



PRICE  
VOLATILITY,  
EXPORT  
RESTRICTIONS  
AND THE  
NEED FOR  
TRANSPARENCY

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# INTRODUCTION

Export barriers manifest in various forms, such as prohibitions, taxes, quotas, or licenses, among others. They have been imposed on both industrial and agricultural products by developed and developing countries, each pursuing distinct economic and non-economic objectives (Illescas & Jorge, 2021). Initially, with the negotiation of the General Agreement on Tariffs and Trade (GATT) in 1947, restrictions were taken into account in Art. XI, which in very vague terms prohibited the application of this kind of measure. Later, with the establishment of the World Trade Organization (WTO) in 1995, other equally ambiguous obligations were implemented<sup>1</sup>.

In both cases, these measures were not considered a significant area of concern. Importantly, unlike their import counterparts, export restrictions and export duties received comparatively less detailed attention. While import tariffs were consolidated in schedules at the time of signing the Marrakesh Agreement, export duties have not undergone similarly comprehensive treatment by all WTO member countries. Notably, only certain nations, such as China, Ukraine, and the Russian Federation, among others, have consolidated their export duties<sup>2</sup>.

Export restrictions are maintained to achieve diverse policy objectives, including environmental protection, conservation of natural resources, promotion of downstream processing industries, control of inflationary pressures, and generation of fiscal revenue. Additionally, they are often imposed by governments to promote domestic production to achieve “internal food security”. While they may bring some short-term relief to domestic consumers, economic analysis clearly shows that their overall impact on the domestic economy, as well as on the rest of the world, is negative (Aker, 2022; Zhai, Yuan & Feng, 2022; Estada, Flores & Lezama, 2017, among others).

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<sup>1</sup> The Agreement on Agriculture mandates that, when implementing a new export restriction, a WTO member is required to (1) assess the potential impact of the policy on food security in importing nations, (2) provide advance notice to the Committee on Agriculture, and (3) engage in consultations with WTO members having a vested interest in the exporting country's policies. It is noteworthy, however, that there are no sanctions or penalties prescribed for non-compliance with these provisions.

<sup>2</sup> China, through its 2001 Protocol of Accession to the WTO, agreed to eliminate all export taxes and charges except for a group of 84 products, for which a maximum consolidated tariff was set. Ukraine, upon entering the WTO in 2008, agreed to the progressive reduction of export duties applied up to that time. When Russia joined in 2012, it consolidated export tariffs for around 700 products, establishing a schedule for the progressive reduction of rates. Except for 200 products, it agreed to completely eliminate export duties within a maximum period of 5 years as of its accession.

The rise in commodity prices observed in the last two decades has prompted a significant increase in export restrictions, notably for rice and wheat. This, in turn, has resulted in further substantial price hikes and impeded the adequate and timely procurement of essential food aid. When markets are turbulent, the implementation of trade restrictions by countries (especially if they are significant players in global trade) only serves to exacerbate the volatility, leading to even deeper crises (Vicentin Masaro *et al*, 2022; McMahon, 2022). Consequently, there arises an imperative – in the first place, the need to regulate and limit the use of such restrictive policy tools, and secondly, to establish an effective communication mechanism that fosters transparency. The aim is to uphold clear and enduring rules that incentivize trade as a mechanism for the efficient allocation of resources.

In this chapter, we explore how the WTO has struggled to fulfill its mission of advancing negotiations post the Uruguay Round. As export restrictions were not prioritized during the creation of GATT and the establishment of the WTO, this led to the utilization of export restrictions by countries, particularly in an unstable context, further exacerbating volatility in agricultural commodities. Moreover, as a result of an insufficient WTO notification system, countries have failed to promptly notify all measures. Furthermore, due to the paralysis of the Dispute Settlement Body, the WTO has lost its enforcement capacity, reducing the incentive for countries to engage in discussions within that forum, even when it is necessary to enhance transparency levels that provide greater certainty to dynamic and stressed markets, which is crucial for driving global food security and ensuring efficient allocation.

