Understanding Agricultural Price Range Systems as Trade Restraints: *Peru–Agricultural Products*

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Abstract: An agricultural price range system (PRS) aims to stabilize local prices in an open economy via the use of import duties that vary with international prices. The policy is inherently distortionary and welfare-reducing for a small open economy, at least according to the canonical economic model. We offer an explanation for why a government concerned with national welfare may nevertheless implement such a policy when faced with risk aversion and imperfect insurance markets. We also highlight open questions arising out of the *Peru–Agricultural Products* dispute for the WTO's Appellate Body to address in order to clarify how a PRS consistent with WTO rules could be designed. Finally, we discuss the possibility that a WTO member might resort to a free trade agreement (FTA) to preserve its flexibility to implement a PRS and how an FTA provision of this sort ought to be treated in WTO litigation.

1. Introduction

For developing economies, the question of whether to further liberalize trade often hinges on the potential impact of trade liberalization on the domestic agricultural sector. The outsized role played by this sector in employment, economic production, and social security means that governments tread rather carefully when assessing what types of agriculture-related concessions to offer in exchange for gains in other sectors. This is especially the case for small economies that lack the ability to shape world prices.

In the course of opening up agricultural markets, governments in small economies are faced with two competing concerns. On the one hand, they fear that prices for agricultural goods may suddenly drop, leaving farmers exposed to negative income shocks. On the other hand, they also worry that prices may suddenly spike, triggering inflationary concerns and harming consumers. To guard against these concerns, some governments chose to liberalize trade while simultaneously retaining some form of a price range system (PRS) that helps insulate the domestic market from fluctuations in word prices.

By far the more common policy discussed in this context is the notion of a price band system (PBS). It may be worthwhile, at the onset, to distinguish between a PRS and a PBS, especially since the terms are sometimes used interchangeably. While both policy instruments seek to mitigate the local effects of fluctuations in global prices by keeping the price of imports within a given band/range, their exact mechanics differ slightly.

Under a PBS, the government sets a particular floor and ceiling price. Whenever the import price falls below this range, an additional tariff is imposed equal to the difference between the floor price and import price, bringing the local price of the import back up to the floor price. Similarly, whenever the import price exceeds the ceiling price, a tariff rebate equal to the difference between the import price and ceiling price is issued. This brings the local price of the import back down to the ceiling price. The additional tariff/rebate may be subject to additional adjustments, as necessary. Overall, it should serve to keep the price of the imported good within the desired price band.

A PRS operates in much the same way as a PBS, except that the adjustments are not made on a transaction-specific basis. Again, the government sets a floor and ceiling price, which may be altered over time. Instead of comparing the floor and ceiling prices against the actual import price, however, the comparison is made against a reference price. The reference price is set periodically through reliance on some external benchmark or a pre-determined formula. It may be tweaked with time, at an interval different than that of the floor and ceiling prices. Whenever the reference price falls below the floor price, an additional tariff is imposed equal to the difference between the floor price and reference price. Similarly, whenever the import price exceeds the ceiling price, a tariff rebate equal to the difference between the import price and ceiling price is issued. Again, the additional tariff/rebate may be subject to further adjustment, as necessary.

Note that unlike a price band, the additional tariff/rebate associated with the PRS does not vary with each given transaction. Instead, it is fixed for a given period of time – i.e., the period for which the reference price is constant, regardless of the actual import price. It only changes if the reference, floor, and/or ceiling prices are altered. Nevertheless, the PRS fulfills a similar objective of tweaking duties to keep the price of imported goods within a given price range. In doing so, the PRS allows a government some degree of control to guard against the unwelcome effects of agricultural trade liberalization.

Not surprisingly, such systems are not without controversy. A PRS seeks to alter price artificially and therefore distorts trade away from the market-equilibrium level. By revising duties in conjunction with the ceiling and floor price, the policy artificially limits gains for foreign producers within the given market. Some trading partners may therefore naturally view the policy as a protectionist scheme cast in the guise of a price stabilization instrument.

To date, PRS regimes have not received much attention in the academic legal literature, particularly with respect to agricultural trade and developing countries in which they are most commonly found. Much of the existing scholarship has focused on other forms of trade-related distortions in global agricultural markets, such as subsidies and export taxes, that are more commonly imposed by developed countries. Yet, as the recent *Peru–Agricultural Products* dispute[1] demonstrates, PRS policies also can give rise to trade distortions that harm farmers in other developing countries.

Why would a small developing country choose to implement a PRS? Does such a policy always represent a rent transfer to special interest group(s) that is overall welfare-reducing? Or can it be welfare-enhancing under particular conditions? We demonstrate that in the canonical model of a small open economy with risk-neutral consumers and producers that take world prices as given, a PRS is sub-optimal. This is because a PRS supported by fluctuating tariffs reduces the extent to which the local price in a country differs from its autarkic price and therefore reduces its expected gains from trade.

However, a PRS does ensure that the welfare of consumers and producers does not fall below a certain minimum threshold as a result of agricultural trade liberalization. We argue that a PRS can be welfare-enhancing in the presence of significant risk aversion on the part of either group. If some factors of production are immobile ex-post and insurance markets are incomplete, some level of trade protection can be optimal for a small open economy facing fluctuating terms of trade (Eaton and Grossman 1985). Thus, a PRS serves as an imperfect substitute for the lack of insurance and can help ensure that the welfare of consumers and producers exceeds a certain minimum threshold. Nevertheless, we note that a PRS does not constitute a first-best solution for redistributing income across domestic groups.

In light of this argument, we discuss two sets of questions related to how a PRS is treated under the laws of the World Trade Organization (WTO). First, we examine open questions in WTO jurisprudence with respect to whether a PRS could ever be designed to comply with WTO rules. Second, if a PRS is WTO-inconsistent but a country nevertheless wishes to preserve its flexibility to employ this instrument,

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1 Panel Report, *Peru – Additional Duty on Imports of Certain Agricultural Products*, WT/DS457/R, 27 November 2014 [hereinafter 'Panel Report, *Peru–Agricultural Products* ']. Note that this Article is focused exclusively on the Panel Report in the dispute, as this was the scope asked of the authors for the 2014 WTO case law review analysis. The Appellate Body report was subsequently issued on 20 July 2015 and adopted on 31 July 2015.

we consider whether a WTO member can do so through a preferential trade agreement. To what extent can a free trade agreement (FTA) serve as a work-around solution to existing WTO rules? And what significance, if any, should be attached to the signing of such agreements as opposed to their ratification?

