prevalentemente qualitativa o orientata a

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cogliere aspetti specifici della sicurezza alimentare, quali gli effetti sui prezzi dei prodotti agricoli o, ancora, relativa a singoli paesi. Ci sono però due recenti studi cross-country che hanno modellato l'impatto della apertura commerciale sulla sicurezza alimentare. Dithmer and Abdulai (2017) lavorano su dati di 151 paesi tra il 1980 e il 2007 e, malgrado l'importanza delle differenze tra paesi in via di sviluppo e paesi avanzati, non distinguono tra i due. Questi autori trovano una relazione positiva tra l'apertura commerciale e l'intake calorico pro-capite medio dei paesi. Questa variabile dipendente, essendo una media, trascura però le questioni distributive, al contrario della percentuale di persone denutrite nel paese. Il successivo lavoro di Mary (2019) prende appunto l'indicatore dell'OSS 2 come variabile dipendente e invece si concentra sui soli paesi in via di sviluppo. Inoltre, Mary distingue tra commercio di prodotti alimentari e commercio di altri prodotti nei suoi indicatori di apertura commerciale. Su un campione di 52 paesi in via di sviluppo negli anni compresi tra il 1990 e il 2013, Mary trova che l'apertura commerciale del settore alimentare aumenta l'insicurezza alimentare. I due studi principali pervengono pertanto a conclusioni non del tutto coerenti tra di loro, se non opposte. Nello studio che è qui brevemente presentato abbiamo quindi analizzato i dati su 81 paesi in via di sviluppo tra il 2001 e il 2016, prendendo come indicatore di insicurezza alimentare e variabile dipendente la percentuale di popolazione denutrita (indicatore OSS 2.1.1, UN 2019). Il nostro studio contribuisce al dibattito e segna dei progressi in vari modi: 1) stimando separatamente gli impatti dell' apertura commerciale che passano attraverso aumenti di reddito medio, quindi relativi all'accesso economico al cibo, rispetto a quelli che agiscono su altre dimensioni della sicurezza alimentare; 2) focalizzandosi sul commercio di cibo e di cereali in particolare, alla luce del loro ruolo di alimento di base (staple food) e della loro importanza nei flussi commerciali e nelle recenti restrizioni quali bandi all'esportazione (Wright 2012; Brooks and Mattews 2015 Porteous, 2017); 3) distinguendo tra importazione e esportazione di cereali in quanto la teoria economica suggerisce che le importazioni aumentino la quantità di cibo e ne riducano il prezzo, mentre le esportazioni riducano la quantità e ne aumentino il prezzo, con effetti di benessere diversi per produttori e consumatori all'interno del medesimo paese. Inoltre, potrebbero emergere effetti differenti per i paesi che si trovano ad essere importatori netti di cereali rispetto a quelli che sono esportatori netti.

Le nostre principali conclusioni posso essere riassunte come segue. L'apertura commerciale in generale contribuisce a ridurre l'insicurezza alimentare nei paesi in via di sviluppo, e questo avviene soprattutto in maniera diretta e cioè senza passare attraverso l'incremento del reddito pro capite medio e quindi l'accesso economico al cibo. L'effetto benefico dell'apertura commerciale agisce prevalentemente su altre dimensioni della sicurezza alimentare e cioè la disponibilità di cibo e la stabilità (*availability* e *stability* e sono due importanti dimensioni del concetto di *food security*). Questi effetti benefici sono trainati dall'apertura commerciale del settore dei cereali e più in particolare dall'apertura alle importazioni in questo settore.

I nostri risultati in prima approssimazione supportano Dithmer e Abdulai (2017) che, come noi, avevano riscontrato una relazione positiva tra commercio totale e sicurezza alimentare, piuttosto che quelli di Mary (2019). Tuttavia, la relazione tra apertura commerciale e sicurezza alimentare identificata dal nostro studio sembra avere una portata più ristretta rispetto a Dithmer and Abdulai (2017), perché è fondata sul ruolo della mera importazione di cereali. Quindi i nostri risultati non consentono di supportare un più ampio entusiasmo per i successi del libero commercio nella lotta alla fame nel mondo. Nondimeno i nostri risultati suggeriscono che effettivamente l'apertura all'importazione di cereali può migliorare la sicurezza alimentare di un paese in via di sviluppo. Il commercio internazionale di prodotti diversi dai cereali, invece, non sembra avere effetti significativi.

