5

PUBLIC STOCKHOLDING PROGRAMS AND THE WTO

Joseph Glauber

The issue of how support for public stockholding (PSH) programs is calculated and disciplined within the WTO Agreement on Agriculture (AoA) has been a point of contention since 2012. PSH was largely uncontroversial during the Doha negotiations, where issues like the Special Safeguard Mechanism, domestic support, and cotton contributed to the collapse of negotiations in 2008 (Blustein 2009; Jones 2010; Margulis 2023). However, members who raised administered prices to keep up with surging market prices in the late 2000s found themselves facing potential challenges, as support levels for PSH programs threatened to exceed domestic support commitments under the AoA.

At the Ministerial Conference in Bali in 2013 (MC 9), members agreed to an interim mechanism, which granted a "peace clause" to countries with existing PSH programs, effectively shielding them from challenges regarding compliance with domestic support obligations under the WTO Dispute Settlement Mechanism. Under the Bali Decision, members agreed to provide data on how the program operated and to ensure that such programs were not trade distorting or would not affect the food security of other WTO members. PSH remains controversial and members failed to reach agreement on a permanent solution at subsequent Ministerials in Nairobi, Buenos Aires and Geneva. More than 10 years later, failure to reach an agreement on PSH continues to block significant progress in overall negotiations.

Much has been written on the topic, including by Díaz-Bonilla (2013, 2014, 2021), Glauber (2016), ICTSD (2016), Kask (2020), Kondreas and Mermigkas (2014), Matthews (2014) and Montemajor (2014). This paper draws on these papers and on more recent work by Glauber and Sinha (2021), Glauber (2023), Galtier (2023) and Brink and Orden (2023).

BACKGROUND

During the Uruguay Round negotiations, members agreed that PSH programs could be considered as non-trade distorting (and hence exempt from discipline), provided that stock purchases were at current market prices (as opposed to administered prices). Early language of what became the Green Box allowed for PSH programs, as long as "[f]ood purchases by the government ***shall be made at current market prices*** and sales from food security stocks ***shall be made at no less than the current domestic market price*** for the product and quality in question". (GATT 1991, emphasis added). In the end, however, members allowed PSH programs with administered prices to be eligible under Annex 2, paragraph 3 of the Agreement on Agriculture, "***provided that the difference between the acquisition price and the external reference price is accounted for in the AMS***." (WTO 1994, emphasis added).

If the total support for that commodity exceeds de minimis levels, the resulting support is counted towards a member's Current Total Aggregate Measurement of Support (CTAMS)[1]. To be in compliance with domestic support commitments, a member's CTAMS must be below its Bound Total AMS (BTAMS); but only 33 current members have a BTAMS (16 developed countries and 17 developing countries). For members without a BTAMS, the AMS must not exceed de minimis levels (Brink and Orden 2023).

Under the provisions of Annex 3 of the Agreement on Agriculture, market price support is calculated as the gap between a fixed external reference price and the administered price, multiplied by the quantity of eligible production.

Market Price Support = (Administered Price – Fixed External Reference Price) x Eligible Production

[1] The de *minimis* threshold differs by economic status. For developed countries the de *minimis* threshold is equal to 5% of the value of agricultural production. For developing countries, the de *minimis* threshold is 10%. As part of their accession agreements to the WTO, China and Kazakhstan agreed to a de *minimis* threshold of 8.5%.

For most countries, the fixed external reference price (FERP) is based on a 3-year average price between the years 1986-1988[2].

The 1986-88 reference price remained a relevant benchmark price throughout most of the 1990s and early 2000s (Figure 5.1). Sometimes prices were above the reference period and sometimes below. Starting in the mid-2000s, global prices began rising due to a number of factors, including growth of biofuels, growth in animal consumption (and animal feeds), and increased energy prices driven by global economic growth. By 2012, prices for many agricultural products were at nominal record levels; and while prices declined over 2013-2019, they remained at 50-100% of the 1986-88 base period. More recently, prices again hit record levels following the Russian invasion of Ukraine. Average monthly price levels for wheat, rice and corn (maize) since January 2005 have been over twice the average level during the 1986-88 base period.