We use Peru's PRS and the resulting WTO legal dispute as the basis for the questions to be explored in this article. Section 2 discusses how a PRS operates and why it is controversial under WTO law. Section 3 assesses the economic implications of a PRS. Section 4 highlights several open questions in terms of whether the WTO affords policy flexibility to design a PRS consistent with WTO rules. Finally, Section 5 examines the question of whether a WTO member may use an FTA to preserve its ability to implement a PRS, even if it contravenes WTO law.

2. How a PRS works and why it poses a potential WTO legal controversy

Recent studies have demonstrated that the economic impact of agricultural trade liberalization varies both within and across developing countries, with outcomes dependent on the country's factor endowments and the precise contours of liberalization (Bouet *et al.*, 2005). Not all agents in developing countries necessarily gain from liberalizing trade in agriculture. As a result, some countries might choose to impose policies designed to safeguard certain groups against any potential negative impacts resulting from opening up their agricultural sector to increased foreign competition.

We examine measures taken by the Peruvian government in the early 2000s as a case study of how a developing country might utilize a PRS to advance its policy objective. We then highlight how such an instrument might give rise to trade tensions with other developing countries that are agricultural exporters.

2.1 The case study: Peru's price range system

During the 1990s, the Peruvian economy underwent a massive program of structural adjustment and economic liberalization. As part of this program, and in conjunction with Uruguay Round commitments, Peru lowered its tariffs and other trade barriers on agricultural products (Trivelli, 2003: 5). This trade liberalization exposed Peruvian farmers to increased competition from world markets.

Worried about the negative impact on its farmers, Peru established a PRS in June 2001.[2] The PRS covered 45 agricultural products, which were separated into four general categories: milk, yellow maize, rice, and sugar.[3] The PRS operated as follows:

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[2] Peru and its trading partners disagree as to whether the 2001 PRS was simply a modification of an earlier tariff scheme involving specific tariffs. See Panel Report, *Peru–Agricultural Products*, paras. 7.101–7.112.

[3] For a complete list at the HS-10 level, see ibid., para. 7.121.

- Within each category, there was one tariff line designated as the 'marker' product and all others are designated as 'associated' products.
- A floor and ceiling price were determined for each marker product on the basis of monthly average f.o.b. (freight on board) prices for the past 60 months on the international reference market for that marker product. These prices were to be updated semi-annually and converted to a c.i.f. (cost, insurance, and freight) floor and ceiling prices.[4]
- In addition, a reference price was to be calculated every two weeks, reflecting the average international market price for the product.[5]
- The reference price was then compared to the c.i.f. floor and ceiling prices to determine whether a 'variable additional duty' should be levied or a 'tariff rebate' should be issued.

Whenever the international reference price (denoted by p^R) fell below the c.i.f. floor price $\underline{p}$, a 'variable additional duty' was levied against the imported good. Letting b denote the import costs associated with marker products, the additional variable duty AD was calculated according to the following formula:

$$AD = (1 + b)(\underline{p} - p^R)$$

Assuming that the additional cost associated with the variable additional duty was passed on to the consumer, this policy kept Peruvian prices for the good above world market prices. It therefore protected Peruvian farmers from negative price shocks on the global market.

In contrast, whenever the reference price rose above the c.i.f. ceiling price $\bar{p}$, a tariff rebate was issued to the importer. The tariff rebate was calculated as follows:

$$TR = (1 + b)(p^R - \bar{p})$$

Assuming that the tariff rebate was passed on to the consumer, this policy kept Peruvian prices for the good below world market prices. It therefore served to protect Peruvian consumers from undesired price increases on the global market.

The stated objectives of the Peruvian PRS were three-fold:[6]

> First, the PRS was designed to counter the adverse effects to domestic agricultural production on account of 'distortions … due, in particular, to the agricultural policies implemented by the main food producing and exporting countries' and as 'reflected in the uncertainty and instability of domestic prices'.

> Second, the PRS was 'a stabilization and protection mechanism that makes it possible to neutralize the fluctuations of international prices and limit the negative effects of the fall in those prices'.

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4 Ibid., paras. 7.127–7.135.
5 Ibid., paras. 7.136–7.139.
6 Ibid., para. 7.118.

> Third, the PRS constituted 'an appropriate means of improving the levels of competitiveness of domestic producers, by giving the market clear signals with regard to trends in prices, thereby allowing economic agents to operate efficiently and productively'.

In this sense, Peru's PRS serves as a quintessential example of a small developing country's government's employment of an instrument to safeguard against undesired price fluctuations associated with increased agricultural trade liberalization. Peru's Ministry of Economy and Finance noted that the PRS was intended to protect both domestic producers and consumers, through the establishment of a floor and ceiling prices for calculating a variable additional duty or tariff rebate, as necessary, to fulfill its various stabilization and competitiveness objectives.[7]

2.2 Potential WTO legal controversy arising due to an agricultural PRS

A PRS, however, encounters potential problems when examined in the context of the WTO's Agreement on Agriculture. The drafters sought to limit the types of border measures designed to restrict the volume or distort the price of imports of agricultural products.[8] To that end, they decided it would be best to require that border measures and other non-tariff barriers designed to restrict agricultural imports be converted into ordinary customs duties.

Article 4.2 of the Agreement on Agriculture states: 'Members shall not maintain, resort to, or revert to any measures of the kind which have been required to be converted into ordinary customs duties, except as otherwise provided for in Article 5 and Annex 5.' Article 4.2 includes a footnote 1 that provides an illustrative list of the types of measures that might violate this provision. These include 'quantitative import restrictions, variable import levies, minimum import prices, discretionary import licensing, non-tariff measures maintained through state-trading enterprises, voluntary export restraints, and similar border measures other than ordinary customs duties'.

To date, the bulk of WTO cases interpreting Article 4.2 have concerned quantitative import restrictions applied against agricultural imports.[9] The PRS, however, does not act as a quantitative restriction. Instead, the two types of measures that it

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7 Ibid., para. 7.119.