L'effetto positivo che abbiamo individuato è confermato anche quando sono introdotte nel modello come variabili di controllo le principali determinanti della produzione alimentare interna, crescita intensiva ed estensiva del settore agricolo, e lo sviluppo economico (reddito pro capite e livello dei prezzi dei prodotti alimentari). I nostri risultati si confermano anche nel sotto-campione dei paesi che sono importatori netti di cereali, cioè la maggior parte dei paesi in via di sviluppo. Aumentare l'apertura commerciale e in particolare l'apertura rispetto alle importazioni, significa che le importazioni devono crescere più velocemente della produzione interna. Tuttavia, è importante sottolineare che questo non implica che la produzione interna non debba a sua volta aumentare. Lo dimostrano i segni e le significatività statistiche delle nostre variabili di controllo che misurano la crescita del settore agricolo e della sua produttività. I paesi che hanno successo nella loro lotta contro la fame, quindi, non solo riescono ad accrescere la loro produzione interna, ma consentono alle importazioni di crescere anche più in fretta per garantire appunto disponibilità di cibo e la sua stabilità. Possiamo quindi confermare che le restrizioni commerciali nel settore dei cereali possono essere seriamente controproducenti per i paesi in via di sviluppo, il che è particolarmente rilevante in questo momento storico di ritorno di protezionismo acutizzato da restrizioni alle esportazioni adottate da molti paesi dopo lo scoppio della pandemia di Covid-19.

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COVID-19 and Agricultural Trade: The Way Forward

by Adriana García Vargas^{§§}

The COVID-19 pandemic has had a devastating impact on the global economy, and also caused a sharp decrease in trade. While agricultural trade declined in early 2020 as a result of the pandemic, its recovery has been faster than for other sectors, reflecting great resilience despite numerous disruptions to food value chains, and confirming the essential character of agriculture. Even though the world managed to avert the threat of a food crisis in 2020, the economic recession and the resulting loss of income threaten the access to food for millions, and the fact that world food prices are increasing strongly as of May 2021 is worrying. Many governments have responded to the pandemic with policy measures such as food export restrictions and support to the agricultural sector. Some of these measures, particularly when applied by large players, can have a significant impact on global food markets. The upcoming Twelfth WTO Ministerial Conference is an opportunity to agree on steps to strengthen the multilateral rules on agricultural trade, which can help enhance its contribution to the global recovery and to food security

More than a year after its outbreak, the COVID-19 pandemic is still far from over – in fact, many countries around the world (for example in Latin America) continue to struggle with dramatic increases in cases and deaths. While the uncertainty around when the pandemic will run its course –aggravated by the unequal access to vaccines– makes predictions difficult, the available data can help us better understand its impact on production and trade for different sectors and regions. The research available also provides a good picture of the types of measures that governments around the world have used or are using to respond to the emergency situation and mitigate economic effects.

The pandemic has clearly had a serious impact on the global economy: it is estimated that world production declined by 3.3% in 2020 (IMF, 2021), with strong differences among regions. The world is also experiencing a setback in the progress towards achieving the Sustainable Development Goals, with dramatic increases in global poverty (UNDP, 2021) and unemployment (UN, 2021).

COVID-19 also provoked a sharp decrease in trade in the first half of 2020. However, the worst-case scenarios initially predicted failed to materialize; in fact, world trade recovered surprisingly quickly (WTO, 2021a). Trade in agricultural goods proved to be particularly resilient: while it did contract in the second quarter of 2020, by the third quarter it was already showing positive growth, in contrast to other sectors.

The fact that food continued to be traded reflects the essential character of agriculture, particularly in light of the strict restrictions and the numerous bottlenecks experienced along the food value chain. For example, movement restrictions and partial border closures disrupted the flow of agricultural inputs and outputs and agriculture-related services, reduced the access of temporary workers, and affected the harvest of several crops, while the disruption of air freight (between January and April 2020, worldwide

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flights decreased by 70%) created challenges for the trade of perishable foods (FAO, 2020a). In addition, the application of stricter protocols at harbors was estimated to increase from one to three days the time needed for cargo unloading (FAO, 2020b).