FIGURE 5.1 ▶ Price rises relative to the 1986-1988 base period

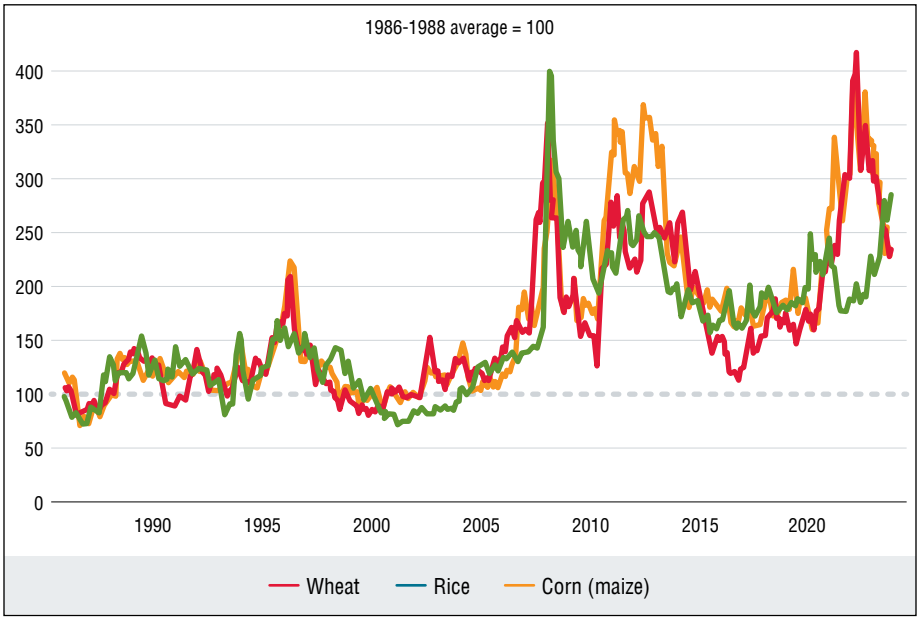
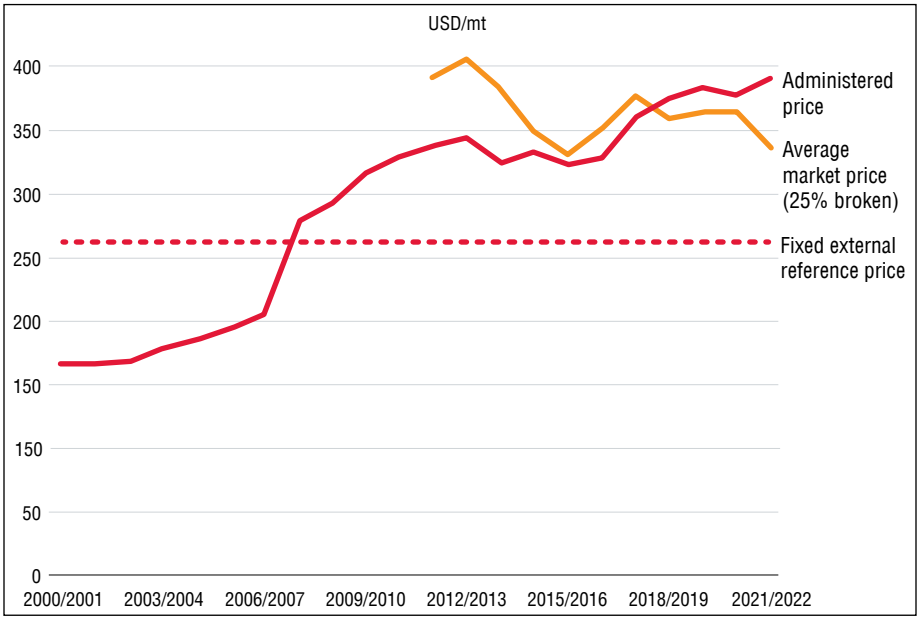


Chart: Joseph Glauber • Source: Worl Bank Pink Sheet.

[2] Some countries which joined the WTO more recently use a more recent base period to calculate the fixed external reference price. For a particular commodity, the fixed external reference prices are accounted as the average 'free on board' (f.o.b.) unit value in a net exporting country, and the average 'customs, insurance and freight' inclusive (c.i.f) unit value in a net importing country in the base period.