8 Appellate Body Report, *Chile – Price Band System and Safeguard Measures Relating to Certain Agricultural Products*, WT/DS207/AB/R, 23 September 2002, adopted 23 October 2002, para. 200 [hereinafter '*Chile–Price Band System*'].

9 See Panel Report, *Turkey – Measures Affecting the Importation of Rice*, WT/DS334/R, 21 September 2007, adopted 22 October 2007, paras. 7.12–7.138; see also Panel Report, *India – Quantitative Restrictions on Imports of Agricultural, Textile and Industrial Products*, WT/DS90/R, 23 August 1999, adopted 22 September 1999, paras. 5.241–5.242; Panel Report, *Korea – Measures Affecting Imports of Fresh, Chilled and Frozen Beef*, WT/DS161/R, WT/DS169/R, 31 July 2000, adopted 10 January 2001, para. 762. Note that in the latter two cases, the Panel simply found that a measure that violated Article XI:1 of the GATT 1994 also violated Article 4.2 of the Agreement on Agriculture but did not elaborate on the provision itself.

most closely approximates are (1) variable import levy, and (2) minimum import price.[10]

Through 2013, only one WTO dispute, *Chile–Price Band System*, has opined on these issues. The Appellate Body (AB) found that Chile's PBS, which shared similarities with Peru's PRS, was inconsistent with Article 4.2 of the Agreement on Agriculture.[11]

2.3 Background on the Guatemala–Peru FTA and subsequent WTO dispute

Anticipating potential legal problems with its PRS, Peru sought guarantees from its PTA partners that they would not challenge the PRS through WTO dispute settlement. One example is the Guatemala–Peru FTA, signed on 6 December 2011. Article 9 of Annex 2.3 explicitly recognizes Peru's right to maintain its PRS.[12] The FTA also clarified that in the event of an inconsistency between the FTA and WTO agreements, the FTA 'shall prevail to the extent of the inconsistency, unless otherwise provided in this Treaty'.[13]

More than a year later, neither party had ratified the treaty. On 12 April 2013, Guatemala proceeded to file a WTO challenge, alleging that Peru's PRS violated several WTO commitments:[14] These included:

- Article 4.2 and footnote 1 of the Agreement on Agriculture, to the extent that the additional duty constitutes and encompasses elements of a variable import levy, a minimum import price, or a measure similar to the two;
- Article II:1(b) of the GATT 1994, since the measure constitutes a duty or charge other than an ordinary customs duty that was not included in Peru's schedule of concessions;
- Article X:1 and X:3(a) of the GATT 1994, regarding failures in the publication and administration of the trade regulations related to the PRS.

Should the Panel find that the duties arising from the PRS are ordinary customs duties, Guatemala argued, in the alternative, that Peru's actions would then amount to a violation of Articles 1, 2, 3, 5, 6, and 7 of the Customs Valuation Agreement.

Why did Guatemala bother to marshal resources to challenge Peru's PRS when it had previously agreed to recognize its legality in the bilateral FTA? The overall economic stakes were not large.[15] Based on our analysis of available data, bilateral

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10 These are also the two cited by Guatemala in its complaint. See Request for Consultations by Guatemala, *Peru – Additional Duty on Imports of Certain Agricultural Products*, WT/DS457/1, G/AG/ GEN/109, G/VAL/D/12, G/L/1024, 16 April 2013, at p. 2 [hereinafter '*Peru–Agricultural Products*'].

11 Appellate Body Report, *Chile–Price Band System*, paras. 288–289.

12 Tratado de Libre Comercio Guatemala–Perú [Guatemala–Peru Free Trade Agreement], signed 6 December 2011, art. 9 of Annex 2.3.

13 Ibid., art. 1.3 of Annex 2.3.

14 See *Peru–Agricultural Products*.

15 In 2013, only 0.07% of Peru's total imports were sourced from Guatemala while 0.30% of Guatemala's total exports went to Peru.

trade was significant in only two sugar products subject to the PRS.[16] The WTO litigation appears then to reflect the lobbying power of Guatemala's sugar producers.[17]

By the time the Panel was composed in September 2013, neither party had yet ratified the FTA, although Guatemala's Congress gave approval two months earlier. Guatemala initiated ratification procedures in December 2013, with Peru receiving a communication on 5 March 2014.[18] At that point, had Peru's President simply initiated ratification procedures and sent notice to Guatemala, the FTA would have entered into force. Peru's FTA ratification process does not require Congressional approval, only Presidential action.[19] Peru's President refused, viewing the filing of the WTO dispute as having 'created uncertainty with regard to the existence of the balance negotiated' in the FTA.[20] Thus, the bilateral FTA, as of this writing, has not yet entered into force.

On 27 November 2014, the Panel issued a report finding Peru to have violated Article 4.2 of the Agreement on Agriculture because the duties arising from the PRS constitute a variable import levy that was not permissible under the Agreement.[21] In addition, the Panel also ruled that the duties arising from the PRS violated GATT Article II:1(b) because they are not ordinary customs duties and were not declared as other duties or charges.[22] The Panel exercised judicial economy with respect to the GATT Article X:1 and X:3(a) claims.[23] Finally, the Panel did not find it necessary to rule on Peru's argument that the FTA modified the rights between the two parties with respect to the PRS, resulting in Guatemala's waiver of its WTO rights concerning the PRS; the Panel emphasized that the FTA had not yet entered into force and therefore its provisions were not legally binding.[24] Both Peru and Guatemala filed a notice of appeal. The Appellate Body ruling, issued on 20 July 2015, largely upheld the Panel's rulings except with respect to the Panel's ruling concerning the similarity of the PRS to a 'minimum import price' within the meaning of the Agreement on Agriculture.[25]

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16 Authors' analysis was based on available data at the 6-digit HS level in the World Bank's WITS database. The two products are 'cane sugar' (HS 170111) and 'other cane and beet sugar' (HS 170199). We thank Chad Bown for providing us with the data and Semira Ahdiyyih for research assistance.

17 Our analysis shows that during 2007–2013, Guatemala accounted for a significant share of total Peruvian imports of both sugar products. See Tables 1A and 1B in the appendix and the discussion in the longer version of this Article, published as Vanderbilt University Working Paper No. VUECON-15-00009 and EUI Working Paper No. RSCAS 2015/58.