In 2020, the global supply of food remained sufficient, and prices did not show such strong increases as observed in 2007-2008, so that the threat of a new global food crisis was initially averted. However, many developing countries are suffering from impacts on the demand side: the economic recession and the resulting loss of income threaten the access to food for millions. Earlier this year, the interagency report *The State of Food Security and Nutrition in the World* (FAO et al., 2020) suggested that the pandemic may have added between 83 and 132 million undernourished people in 2020, while the USAID's Famine Early Warning Systems Network (FEWS NET, 2020) revised its estimations of the peak population in need of emergency food assistance from 90 to 113 million.

What is more, world food prices are currently on the rise: in May, the FAO Food Price Index (FAO, 2021a) experienced a sharp increase, and the most recent edition of the AMIS market monitor (AMIS, 2021)_alerts that the supplies of basic food crops could still be vulnerable in 2021-2022. It is thus clear that the world has not yet overcome the possibility of supply-side constraints on food availability.

Many governments responded to the pandemic by applying trade and other agricultural policy measures. In August 2020, the WTO (2020a) made an initial examination and grouped these responses in two broad categories:

- Phase 1 Crisis management measures: applied in the early stages to contain the impact. They included sanitary and phytosanitary measures (initially to restrict or regulate imports of animal products, but later aimed at easing requirements to facilitate trade), tariff measures (such as temporary duty reductions and exemptions for some food products), and export restrictions or prohibitions. Some governments also started building stocks of food or expanded existing programs.
- Phase 2 Measures to mend supply chains and help agricultural producers: including general economic stimulus packages and specific support to the agricultural sector, such as domestic food aid, loss compensation, and facilitated access to credit, among others. Some countries also applied measures to support exporters (such as compensation for higher airfreight costs), and in a few cases, some import restrictions.

Luckily, most of the export restrictions applied were temporary, and the major food exporters heeded the calls for restraint and the political commitments made in international fora such as the G-20, as these measures can have very negative effects: the export restrictions that countries implemented in response to rising food prices in the past decade caused a spillover effect that further aggravated the problem, with enormous economic and social consequences. Anderson and Martin (2011) found that these restrictions explained respectively 45% and 30% of the increases in world rice and wheat prices. The existence of a "multiplier effect" was also confirmed: the imposition of restrictions in response to a shock in the world market aggravates the initial effect and causes other countries to respond in the same way (Giordani, Rocha and Ruta, 2016). An analysis of restrictions implemented in 2007-2008 and 2010-2011 found that even temporary measures can have long-lasting effects (Deuss, 2017).

As of June 2021, no active export restrictions on food products are reported (Laborde, 2021), even though numerous other trade measures affecting agricultural goods are still active (ITC, 2021) and are the subject of multilateral discussion (WTO, 2021b).

Other measures applied by governments to respond to the pandemic aimed at facilitating the flow of agricultural trade, by relaxing technical requirements (WTO, 2020) or simplifying import procedures. For example, several countries started accepting electronic phytosanitary or veterinary certificates in lieu of paper copies. While many of these measures were temporary, the FAO (2021b) notes that some countries did make permanent advances in the digitalization of import procedures. It seems that the emergency situation forced authorities to "think outside the box" and drove advances that may have been considered impossible until then. An increased adoption of new tools and technologies to facilitate trade could end up being a positive effect of the crisis. It would certainly be very positive if some of the trade-facilitating measures applied are made permanent.

A number of countries also responded to COVID-19 with important amounts of support to the agricultural sector (Gruère and Brooks, 2020). While it is vital to protect the livelihoods of farmers and ensure that they continue to produce food, we must avoid an increase in policies that distort global markets or harm the environment, particularly when applied by large players. According to the OECD (2020), a large share of the support policies that countries currently use are of the most trade-distorting type, and also exacerbate the environmental impact of agriculture.

After a long postponement due to the pandemic, the WTO (2021c) will finally hold its Twelfth Ministerial Conference in December [2021]. This will be a valuable opportunity to agree on concrete ways to strengthen the multilateral rules on agricultural trade, and to enhance its contribution to the global recovery and to food security. Two very welcome developments would be an agreement to cut trade-distorting suppor<u>t</u>, which would make resources available for more efficient investments in the global food system, and clearer and stronger disciplines on food export restrictions, as these measures can threaten global food security in a crisis scenario. At the minimum, WTO members should agree to exempt humanitarian food purchases by the World Food Programme from export restrictive measures. One can only hope that this conference will not be another missed opportunity for agricultural trade reform.

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