As market prices rose, countries raised administered prices for PSH programs. For example, until 2007/08, India's administered price for rice remained well below the fixed external price based on the 1986-88 base period (USD 262.51/mt) (Figure 5.2). Rice prices almost tripled in 2007/08, and India responded by raising its administered price 35% (from USD 205.92/mt to USD 277.57/mt). By 2012/13, India's administered price for rice was USD 344.67/mt, 31% above the fixed external reference price but below the average market price[3].

FIGURE 5.2 India's administered price for rice



PSH price data taken from India's DS 1 notifications to WTO. India market price data from FAO Rice Update report (simple average of monthly prices over October to September marketing year).

Chart: Joseph Glauber • Source: Agriculture Information Management System.

[3] Rice prices were taken from the FAO Rice Price Update report and were calculated as a simple average of India's white rice price (25% broken) over the October-September marketing year. Limited price data was available prior to the 2011/12 marketing year.

[4] In its 2018 notification to the WTO, under Article 18.7 of the Agreement on Agriculture, the United States claimed that India's market price support for wheat and rice had exceeded de minimis levels for the years 2010/11 through 2013/2014 (WTO 2018).

As the gap widened between the administered price and the fixed external reference price, support levels began to approach de *minimis* levels, threatening to put India out of compliance with its domestic support obligations[4].

THE BALI DECISION

The issue became one of urgency at the 9th Ministerial Conference in Bali in 2013. In 2012, the Group of 33 (G-33) introduced a proposal prior to the Bali Ministerial Conference, which would have excluded expenditures for public stockholding purposes from AMS calculations, effectively putting programs supporting low-income or resource-poor producers in the Green Box (WTO 2012). Members rejected the G-33 call for exempting PSH support altogether, but in the end, agreed to an interim mechanism until a permanent solution received consensus of the membership by the eleventh ministerial conference[5].

The so-called Bali Decision essentially adopted a 'peace clause' whereby the concerned member would be shielded from challenges made through the WTO Dispute Settlement Mechanism regarding compliance with its obligations under Articles 6.3 (AMS limits) and 7.2(b) (de minimis limits) of the Agreement on Agriculture . The support concerned traditional staple food crops in public stockholding programs for food security purposes, as long as this complied with relevant provisions of Annex 2 of the Agreement on Agriculture. The Decision highlighted the fact that the permanent solution would be applicable to all developing countries, subject to certain conditions that include:

- Notification to the Committee on Agriculture that the member is providing support in excess of its AMS or de *minimis* limits for a particular commodity;

[4] In its 2018 notification to the WTO, under Article 18.7 of the Agreement on Agriculture, the United States claimed that India's market price support for wheat and rice had exceeded de minimis levels for the years 2010/11 through 2013/2014 (WTO 2018).

[5] As WTO ministerial conferences are normally held every two years, members expected a permanent solution to be reached at the 2017 ministerial conference, which was convened in Buenos Aires in December 2017 (MC11). However, no agreement was reached at MC11 nor at MC12, convened in Geneva in June 2022.

- Full compliance with domestic support notifications requirements under the Agreement on Agriculture, and in accordance with notification requirements and formats;
- Provision of additional information for each program through the template contained in the annex to the Decision;
- Provision of statistical information (per commodity) as described in the Statistical Appendix to the Annex of the Decision.

Under provisions dealing with anti-circumvention and safeguards, the Bali Decision required governments to ensure that such programs were not trade distorting and would not affect the food security of other WTO members. Additionally, a member benefiting from the Decision would be required to hold consultations (upon request) with other governments on the operation of the concerned programs.

A General Council decision in 2014 declared that the interim solution would remain in effect until a permanent solution could be found (WTO 2014), but a permanent solution has proven elusive. Members failed to reach consensus on the issue at the Eleventh Ministerial Conference in Buenos Aires in December 2017 and at the Twelfth Ministerial Conference in Geneva in June 2022.

To date, only India has used the exemption provided by the Bali Decision in regard to its PSH programs (WTO 2022a). In its notification concerning domestic support commitments for the 2021/22 reporting year (G/AG/N/INDF/29), India notified the Committee on Agriculture that it had exceeded the de *minimis* limit specified under Article 7.2(b) of the Agreement on Agriculture (AoA) for rice (WTO 2023). India said that the breach of the de *minimis* limits for rice was covered by the peace clause set out in the Bali Ministerial Decision on Public Stockholding for Food Security Purposes (WT/MIN (13)/38) and by the General Council Decision (WT/L/939).