18 Panel Report, *Peru–Agricultural Products*, para. 7.32.

19 Ibid., para. 7.33.

20 Ibid.

21 Ibid., paras. 7.352 and 7.371–7.372.

22 Ibid., paras. 7.425–7.432.

23 Ibid., paras. 7.467 and 7.501.

24 Ibid., paras. 7.525–7.528.

25 Appellate Body Report, *Peru – Additional Duty on Imports of Certain Agricultural Products*, WT/DS457/AB/R, 20 July 2015 [hereinafter 'Appellate Body Report, *Peru–Agricultural Products*'].

3. The economic impact of a PRS on a small open economy

Why would a small economy, such as Peru, so adamantly seek to preserve its right to impose a PRS? In the Introduction above, we mentioned two reasons why a government might choose to implement the PRS: as a price stabilization policy for farmers to guard against the negative income effects of price shocks and as a price stabilization policy for consumers to guard against price increases. But what if a PRS is evaluated on the basis of aggregate economic welfare as opposed to the welfare of individual groups? Does a PRS enhance a country's overall economic welfare?

Below, we provide a formal analysis of the effects of a PRS in the standard trade model of a small importing nation. Since this analysis raises questions about the optimality of a PRS, we next discuss some modifications in the underlying assumptions of the standard model that can help explain why a small importing country might want to institute a PRS.

3.1 A stylized model of a small importing nation

Suppose Peru institutes a PRS under which it adjusts the additional duty applied to an imported commodity (call it sugar) so as to ensure that the domestic (tariff-ridden) price always lies within the interval $[\underline{p}, \bar{p}]$. Let the world price p^w of sugar fluctuate between three different states.[26] In the high state $(i = H)$ $p^w = p_H$, in the medium state $(i = M)$ $p^w = p_M$, and in the low state $(i = L)$ $p^w = p_L$, where the following relationships hold (i) $p_H \geqslant p_M \geqslant p_L$, (ii) $p_H > \bar{p}$, (iii) $p_M \in [\underline{p}, \bar{p}]$, and (iv) $p_L < \underline{p}$. Thus, by design, the high price p_H exceeds the upper bound $\bar{p}$ of the PRS, the low price p_L lies below the lower bound $\underline{p}$ while the medium price p_M lies strictly inside the interval $[\underline{p}, \bar{p}]$.

Let θ_i denote the probability of state i so that we have:

$$p^w = \begin{cases} p_L \text{ with prob } \theta_L \\ p_M \text{ with prob } \theta_M \\ p_H \text{ with prob } \theta_H = 1 - \theta_L - \theta_M \end{cases} \quad (1)$$

Let AD_i denote the additional duty applied by Peru in state i. Then, the variable duty imposed by Peru under its PRS is given by:

$$AD = \begin{cases} AD_L = \underline{p} - p_L \text{ if } p^w = p_L \\ 0 \text{ if } p^w = p_M \\ AD_H = \bar{p} - p_H \text{ if } p^w = p_H \end{cases} \quad (2)$$

Observe that $AD_H < 0 < AD_L$; i.e. the variable levy is positive when the world price is low, whereas it is negative when it is high. Finally, when the world price falls

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within the price band $[\underline{p}, \bar{p}]$ established by the PRS, the additional duty imposed by Peru equals zero.[27]

Treating Peru as a small open economy (i.e. as a country that takes world prices as given), the domestic (tariff-included) price in Peru under various states of the world is simply the sum of the world price and the duty applied:

$$
p = \begin{cases} p_L + AD_L = \underline{p} \text{ if } p^w = p_L \\ p_M \text{ if } p^w = p_M \\ p_H + AD_H = \bar{p} \text{ if } p^w = p_H \end{cases} \tag{3}
$$

Thus, by design, the variable duty imposed ensures that the domestic price always stays within the PRS band $[\bar{p}, \underline{p}]$.

Let domestic (inverse) demand function in Peru for sugar be given by:

$$
d(p) = a - p \tag{4}
$$

and the domestic supply function by:

$$
s(p) = p \tag{5}
$$

Then, Peru's import demand curve for sugar is the difference between domestic demand and supply:

$$
m(p) = d(p) - s(p) = a - 2p \tag{6}
$$

In the absence of trade, we would have $m(p) = 0$ which yields $p^* = a/2$ as the autarkic equilibrium price in Peru. Given the nature of the dispute, we assume $m(p_i) > 0$; i.e. Peru imports the good under all states of the world, an outcome that is guaranteed by the inequality $p^H < p^*$, which we assume holds.

Given a domestic price p, the surplus consumers enjoy from the good equals:

$$
CS = \int_p^a (a - p) dp = \frac{1}{2}(a - p)^2 \tag{7}
$$

so that expected consumer welfare can be written as:

$$
ECS = \sum_i \theta_i CS(p_i) \tag{8}
$$

Similarly, the surplus of domestic producers equals:

$$
PS = \int_0^p p \, dp = \frac{1}{2} p^2 \tag{9}
$$

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27 We should note here that in addition to the PRS, Peru also imposed a baseline tariff on the relevant commodities. However, since this fixed tariff level does not play an important role in determining the economic effects of the PRS, our model abstracts from it by setting it equal to zero.

which gives expected producer surplus as:

$$EPS = \sum_i \theta_i PS(p_i) \tag{10}$$

The tariff revenue collected by Peru under each state of the world equals:

$$TR = \begin{cases} t_L m(\underline{p}) = (\underline{p} - p_L)m(\underline{p}) \text{ if } p^w = p_L \\ 0 \text{ if } p^w = p_M \\ t_H m(\bar{p}) = -(p_H - \bar{p})m(\bar{p}) \text{ if } p^w = p_H \end{cases} \tag{11}$$

which yields expected tariff revenue as:

$$ETR = \theta_L(\underline{p} - p_L)m(\underline{p}) - \theta_H(p_H - \bar{p})m(\bar{p}) \tag{12}$$

We can now write down Peru's expected total welfare under the PRS as a weighted sum of consumer surplus, producer surplus, and tariff revenue:

$$EW = \sum_i \theta_i[CS(p_i) + \lambda PS(p_i)] + \lambda[\theta_L(\underline{p} - p_L)m(\underline{p}) - \theta_H(p_H - \bar{p})m(\bar{p})] \tag{13}$$

where the parameter $\lambda \geqslant 1$ measures how much extra weight the government puts on producer interests and tariff revenue relative to consumer surplus. When $\lambda = 1$, the government weights all components of welfare equally, and, as λ increases, the relative weight placed on consumer welfare declines while that placed on other components increases.