## THE 'WEAK' REGULATORY FRAMEWORK GOVERNING THE USE OF EXPORTS BARRIERS

International regulations addressing export restrictions lag behind those governing import barriers (WTO, 2023). Governments and traders are currently contending with an escalating trend of increased utilization, particularly within the raw materials sector. In recent years, there has been a noticeable surge in the use of export restrictions in raw materials markets, contributing to increased uncertainty regarding the availability of supplies and generating

friction among trading partners. The lack of transparency in these measures has the potential to magnify and exacerbate the impact of restrictive trade policies (Evenett, 2020).

While some of these measures might be considered quantitative restrictions (QRs), which are generally prohibited within WTO rules, members are permitted to apply them in a limited number of situations. These can include exemptions from and exceptions to the rules pursuant to Articles XI:2 and XII (Balance of Payments) of the GATT 1994, respectively, as well as the general exceptions in Article XX and the national security exceptions in Article XXI of the GATT 1994. Additionally, QRs may be applied in accordance with certain specific exceptions provided under other WTO agreements, such as the Agreement on Agriculture (WTO, 2023).

The regulations outlined in the GATT facilitate the exemption of exported goods from all indirect taxes imposed by the exporting country. These provisions empower nations to impose export duties, should such measures be deemed necessary for regulatory control or the attainment of broader trade policy objectives. In parallel with import regulations, the GATT rules proscribe export restrictions, except within a limited set of circumstances.

However, the GATT framework recognizes that countries may be compelled to implement measures to regulate exports in specific situations, akin to scenarios involving imports. In such instances, countries are mandated to prioritize measures grounded in pricing mechanisms. Consequently, the rules permit countries to impose export taxes while explicitly prohibiting quantitative restrictions, unless justified by specified exceptions.

The GATT stipulations that forbid import restrictions are similarly applicable to export activities. Nevertheless, certain exceptions exist to this general rule. For example, a country possesses the authority to restrict or prohibit exports when deemed necessary to enforce standards or regulations governing the classification, quality control, or marketing of products intended for international trade, and to prevent or address acute shortages of essential products such as food.

Moreover, the regulations explicitly prohibit countries from imposing restrictions on raw materials with the intention of safeguarding or promoting a domestic manufacturing sector or to preclude competition among exporters. But the effect of implementing those measures in these scenarios can negatively impact food security and market stability. As an example, Espitia, Rocha and Ruta (2020) estimated that the escalating export restrictions during the outbreak of the pandemic COVID-19 multiplied the initial shock by a factor of 3, with world food prices rising by up to 18 percent on average.

In addition to the short-term effects, these export restriction measures generate long-term structural impacts not only on major importing partners but also on smaller importers, through modifications in international prices and, consequently, in domestic prices (Deuss, 2017). Mitra and Josling (2009, p. 12) demonstrated that “[...] all export restrictions-in the long as well as the short run-lead to a deterioration of welfare in both the country imposing such measures and the rest of the world”.

## CURRENT STATUS QUO OF THE NOTIFICATION AND TRANSPARENCY MECHANISM: IS IT ENOUGH TO IMPROVE MARKET PERFORMANCE?

Article XI:1 of the GATT 1994 calls for the general elimination of QRs; however, exceptions are permitted in specific circumstances, as outlined in various provisions. These include GATT Article XI:2, as well as the general exceptions of GATT Article XX, national security exceptions of GATT Article XXI, and other provisions within agreements such as the Agreement on Agriculture and the Agreement on Safeguards, along with other WTO Agreements. Each notified measure must be accompanied by a specific WTO justification.

There are two pertinent notification obligations concerning export prohibitions and restrictions. The first obligation arises from the 2012 “Decision on Notification Procedures for Quantitative Restrictions” (QRs) (hereinafter referred to as the QR Decision). According to this decision, members are required to notify all QRs in force on both imports and exports every two years, with provisions for notifying “temporary” measures as well (WTO, 2022). Newly introduced measures must be notified “as soon as possible, but not later than six months from their entry into force.” QR notifications are automatically included in the agenda of the Committee on Market Access.

If a member introduces a new measure in the form of an export prohibition or restriction, other than a duty, tax, or charge, it must be notified to the

WTO through the QR Decision. Members are encouraged to provide comprehensive information, including details on the specific products affected and administrative aspects of the measure (such as duration, the national agency/ministry responsible, additional requirements, etc.). This facilitates an understanding of the scope of new measures by other members and economic operators.