ECONOMICS OF PSH

Concerns over PSH programs have focused on the underlying support provided to production and on the programs' potential to distort production and trade. PSH programs affect market prices by removing staples from the market that normally would be consumed or stored by private inventory holders (for example, processors). PSH programs are clearly distorting when

the administered price is higher than the expected market price. Such a program ensures that the government stands ready to purchase grain up to the level of the administered price (subject to any cap on total purchases into the reserve). Purchasing grain into the reserve raises market prices, which gives an incentive for producers to plant more grain than they would in the absence of a PSH program.

Yet, administered prices do not need to be above market prices for a PSH program to distort production decisions. Consider a PSH program where the administered price is less than the expected market price, but since the market price is unknown, there is some probability that the market price will fall below the administered price at harvest. Glauber and Sinha (2022) discuss the simple example of a producer who is considering planting a crop that has a 50 percent probability of paying $100 per ton and a 50 percent probability of paying $200 per ton. The expected price is simply the price outcome weighted by the probability of occurrence, or $150 per ton (0.5 x 100 + 0.5 x 200). Now consider the introduction of a public stockholding scheme that announces that it will purchase the crop at an administered price of $140 per ton. While the administered price is below the expected price in the absence of such a scheme, it nonetheless provides a floor for prices whenever the price is under $140. The expected price under such a scheme would be $170 per ton (0.5x140 + 0.5x200 = 170), which means, that on average, the producer will receive $20 per ton more under the administered price scheme. Thus, an administered price scheme can provide support even if the actual administered price is below the expected market price, as long as there is some probability of prices following below the administered price in the absence of the scheme.

PSH programs can have positive effects on market prices, *even when purchases are made at market prices*. Galtier (2023) correctly points out that when a government is purchasing large quantities on the domestic market, it is likely to generate an increase that will benefit producers, whether the price is administered or not.

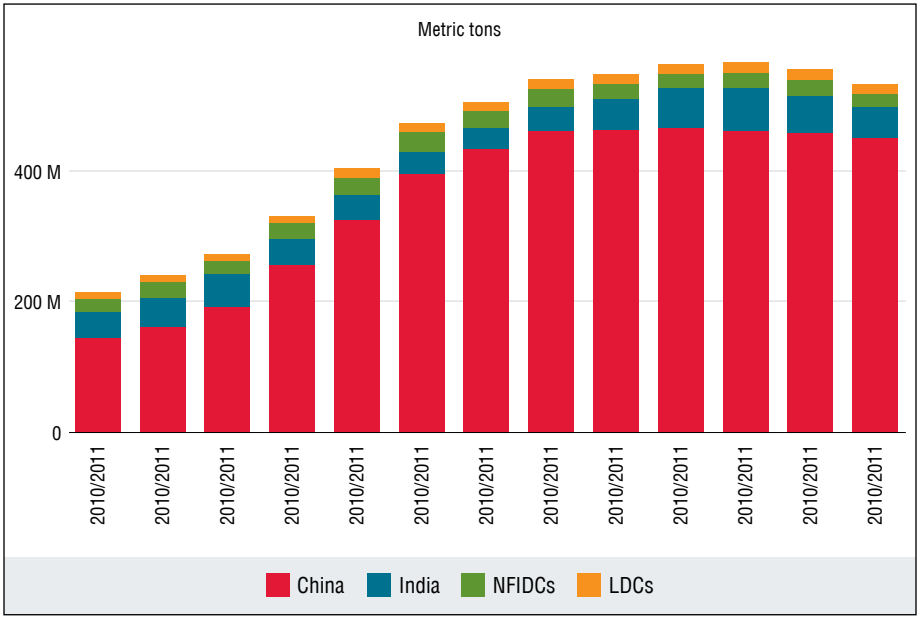
By raising market prices, PSH programs provide price support to all domestic production-not just the amount acquired by the government. Galtier (2023) differentiates between production acquired by the PSH authority, production sold on the domestic market and self-consumption and argues that self-consumption should be excluded from price support calculations. Nonetheless, from an economic standpoint, the value of what is consumed at home reflects the opportunity cost of selling the grain and thus captures any price distortions caused by the PSH program.