Using the formulae in (6) through (13), we can directly calculate:

$$\frac{\partial EW}{\partial \underline{p}}|_{\lambda=1} = -2\theta_L\left(\underline{p} - p_L\right) < 0 \tag{14}$$

i.e. if the government weights all components of welfare equally ($\lambda = 1$), then it is optimal to reduce the lower bound of the PRS to its minimum possible value. This implies that it is optimal for Peru not to impose any minimum price on the commodity. Similarly, we have:

$$\frac{\partial EW}{\partial \bar{p}}|_{\lambda=1} = 2\theta_H(p_H - \bar{p}) > 0 \tag{15}$$

i.e. it is optimal for Peru to raise the upper bound of the PRS band. It is worth emphasizing that equations (14) and (15) imply that in the standard trade model *it is optimal for a small importing nation to allow maximum variability in its local price if its objective is to maximize expected national welfare.*

Thus, in the canonical trade model of a small open economy, the mere presence of price fluctuations does not generate a welfare-based rationale for the use of a PRS like the one employed by Peru so long as the objective of the government is to maximize expected aggregate welfare. The intuition for this result is that the

Figure 1. Effects of the PRS system on a small open economy
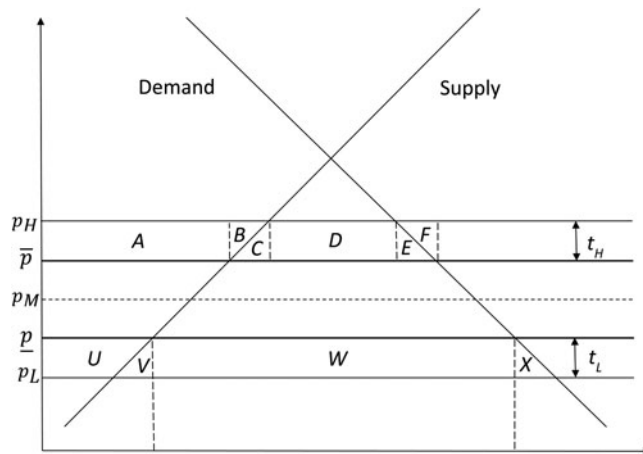
gains from trade enjoyed by an open economy depend upon whether and how much the world price of a commodity differs from its autarkic price. In our simple model above, the autarkic price equals $p^* = a/2$. Imagine the world price equals Peru's autarkic price, i.e. $p^w = p^* = a/2$. Would it gain from trade? The answer is a clear no since domestic production and consumption under free trade would exactly equal that under autarky. Now, consistent with the dispute, suppose $p^w < p^*$. Then, under free trade, Peru would import this commodity and enjoy gains from trade. While domestic producers would lose, the increase in consumer surplus would dominate their loss. Indeed, the lower the world price relative to Peru's autarkic price, the larger would be its gains from trade. A PRS band supported by fluctuating duties reduces the extent to which the domestic price in Peru differs from its autarkic price and therefore reduces its overall gains from trade.

The careful reader may observe that the above discussion seems to ignore the fact that the duties applied raise revenue. While revenue is part of domestic welfare, for the case of a small open economy, the burden of an import duty is borne entirely by local consumers – see the formula for the domestic price in equation (3). As a result, from an aggregate welfare perspective, the variable duty system instituted to support the PRS simply redistributes income within Peru. When $p^w = p_L$, the duty t_L raises the domestic price in Peru to $\underline{p}$ and redistributes income from consumers to producers and the government; whereas when $p^w = p_H$, the rebate t_H benefits local consumers at the expense of the other two groups by lowering the domestic price to $\bar{p}$.

Figure 1 in the appendix provides a graphical illustration of why the expected welfare of a small importing nation declines when it puts in place a PRS to lower domestic price variability. When $p^w = p_L$, the duty t_L raises the domestic price to

the minimum acceptable price $\underline{p}$ and consumer surplus declines by the amount $U + V + W + X$. Domestic producer surplus increases by U and government collects revenue equal to area W. The net welfare loss suffered by Peru when $p^w = p_L$ then equals $U + W - (U + V + W + X) = -V - X$, which is simply the deadweight loss of the duty t_L. Now consider the case where $p^w = p_H$ so that the rebate t_H lowers the local price to $\bar{p}$. Then, when $p^w = p_H$ consumers gain the area $A + B + C + D + E$ due to the rebate that lowers the domestic price to $\underline{p}$; producers lose $A + B$; while the government loses $B + C + D + E + F$ in order to cover the subsidy payments needed to lower the local price to $\underline{p}$. Adding these gains and losses together, we find that the net welfare effect of the PRS on Peru is once again negative and it equals $-(B + F)$. Thus, regardless of whether the world price is below or above the PRS interval $[\underline{p}, \bar{p}]$, the net welfare of a small importing nation declines due to the PRS.

The above analysis has focused on the case where the government cares equally about all components of welfare (i.e. $\lambda = 1$). In the real world, it is possible that the government weighs producer interests and tariff revenue more than consumer surplus. Suppose the importing government weighs producer interests and revenue more than consumer surplus (i.e. $\lambda > 1$). Then, the first-order conditions $\dfrac{\partial EW}{\partial \underline{p}} = 0$ and $\dfrac{\partial EW}{\partial \bar{p}} = 0$ can be solved for the endpoints of the optimal PRS band. We have:

$$\underline{p}^* = \frac{2\lambda p_L - (\lambda - 1)a}{3\lambda - 1}$$

where $\underline{p}^*$ is increasing in λ and:

$$\underline{p}^* - p_L = \frac{(\lambda - 1)(a - p_L)}{3\lambda - 1}$$

from which it follows that:

$$\underline{p}^* > p_L \Leftrightarrow \lambda > 1$$

so that it is indeed optimal for the government to impose a PRS that *raises the minimum price p_L to $\underline{p}^*$* if it weighs producer surplus and revenue more than consumer surplus. However, at the same time, we have:

$$\underline{p}^* - p_H = \frac{(\lambda - 1)(a - p_H)}{3\lambda - 1}$$

i.e. if $\lambda > 1$, it is optimal for the government to *also raise the maximum price p_H to $\underline{p}^*$*. In other words, if $\underline{p}^* > p_L$, it must also be the case that $\underline{p}^* > p_H$. Thus, the mere presence of political economy pressures that cause the government to weight producer interests (and revenue) relatively more than consumer welfare cannot yield a PRS that raises the domestic price when the world price is low *while also* lowering it

when the world price is high. Allowing for $\lambda > 1$ only causes the government to raise the domestic price in all states of nature so that it cannot account for a PRS that offers a rebate to local consumers when the world price is high.