In addition to the QR Decision, Article 12 of the Agreement on Agriculture mandates members to notify the Committee on Agriculture of any prohibitions or restrictions on foodstuffs introduced pursuant to Article XI:2(a) of the GATT 1994. Article 12 also stipulates that a member instituting an export prohibition or restriction on foodstuffs must give “due consideration to the effects of such prohibition or restriction on importing Members’ food security.” Therefore, if a member applies such a measure to foodstuffs, it must follow the procedures outlined in Article 12 of the Agreement on Agriculture and notify the Committee on Agriculture accordingly.

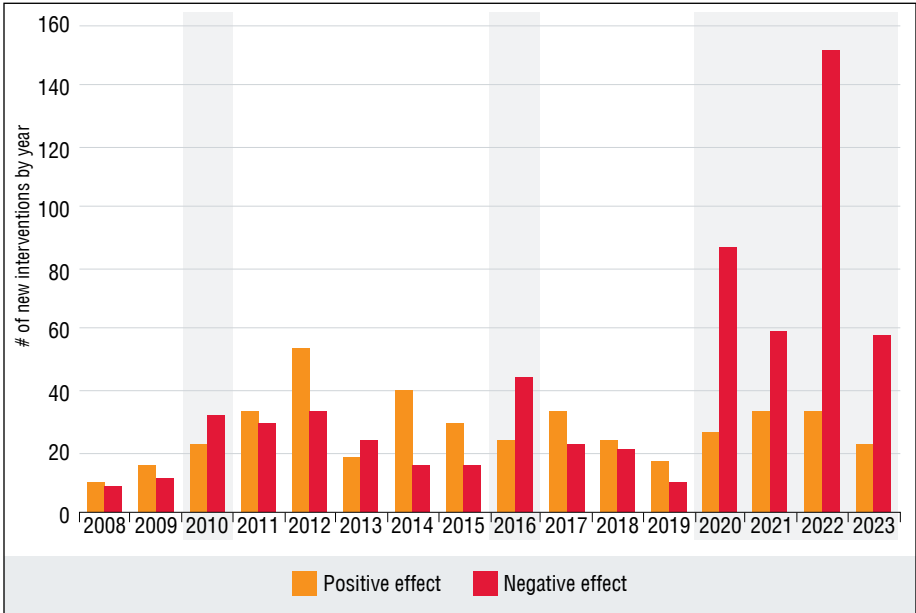
In recent years, notifications to the WTO Committee on Agriculture have changed. Between 2008 and 2011, as commodity prices peaked, these measures were extensively used, without the corresponding increase in notifications to the WTO Committee on Agriculture. This scenario contrasts with the developments from 2020 onward, where the number of notifications has notably surged. Various countries have implemented export restrictions on specific products, along with the respective justifications for these measures. The primary reasons cited for these restrictions include preventing critical shortages in the domestic market, ensuring food security, addressing health concerns, and responding to specific challenges such as the global outbreak of Covid-19 or the influx of refugees.

The evolution in the number of new measures affecting the trade of agrifood and fertilizer products since 2008 can be seen in Figure 7.1, using data provided by the Global Trade Alert (GTA) Database<sup>3</sup>. It displays both measures that have had a positive impact on exports and those that have had a negative effect. Except in 2010, 2016, and from 2020 onwards, the number of measures facilitating exports has exceeded those that impede exports. This shows the growth of restrictive measures during market stress, when such measures do not help to mitigate the escalation of prices. As it was mentioned, export restrictions have become more prominent since 2020, with a series of measures introduced first in the context of COVID-19 and more recently of the war in Ukraine and the food security crisis, when commodity prices peaked (WTO, 2023).

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<sup>3</sup> For more methodological details see Annex I.

**FIGURE 7.1** ► Number of new trade policies that have affected agrifood and fertilizer exports since 2008, by year and expected effect on exports



Source: Prepared by the authors, based on GTA data.