PSH PROGRAMS

A 2018 report by the FAO points out that while several countries had reduced or eliminated public stockholding programs following structural adjustment measures and market liberalization in the 1980s and 1990s, PSH programs regained momentum following the food price spikes of 2007/08 (FAO 2018). More recently, stocks have again been an issue during the market uncertainty caused by the COVID-19 pandemic and the war in Ukraine (Glauber 2023).

According to US Department of Agriculture estimates, wheat, rice and corn (maize) stocks held by China and India totaled almost 500 million metric tons and accounted for almost two-thirds of global grain stocks in 2022/23 (Figure 5.3). By contrast, combined grain stocks held by Net Food Importing Developing Countries (NFIDCs) and Least Developed Countries (LDCs) held less than 5% of global grain stocks.

FIGURE 5.3 Existencias de cereales en poder de los PDINPA y los PMA, en comparación con las existencias en poder de China y la India



Maize, rice and wheat.

Chart: Joseph Glauber • Source: US Department of Agriculture, Foreign Agricultural Service, PSD database, 12 July 2023.

Table 5.1 presents characteristics of selected PSH programs for which members have reported market price support and expenditures under Annex 2, Paragraph 3 in recent years (WTO 2022a). Data for exports and stocks reflect 3-year average levels calculated over the 2020/21 to 2022/23 marketing years (USDA 2024). China's stocks for wheat, rice and corn (maize) are quite large compared to other programs, accounting for over 75% of China's production of corn and rice, and over 100% of wheat. Perhaps even more striking is that they averaged between 50% and 69% of global stocks over the period. India's stocks of wheat and rice as a percent of domestic production averaged about 17.7% and 27.2%, respectively. As a share of global stocks, rice accounted for about 19%, while its wheat stocks averaged less than 7% of global wheat stocks. As a share of global rice stocks, stocks held by Philippines and Indonesia averaged less than 2% of global rice stocks.

Table 5.1 ▶ Characteristics of selected PSH programmes

	Percentage			
Country/ commodity	**Exports as share of global exports**	**Exports as share of domestic production**	**Stocks as share of global stocks**	**Stocks as share of domestic production**
China corn	0.0	0.0	68.7	76.6
China rice	3.7	1.4	61.5	75.8
China wheat	0.4	0.6	50.0	101.4
India rice	38.4	16.0	19.4	27.2
India wheat	2.5	5.0	6.8	17.7
Indonesia rice	0.0	0.0	1.9	13.7
Philippines rice	0.0	0.0	1.6	23.8

Shares based on 3-year average over 2020/21-2022/23 marketing years.

Chart: Joseph Glauber • Source: USDA PSD database, 12 January 2024.

India's PSH program for rice stands out because, unlike for the other PSH programs, exports are quite large, both as a share of domestic production (16%), and in particular, as a share of global exports (38.4%). India's rice production and exports have increased markedly since 2012/13. Between 2012/13 and 2022/23, Indian rice exports increased by 86%, an annual average increase of over 6% per year[7].

[7] The importance of India as the world's largest rice exporter came into sharp focus in 2023 when the Indian government implemented bans and duties on rice exports that affected more than 50% of its exports (Glauber and Mamun 2023a). This action contributed to the sharp increase in global rice prices in late 2023 (Glauber and Mamun 2023b).

PROPOSALS FOR A PERMANENT SOLUTION TO PSH

There have been numerous proposals that would offer a permanent solution to PSH programs[8]. Most proposals fall under two broad approaches: exempting PSH expenditures from AMS altogether or adjusting the current formula for calculating market price support.

While the 2012 G-33 would have extended an exemption for support for PSH programs to all developing countries, Glauber and Sinha (2019) and Wolff and Glauber (2023) proposed that exemption of support for PSH programs be limited to LDCs. As discussed in the previous section, LDCs hold a small share of global stocks and stocks are typically held for emergency humanitarian needs (FAO 2018). A proposal by Brazil during MC12 (WTO 2022b) would exempt support for PSH for LDCs, and for certain NFIDCs and developing countries requiring external food assistance, if exports were less than 2% of global exports and stocks were less than 5% of production. Brazil's proposal would thus preclude countries that operate PSH programs, but that are also large exporters, from exempting market price support connected to the operation of the PSH program. Exempting LDCs and NFIDCs from reporting market price support as part of their AMS for PSH programs would potentially affect only a small share of global grain stocks and hence would be expected to have only small impacts on global markets.