3.2 Some other relevant economic considerations

Given the results yielded by the standard model of a small importing nation, it is worth asking whether certain modifications in the assumptions of this model can make a PRS welfare-improving. The model makes two important assumptions that may be suspect in the context of agricultural trade. First, it assumes that all agents are risk neutral. In the context of agricultural commodities, consumers as well as producers might be risk averse. Second, the standard model assumes that production is completely flexible and can be adjusted up and down seamlessly depending upon the observed world price. We next investigate whether altering these assumptions can provide a rationale for why a small importing nation might want to lower fluctuations in the domestic price via import tariffs.

Consider first the role of risk aversion. In their analysis of *Chile–Price Band System*, Bagwell and Sykes (2004) note that since a PRS insulates the domestic economy from price fluctuations it would be attractive to local producers (as well as the government) if producers care not only about the average or expected price but also about its volatility.[28] The standard model of a small open economy presented above ignores the effects of price volatility since all agents (producers, consumers, as well as the government) are assumed to be risk neutral and their welfare can be evaluated in terms of their expected payoffs.

Indeed, greater price variability is *actually beneficial* in the standard model because it increases a country's expected gains from trade by causing the world price to *diverge* more from its autarkic price. If risk-averse producers are willing to sacrifice high price episodes in order to avoid low price ones, a PRS can be optimal from a domestic viewpoint. However, since a PRS suppresses the overall expected gains from trade, for a PRS to increase welfare the benefits of reduced price variability would need to be sufficiently large – i.e., a small amount of risk aversion on the part of local producers will generally not be enough to overcome the lower expected gains from trade implied by reduced price variability under a PRS.[29]

A well-established strand of the rather extensive literature on price stabilization measures argues that to identify the full impact of such measures one needs to

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28 In a classic paper, Newberry and Stiglitz (1984) showed that free trade can be Pareto inferior to autarky (i.e. the absence of trade) when neither producers nor consumers can buy insurance for the risks (i.e. the variability of output and price) that are faced by them.

29 Nevertheless, it is worth emphasizing that price stabilization schemes often end up lowering not just the volatility of domestic prices but also alter the average price level, which in turn implies that such schemes invariably transfer income between domestic groups – something that is captured rather sharply by Figure 1.

examine their effect on not just the country instituting the system but also the rest of the world. The model presented above cannot capture such external effects since, by definition, a small country has no impact on the rest of the world. Bagwell and Sykes (2004) have argued that for the case of a large importing country, not only could risk-averse domestic producers be better off under a PBS relative to a fixed conventional tariff but the trading partner may also prefer a PBS if it leads to a lower average tariff. But, as Bagwell and Sykes (2004) note, while reducing price volatility in the domestic market a PBS may simultaneously amplify fluctuations in the net price received by foreign exporters. Thus, for such a system to be optimal from a joint welfare perspective, domestic producers would need to be *more* risk averse than foreign exporters so that shifting risk abroad would be efficient. Bigman (1987) considers a two-country framework in which the free trade relative price is endogenous and shows that the use of variable levies by one country causes *price instability to be exported* from its market to that of its trading partner, on the basis of which he argues that variable levies can 'destabilize thy neighbor'. In other words, reduced variability in one country's market is achieved at the *expense* of increased variability in its trading partner's market. If this spillover leads the trading partner to also institute a price stabilization measure of its own, then both countries can be worse off relative to a scenario where neither uses such measures. Indeed, price variability can even *increase* when price stabilization measures are used by both countries relative to when they are completely absent, thereby making such measures counter-productive.[30]

As Turnovsky (1974) notes, the classical argument in favor of price variability in competitive markets formalized by Oi (1961), Massell (1969), and Waugh (1966) rests on an important assumption: i.e. though producers (and consumers) face uncertainty, they make supply and demand decisions based upon actual prices whereas in the real world many critical production decisions need to be made before the resolution of price uncertainty. This is particularly true in the context of agricultural commodities where farmers make a variety of decisions well before actual prices for their crops are revealed. Thus, while the results of the simple model presented above clearly illustrate the benefits of price variability, they do not adequately capture the impact of uncertainty on production decisions. Eaton and Grossman (1985) show that free trade is not optimal for a small open economy facing uncertain terms of trade provided some factors of production are immobile ex-post and insurance markets are incomplete. In such an environment, tariff protection can serve as an incomplete substitute for the lack of insurance. In a similar vein, a PRS like the one instituted by Peru can help insure that the welfare of consumers and producers does not fall below a certain minimum

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30 See Devadoss (1992). Nordström (2001) shows that it is possible to design a system of variable levies that can lower volatility in one market without necessarily exporting it to its trading partner(s). But, as the author notes, we have absolutely no evidence that real world variable duties even begin to approximate the finely calibrated system proposed in Nordström (2001).

threshold. But as Eaton and Grossman (1985) note, trade policy intervention does not constitute a first-best solution to the problem of income redistribution; for example, an income tax is preferable because it can redistribute income without distorting prices faced by domestic agents.

To summarize, although the canonical model of a small open economy suggests that a PRS is always welfare sub-optimal, this may not be the case once certain underlying assumptions of this model are altered. In particular, the economic justification for a PRS in a small open economy turns on whether producers and/or consumers are risk averse, factors of production are immobile, and insurance markets are incomplete. In the presence of such factors, a PRS may prove to be welfare-enhancing, albeit it is not necessarily the first-best option.