Overall, the reasons behind these export restrictions range from responding to health crises and ensuring food security to preventing critical shortages and addressing specific challenges faced by each country. The justifications align with the countries’ efforts to safeguard their domestic markets and populations in various contexts. Nonetheless, they trigger negative effects for other countries, and even more importantly, they introduce greater instability in international markets (Kerr, 2020).

Unfortunately, this occurs in a context where countries can only challenge restrictions within the scope of the WTO Committee on Agriculture. The next step available to affected partner countries would be to bring the case before the Dispute Settlement Body, but the lack of judges in the Appellate Body has rendered it practically pointless to initiate a dispute.

This shift in trend raises questions about the evolving dynamics of global trade and the challenges associated with addressing export restrictions within the current WTO framework. The significant increase in notifications after 2020 may reflect a growing recognition of the importance of transparency and

adherence to trade rules, even in the face of obstacles such as the paralysis of the Appellate Body.

The limitations imposed by the current situation underscore the need for reform within the WTO to ensure effective dispute resolution mechanisms. Without such reforms, the international trade community may continue to face difficulties in addressing trade disputes and promoting a fair and open global trading system.

# AN EXAMPLE OF EXPORT BARRIER RELEVANCE: THE DIRECT RELATIONSHIP BETWEEN STRESSED MARKETS AND THE EMERGENCE OF EXPORT RESTRICTIONS

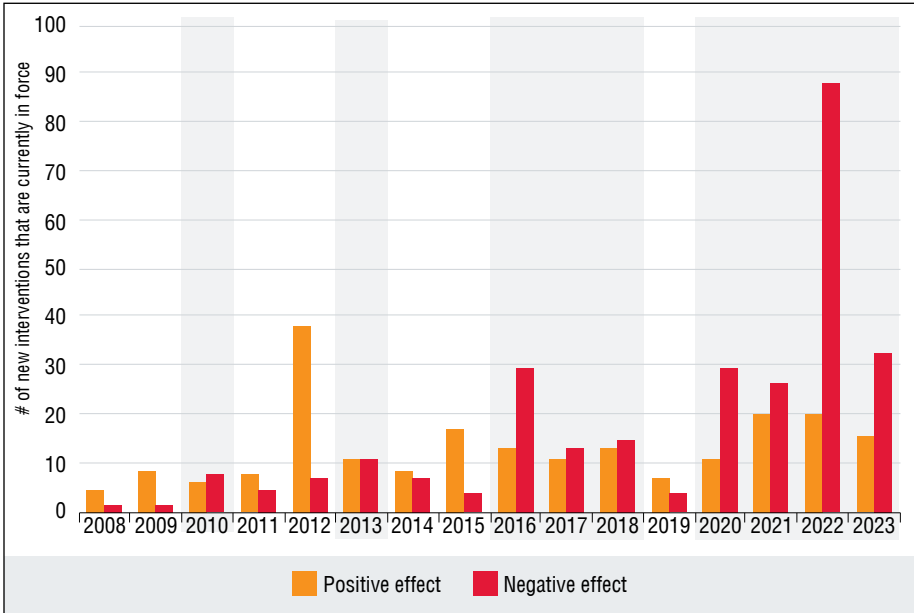
## The relevance of negative export barriers

Although some of the export restrictions that were introduced in 2022 have been rolled back, WTO confirmed that 75 export restrictions on food, feed and fertilizers are still in place globally (WTO, 2023). Figure 7.2 illustrates the evolution in the number of trade policies that are still in force, by year of inception. It shows that the measures that remain are predominantly those that restrict agrifood and fertilizer exports. The year 2022 saw the highest number of measures affecting exports from these sectors; and more than 80 measures with a negative effect on exports are still in place<sup>4</sup>.

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<sup>4</sup> Up to the beginning of 2024.