Most proposals that have considered changes to how market price support is calculated have focused on an update of the FERP. For example, proposals by the African Group, the ACP and G33 (WTO 2023b), Brink and Orden (2023) and Galtier (2023) would replace the FERP with a reference price based on a moving 5-year Olympic average[9]. The argument is that a moving average of recent prices would be more reflective of the underlying market price and hence a more accurate measure of market price support provided by the administered price.

[8] Many of these proposals are discussed by ICTSD (2016), Kask (2020), Glauber and Sinha (2021), Brink and Orden (2023) and Galtier (2023).

[9] An Olympic average discards the highest and lowest value in the sample when calculating the average.

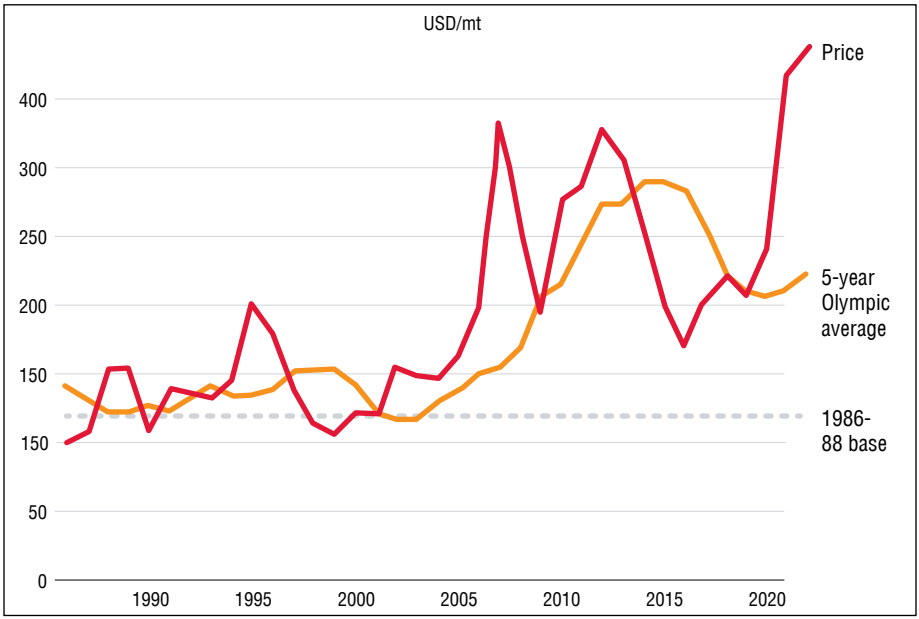
During the Uruguay Round negotiations, various formulas for determining the external reference price were debated. As late as 1990, updates to the fixed external reference price were considered. The *Draft Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations* of December 3, 1990 (GATT 1990b) stated that:

> The AMS will be expressed by total monetary value per commodity using the base year 1988 and a fixed reference price based on 1986-88 data. It will be applied for a negotiated period. The ***fixed reference price may be subject to periodic reassessment*** [emphasis added].

Brink and Orden (2023) point to the fact that while the Agreement on Agriculture specified the 1986-88 base price for determining the FERP, countries acceding to the WTO in later years (such as China and the Russian Federation) used an updated base period for determining their levels of support. They also point to Article 18.4 of the Agreement on Agriculture that directs the Committee on Agriculture to give "due consideration to the influence of excessive rates of inflation on the ability of any Member to abide by its domestic support commitments." (WTO 1994).