4. Policy flexibility for implementing a PRS under WTO law: open questions

Having explained why a small open economy might want to institute and then defend its PRS, we turn to the question of whether WTO law grants flexibility for countries to maintain such policies. In Section 2.2, we explained how WTO law forbids the use of a variable import levy and minimum import price. For a WTO member to preserve policy flexibility, it must convince the AB that its PRS is not similar to either of these.

Could a WTO member ever succeed? The ongoing dispute raises several interesting questions that we highlight below. The dispute offers the AB an opportunity to clarify if and how a PRS could be designed to be WTO-consistent.

Variable import levy

In *Chile–Price Band System*, the AB explained the nature of a 'variable import levy' which is disallowed under WTO rules. Variability alone is not determinative.[31] The AB declared that 'the presence of a formula causing automatic and continuous variability of duties is a *necessary*, but by no means a *sufficient*, condition'.[32] Instead, the AB emphasized the need for 'additional features' including 'a lack of transparency and a lack of predictability' that 'contribute to distorting the prices of imports'.[33]

A first question raised by this line of jurisprudence is the frequency with which a duty must change in order for it to be considered variable. The AB's past language refers to a formula which changes 'continuously'. The Panel found that Peru's PRS, which employed a mathematical formula that resulted in duty changes every two weeks, met this condition.[34] But suppose that the reference price employed in the

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31 Appellate Body Report, *Chile–Price Band System*, para. 232.
32 Ibid., paras. 233–234 (emphases in the original) (footnotes omitted).
33 Ibid.
34 Panel Report, *Peru–Agricultural Products*, para. 7.324.

PRS formula were tweaked monthly, quarterly, or annually? At what point, if any, would the change be infrequent enough such that the PRS formula would no longer meet the 'automatic and continuous variability' requirement?

A second question is whether the introduction of some degree of discretion in the application of the formula would matter. What if the PRS formula did not result in a set duty, but instead merely set a range from which authorities could choose? Suppose the PRS formula, instead of arriving at an absolute additional duty, churned out a range, mandating that the additional duty lie between the interval $[AD_L, AD_H]$, where AD_L represents the lower bound for the additional duty and AD_H represents the upper bound. The upper and lower bound for the range are to be calculated through the use of different coefficients (c_L, c_H), to be added to the formula discussed in Section II.1, where $c_L < c_H$. In other words, $AD_L = (1 + b + c_L)(P_{floor} - P_r)$ and $AD_H = (1 + b + c_H)(P_{floor} - P_r)$. The implementing authority, whether an agency within the executive branch or the legislature itself, is free to select any duty rate within that range as the additional duty. The same notion of an upper and lower bound would exist for the tariff rebate. After selecting the duty/rebate rate, the authority would then publish the rate in a gazette for a fixed period of time to provide advance notice before it is enacted. Would such a scheme provide the necessary discretion for the PRS to not be considered an automatic formula? And, if so, would this matter in considering whether a PRS is a 'variable import levy'?

These hypotheticals suggest that the concept of a variable import levy, as elaborated upon in *Chile–Price Band System*, requires further clarification.[35] By explaining the concept further, the AB can give guidance as to how, if ever, a WTO member could design a PRS scheme that is not a 'variable import levy' deemed illegal under Article 4.2 of the Agreement on Agriculture.

Our view is that a shift toward emphasizing the design, architecture, and structure of the PRS as determinative may be the right direction in which to guide the jurisprudence.[36] This continues to allow for consideration of whether the formula results in automatic and continuous changes in which the results are predictable and transparent, but also opens the possibility for consideration of additional factors beyond what is laid out in *Chile–Price Band System*. It also falls in line with the AB's approach toward examining duty schemes under other circumstances, most notably GATT Article III:2.[37]

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[35] The clarification provided in the subsequent Appellate Body report notes that what is critical is the presence of the formula, along with additional features, rather than the frequency of change in the duties at issue. See Appellate Body Report, *Peru–Agricultural Products*, paras. 5.40–5.48.

[36] The subsequent Appellate Body Report tacks toward this approach. See ibid., para. 5.54 (emphasizing the 'structure, design, and operation of the PRS').

[37] See Appellate Body Report, *Japan – Taxes on Alcoholic Beverages*, WT/DS8/AB/R, WT/DS10/AB/R, WT/DS11/AB/R, 4 October 1996, adopted 1 November 1996, p. 29.

4.2 Minimum import price

In order to stand, a PRS must also not be similar to a minimum import price. In *Chile–Price Band System*, the AB clarified that '[t]he term 'minimum import price' refers generally to the lowest price at which imports of a certain product may enter a Member's domestic market'.[38] It further noted that the Panel had clarified that '[these] schemes generally operate in relation to the actual transaction value of the imports'.[39] This notion was further reinforced during the dispute's compliance proceedings.[40]

Because a PRS operates in relation to a reference price and not the actual transaction price, it is possible, at least in theory, for imports under a PRS to enter a market below the floor price set by a PRS. For example, consider a scenario where the actual transaction price (P_t) is lower than the floor and the reference price, i.e. $P_t < P_r < P_{floor}$. This may occur if prices continue to decline in the intervening period following when the reference price was last readjusted. So long as the difference between the transaction price and floor price is larger than the sum of the original duty plus the additional duty, then the actual transaction price will fall below the floor price. Whether this proposition holds true depends, in part, on the difference between the transaction and reference price. The greater this divergence, and the lower the rate of the original duty, the more likely it is that this will hold.

Thus, the proper assessment is not whether a PRS imposes a minimum import price but whether it is *similar to* such a policy. In assessing similarity, the AB's jurisprudence suggests that one considers two factors: (1) the structure and design of the PRS, and (2) its effects.[41]

Unlike the Panel in *Chile–Price Band System*, the Panel in *Peru–Agricultural Products* found that the measure imposed by the PRS was not similar to a minimum import price.[42] Guatemala has appealed this ruling.[43]

While the Chilean and Peruvian schemes employ different names (PBS vs. PRS), a closer examination reveals that the structure and design of the two systems are largely similar. Peru also occasionally refers to its scheme as a *bando de precios* (PBS). However, three points of contrast are worth noting in the two schemes' design: First, the Peruvian reference price is updated every two weeks, as opposed to weekly for the Chilean reference price. Second, the Peruvian reference

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38 Appellate Body Report, *Chile–Price Band System*, para. 236.