**FIGURE 7.2** ► Number of trade policies as of 2008 that affect agrifood and fertilizer exports and that are currently in force, by inception year and expected effect

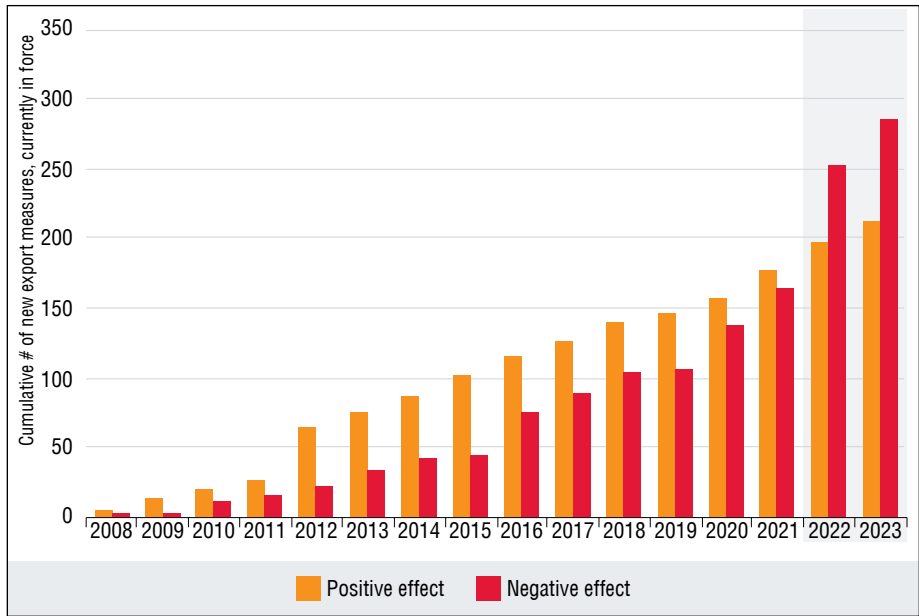


Source: Prepared by the authors, based on Global Trade Alert data.

Up to 2022, the cumulative number of measures that were still in force and that facilitated exports was greater than those that impeded exports (Figure 7.3). However, since 2022, this trend has changed, and there are a greater number of measures restricting the exports of agricultural products and fertilizers (Figure 7.3) that persist, even until this day. This has also coincided with the period of greatest instability in agricultural markets, where export restrictions by non-conflict countries add to disruptions in supply chains resulting from geopolitical conflict, leading to unstable and volatile markets.

A greater number of restrictions do not necessarily imply actual reductions in trade, as they might pertain to products that have very low volumes of operations in practice. Therefore, to approximate the real effects of restrictions on trade, the weight of the affected products in the global trade of these products is quantified, meaning only the global trade of the affected products is considered. This is referred to as the 'relevant market,' which is the total trade but only of the affected products. Figure 7.4 shows the importance of these measures (with positive and negative effects) in the total global trade of the affected products from 2017 onwards .

**FIGURE 7.3** ▶ Cumulative number of new export policies since 2008 that affect agrifood exports and are still in force

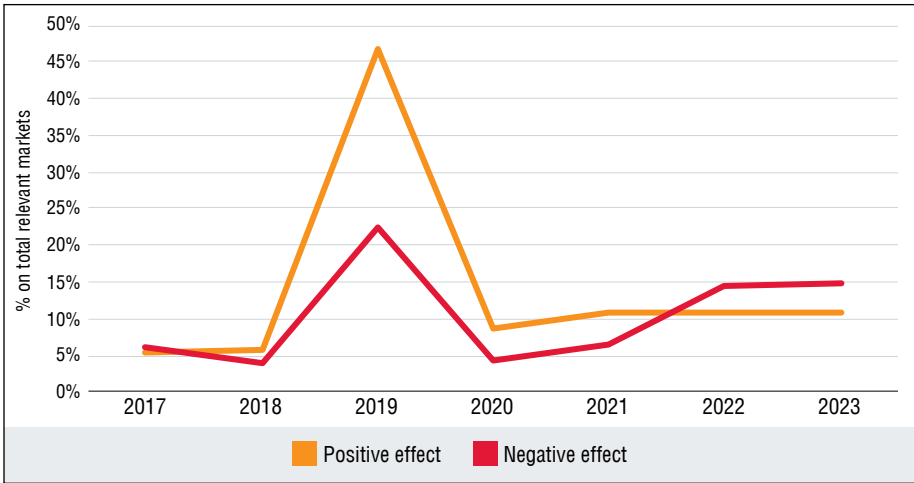


Source: Prepared by the authors, based on Global Trade Alert data.