Updating the external reference price (ERP) is not without controversy. Agricultural prices are highly variable and updating the ERP based on a moving average of past prices could result in an ERP far higher than current prices. Figure 5.4 shows an ERP based on a moving 5-year Olympic average of past wheat prices relative to current wheat prices over the past 25 years. Over the period 1995 to 2022, market prices would have exceeded the 5-year Olympic average 60% of the time and been below the ERP 40% of the time. Consider a PSH program that sets the administered price equal to the ERP. In years following a period of low prices, the ERP would remain low when prices started to rise. For example, in 2007, the ERP would have been 54% below market prices (by comparison, the current FERP based on the 1986-88 period is 57 percent below the wheat price for December 2023).

FIGURE 5.4 Existencias de cereales en poder de los PDINPA y los PMA, en comparación con las existencias en poder de China y la India



US Gulf HRW. Olympic average = five-year average of preceding years, excluding the highest and lowest values.

Chart: Joseph Glauber • Source: USDA/ERS.

However, volatility in market prices means that there could be large outlays in years when the ERP based on a 5-year Olympic average was above the current market price. For example, wheat prices rose steadily over the period 2009 to 2013, but by 2016 wheat prices had collapsed to almost 50% of 2012 levels. An ERP based on a 5-year Olympic average, however, would reflect the high past prices. In this case, the ERP in 2016 would have been 68% higher than the market price that year. A PSH program setting its administered price equal to the ERP in 2016 would report zero market price support that year[10].

Another issue is whether updating the formula for establishing the ERP should apply towards all market price support calculations or be restricted

[10] Kask (2020) points out that the administered price could be set even higher than the ERP and market price support could remain below de *minimis* levels. Assuming all production is considered eligible for price support, the administered price, AP, could be set so that AP < ERP + 0.1 P, where P is the market price used for determining the value of production that year. Such support would fall short of de *minimis* levels. On a practical level, this would be difficult since the market price P is not known until after the marketing year has concluded.

just to calculating market price support for purposes of PSH programs (specifically, footnote 5 of Annex 2, Paragraph 3). Brink and Orden (2023) point out that measurement of market price support is not restricted to PSH, as many members use price support as a mechanism for supporting farmers. However, updating the FERP for all market price support would likely be more controversial, since it would have consequences for price support in developed countries (for example, US sugar producers or EU dairy producers) and could lead to an increase in policy space relative to current bindings (which were established based on the 1986-88 base period).

Some have advocated for restricting price support calculations for PSH purposes to the amount purchased by the PSH program (as opposed to all production) (WTO 2022b). Advocates for this approach point to the Korea Beef dispute where eligible production for price support was examined. The panel in that dispute considered eligible production to be marketable production "even though the amount of production purchased by a government is small or even nil." (WTO 2000a, cited in Brink and Orden 2023, p. 154)[11]. The Appellate Body modified the ruling and concluded that eligible production was production "fit or entitled" to be purchased (WTO 2000b). The Appellate Body reasoned that the government is able to define and limit eligible production (Brink and Orden 2023). As discussed above, most economists agree that price support provides support to all production, not just that acquired under PSH schemes (Glauber and Sinha 2021; Brink and Orden 2023; Galtier 2023).

Lastly, some have called for addressing the PSH in the broader context of domestic support reform (Ungphakorn 2024). For example, the Cairns Group has proposed sweeping changes in the domestic support disciplines that would cap overall trade distorting support, which it argues would obviate the need for new disciplines on PSH (WTO 2023). The proposal has met with opposition from groups such as the G33, which have pushed for separate measures on PSH (Ungphakorn 2023).

[11] The panel in *China – Agricultural Producers* established that eligible production for wheat and rice was the amount produced, not the amount purchased, because China had set no limits on the quantities eligible for the support price (See Ahn and Orden 2021).

FINAL THOUGHTS

The current impasse over PSH continues to stymie trade negotiators in Geneva. A technical fix to update the external reference price is arguably well overdue. Replacing the current FERP to an external reference price based on a moving 5-year Olympic average would be an imperfect, but a more accurate measure of current price support afforded by administered prices. But concerns over the impacts of PSH programs on production and exports remain. Exempting such support from challenge may be less consequential for LDCs and NFIDCs, who hold relatively small stocks and export negligible amounts on world markets. Exempting countries with large stockpiles and significant export market shares is far more problematic (see India's increase in rice production and exports since 2012). PSH programs should remain at most minimally production and trade distorting. Trade-distorting support, however measured, should be disciplined under the domestic support provisions of the Agreement on Agriculture.

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