Up to 2021, the measures applied with a positive effect on exports were greater than those with a negative effect and in 2019 the difference between them was more than double (Figure 7.4). Yet, this trend changed in 2022. After 2021, policies restricting exports had a greater reach than those that facilitated them. In 2022, almost 15% of agrifood and fertilizer exports were negatively affected by export barrier policies; meanwhile, less than 11% were positively affected by any of these measures. This gap persisted during 2023<sup>5</sup>.

<sup>5</sup> Considering 2023 exports to be the same as 2022, because the annual statistics for 2023 are not yet available.

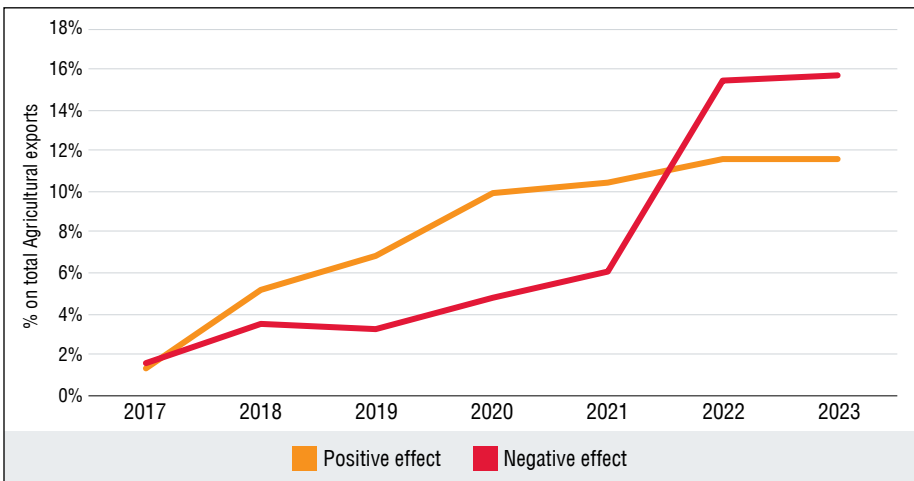
**FIGURE 7.4** ► Affected exports as a share of total exports in relevant markets, considering only policies since 2017 that are currently in force



Source: Prepared by the authors, based on Global Trade Alert and Comtrade data.

As a share of worldwide agrifood and fertilizer exports, the upward trend of products negatively affected by policies is greater than the increase in those that are positively affected (Figure 7.5). Since 2022, more export barrier policies have been implemented than export facilitation measures, putting more pressure on highly volatile markets.

**FIGURE 7.5** ► Exports affected by trade policies as a share of total world agrifood exports, considering currently in force policies



Source: Prepared by the authors, based on Global Trade Alert and Comtrade data.

**Table 7.1** ▶ Exports as a share of affected markets, by red measure intervention type

Intervention Type	2017	2018	2019	2020	2021	2022	2023
Export ban	0.4%	0.0%	0.2%	3.4%	1.2%	11.1%	1.7%
Export licensing requirement	4.4%	2.1%	1.0%	2.2%	1.5%	8.6%	4.6%
Export quota	10.5%	1.2%	3.0%	9.0%	11.6%	6.0%	1.8%
Export tariff quota					0.0%		
Export tax	26.3%	2.3%	5.3%	4.3%	3.3%	2.0%	14.2%
Export-related non-tariff measure, n.e.s.	6.7%	35.2%		5.6%	11.7%	1.0%	9.8%
Local content requirement	3.9%	7.2%	0.0%		8.0%	0.0%	1.0%
Local supply requirement for exports				0.0%	0.6%	1.5%	5.1%

Note: considering solely the inception year and not necessarily policies currently in force.  
Source: Prepared by the authors, based on Global Trade Alert and Comtrade data.

Table 7.2 lists the top ten countries that have implemented measures that have negatively impacted exports of products in which they have a significant market share. Of this group, India, Indonesia, China, and Argentina are the countries that consistently implement measures affecting exports negatively (applied for more than half of the period since 2017). Asian countries are the most significant, given that the implementation of restrictive measures is in markets where they are extremely important players, with an average market share above 20%.

**Table 7.2** ▶ Top 10 countries' share of trade in affected product markets, by inception year

Country	2017	2018	2019	2020	2021	2022	2023
1 The Netherlands						27%	26%
2 India	14%	1%	5%	1%	10%	26%	9%
3 Indonesia	0%	24%	1%	19%	2%	23%	39%
4 Malaysia	30%	1%				21%	0%
5 China	10%	5%	12%	16%	22%	21%	10%
6 Argentina		3%		3%	3%	10%	6%
7 United States	4%					9%	4%
8 New Zealand						7%	
9 Italy						6%	
10 France						6%	

Source: Prepared by the authors, using Global Trade Alert and Comtrade data.

# FOOD EXPORT BANS: INCREASING THE RISK OF FOOD INSECURITY

Considering only the year 2022, and export bans, as the most restrictive export barrier, 61 countries implemented this measure on some product within the agrifood or fertilizer sector; and these measures remain in effect in 43 of the countries up to now.

Table A shows the top 15 countries imposing export bans on food products in 2022, based on their impact on the exports of relevant markets. Among these countries, India and New Zealand are the most significant cases, as the bans affect strictly food products, and the countries are major players in maintaining food security.

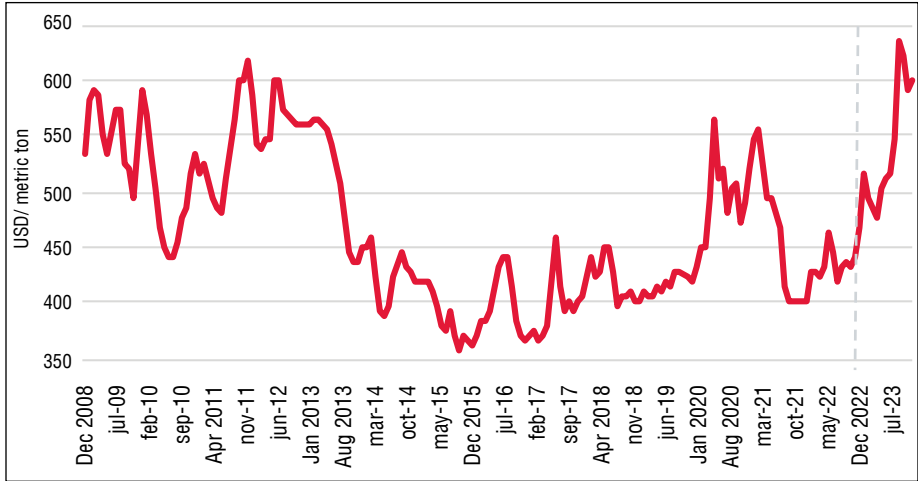
**Table 7.3** ► Top 15 export market share of countries with export bans in 2022+

	Country	Products	Country export relevance
1	India	Rice (1006)	36%
2	New Zealand	Milk and cream (0402) and butter (0405)	26%*
3	Canada	Crustaceans (0306)	11%
4	Myanmar	Dried leguminous vegetables (0713)	11%
5	New Zealand	Fresh strawberries, raspberries, etc. (0810)	8%
6	Italy	Sauce and preparations thereof (2103)	7%
7	Ukraine	Oilcake and other solid residues (excl. from soya-bean oil and groundnut oil) (2306)	7%
8	Canada	Meat of swine, fresh, chilled or frozen (0203)	7%
9	Argentina	Meat of bovine animals, frozen (0202)	7%
10	Netherlands	Sauce and preparations thereof (2103)	7%
11	New Zealand	Apples, pears and quinces, fresh (0808)	6%
12	Germany	Sauce and preparations thereof (2103)	5%
13	Germany	Soups and broths and preparations thereof (2104)	5%
14	Canada	Animal products not elsewhere specified (0511)	5%
15	Japan	Mollusks, fit for human consumption (0307)	5%

Notes: + Ranking those countries that implement export bans on food products. \* on average.

Source: Prepared by the authors, based on Global Trade Alert and Comtrade data.

**FIGURE 7.6** ▶ Internacional price of rice



Source: US Department of Agriculture; World Bank.

Also, due to its contribution to a healthy diet, India’s export bans on rice are particularly significant. India holds a 36% market share in the global rice trade, so this ban would evidently result in relative scarcity in the international market, affecting key importers in Asia and Africa, such as Iran, Saudi Arabia, China, Benin and Senegal, among others. Figure A shows the evolution in rice production since 2008, and the imposition of the ban in August 2022, which overlaps with the beginning of the most recent price surges, reaching records levels for the last 15 years.

## FINAL REMARKS

The World Trade Organization (WTO) was created to facilitate open and predictable trade, but its ability to fulfill this mission has been hindered by several factors. Export restrictions have not been adequately addressed since the Uruguay Round and this gap became even more evident during the Doha negotiations.

Recent global crises, like the COVID-19 pandemic and the conflict in Ukraine, have further complicated the international trade landscape. Countries have increasingly resorted to export restrictions, particularly for agricultural commodities, leading to significant market volatility. This highlights the need to reevaluate current trade policies to enhance stability and predictability.

One key challenge is the lack of transparency. Countries often fail to promptly notify the WTO of relevant measures, hindering the organization's ability to monitor and regulate trade effectively. Yet, nowadays 'transparency' not only involves making relevant information available to stakeholders but also doing so in a timely manner. Decision-making requires relevant and reliable information, and the opportunity to act on it. Thus, the paralysis of the Dispute Settlement Body weakens the WTO's enforcement capacity, reducing incentives for nations to engage in constructive dialogue.

Addressing these challenges requires a multilateral approach. Enhancing transparency through real-time notification of measures and providing capacity-building support to developing countries are crucial first steps.

While stricter disciplines on export restrictions could be considered in a future WTO agenda of negotiations, there are some other, less trade-distorting measures that might be more effective in achieving food security and fostering stable investment in agriculture. For example, countries could explore alternative policies to address domestic concerns about food price volatility. In the long term, shifting towards export duties instead of restrictions could improve predictability and stability in global trade. It is necessary to also analyze the effects of the measures to be implemented, whose scope extends beyond national boundaries, but also includes the indirect effect on other economies, given that countries are part of an integrated system.

Organizations addressing export measures should work together to unify databases and promote transparency<sup>6</sup>. Additionally, net food-exporting and importing countries could explore a plurilateral agreement to foster cooperation and create a more resilient and adaptable international trade framework.

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<sup>6</sup> For instance, the Agricultural Market Information System (AMIS) initiative could be crucial. Launched in response to global food price escalations, AMIS currently focuses on wheat, maize, rice, and soybeans, but there is a need to broaden the scope of products under surveillance, including additional commodities and associated markets, inputs, and sea freight.

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# ANNEX 7.I: METHODOLOGICAL CONSIDERATIONS

The analysis of export barriers is conducted using the GTA Database, which lists trade-impacting policy measures published by countries for each product, considering two types of agricultural products in the 4–digit Harmonized System (HS) 2017: 1-Agrifood products, encompassing all products with tariff positions in Chapters 01 to 24; and 2-Fertilizers (Chapter 31).

The GTA Database classifies each country policy as either Green, Red or Amber. When the intervention almost certainly discriminates against foreign commercial interests, the policy is classified as 'Red'; 'Green' is when the intervention liberalizes trade on a non-discriminatory (i.e., most favored nation) basis or improves the transparency of a relevant policy; and 'Amber' is when the intervention likely involves discrimination against foreign commercial interests. For purposes of this analysis, we considered only 'Red' and 'Green' policies as indices of export restriction and export facilitation policies, to compare their relevance.

As such, we have concluded that the following policies affect exports: a. export bans, b. export licensing requirements, c. export quotas, d. export tariff quotas, e. export taxes, f. export-related non-tariff measures, n.e.s., g. local content requirements and h. local supply requirements for exports. All of these measures could be considered 'Red' or 'Green', depending on the objective. The last two policies are generally not considered in export restriction or barrier analysis, but implementing them can still prove to be an impediment or a complication when exporting. Thus, they are included here.

Also, to assess the relevance of the measure for each policy, we also took into account export value, by product since 2017, using the Comtrade database for that purpose.