39 Ibid. (citing Panel Report, *Chile–Price Band System*, para. 7.36(e)).

40 Panel Report, *Chile–Price Band System (Article 21.5 Argentina)*, WT/DS207/RW, 8 December 2006, adopted 22 May 2007, paras. 7.30; Appellate Body Report, *Chile–Price Band System (Article 21.5 Argentina)*, WT/DS207/AB/RW, 7 May 2007, adopted 22 May 2007, para. 195.

41 Appellate Body Report, *Chile–Price Band System (Article 21.5 Argentina)*, para. 193.

42 Panel Report, *Peru–Agricultural Products*, paras. 7.370–7.371.

43 Notification of an Other Appeal by Guatemala Under Article 16.4 and Article 17 of the Understanding of Rules and Procedures Governing the Settlement of Disputes (DSU) and Under Rule 23 (1) of the Working Procedures for Appellate Review, WT/DS457/8, 1 April 2015, at paras. 5–7.

price is based on the price in a pre-designated market, whereas the Chilean reference price is the lowest price found of several markets in relationship to one another. Third, the Peruvian scheme requires reference prices be converted to c.i.f. terms, thereby incorporating freight and insurance costs, whereas the Chilean reference price is left on lower f.o.b. terms. All three differences increase the likelihood that the actual transaction price will diverge from the reference price by a greater degree when prices fall.

The Panel, however, did not emphasize these differences in its ruling. Instead, it focused primarily on the second factor – its actual effects. Whereas Chile conceded that it was 'unlikely' for imports to enter the Chilean market at a price below the floor price,[44] Peru submitted evidence that in approximately 57% of the fortnightly periods since the PRS came into force, various transactions entered Peru at a price lower than the reference price and floor price.[45] These amounted to more than one-third of trade transactions recorded over these periods.[46] The Panel found this evidence to be decisive in illustrating that the PRS did not impose a *de facto* threshold and was therefore not similar to a minimum import price.[47]

The Panel's points to three questions for the AB to clarify:

> First, did the Panel erred in treating this analysis as primarily an effects-based test?[48] As noted above, the Panel ruling failed to elaborate upon on the design elements of the Peruvian PRS that make it more likely for actual import transactions to occur below the implicit threshold stipulated in the PRS. The AB may wish to clarify the level of analysis that a Panel must undertake if it is to find that the structure and design supports the respondent's argument that a PRS is not similar to a minimum import price.

> Second, when it comes to considering how the PRS affects the price of actual transactions, how ought the effect of the PRS be measured? The evidence may be expressed in terms of the percentage of total import volume (in either value or quantity), the percentage of total transactions, and/or the percentage of days/weeks/other periods in which imports priced below the threshold enter into the market. Are all of these acceptable metrics? Or should greater emphasis be placed on one over the other? Note that Peru submitted evidence only with respect to the latter two metrics, but not with respect to total imports (except for sugar).[49]

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44 Panel Report, *Chile–Price Band System (Article 21.5 – Argentina)*, paras. 7.30
45 Panel Report, *Peru–Agricultural Products*, para. 7.357.
46 Ibid.
47 Ibid., paras. 7.366–7.369.
48 Note that the subsequent Appellate Body report found this to be a source of error; it reversed the Panel's ruling but was unable to complete the analysis. Appellate Body Report, *Peru–Agricultural Products*, paras. 5.139–5.142, 5.153–5.155, and 5.164–5.165.
49 Ibid., para. 7.357.

Why does the exact metric matter? At first glance, it may seem impressive that below-threshold transactions occurred in 57% of the fortnightly periods in which the PRS was in effect. But whether this is truly the case depends, in our view, on the percentage of total import volume represented by such transactions rather than the actual number of transactions themselves or the percentage of periods in which they occurred. In the one instance (sugar) where Peru submitted statistical evidence on the total volume of trade, only 3% of imports entered below the alleged threshold price.[50] We believe that the AB ought to require a respondent to demonstrate effect through data highlighting total volume of trade (rather than the other two metrics) and set forth a brighter line for the percentage of total trade exceeding the alleged threshold price.

Third, should the respondent, when seeking to prove the actual effect of a PRS, be asked to present evidence on a product-specific level? For a PRS to not amount to a measure similar to a minimum import price, the respondent ought to demonstrate that imports below the alleged *de facto* threshold entered the market with some regularity for *all* of the tariff lines. In this case, Peru appears to have focused its evidence on the four marker products rather than on the associate products.[51] The AB would do well to scrutinize the data submitted for the other products to ensure that transactions below the alleged threshold price exist for all 45 affected tariff lines.

To summarize, the *Peru–Agricultural Products* dispute raises a number of pressing questions over the evidentiary burden necessary for a WTO member to demonstrate that a PRS does not give rise to a measure similar to a variable import levy or minimum import price. In clarifying these questions, the AB will make clearer how a WTO member ought to design such a scheme and what types of statistical evidence it ought to collect, if it hopes to employ a PRS in line with Article 4.2 of the Agreement on Agriculture.

5. Circumventing WTO obligations through subsequent agreements: can a WTO-illegal PRS be preserved in a free trade agreement?

The preceding section demonstrated the difficulty of developing and maintaining a PRS in line with a country's obligations under the WTO's Agreement on Agriculture and GATT 1994. Cognizant of the possibility that a PRS might run afoul of WTO rules, Peru sought an explicit guarantee from several of its trading partners of its flexibility to maintain its PRS. Between 2005 and 2013, Peru signed a number of FTAs.[52] Our examination of the text of Peru's FTAs suggests that in at least 12 of these agreements, Peru managed to negotiate the inclusion

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50 Ibid.

51 See ibid.

52 See Organization of American States, Foreign Trade Information System, Information on Peru, Trade Agreements, http://www.sice.oas.org/ctyindex/PER/PERagreements_e.asp (accessed 3 May 2015).

Table 1. Provisions in Peru's FTAs addressing the PRS

FTA partner	Date of entry into force	Provision concerning PRS
Chile	1 March 2009	Article 3.2(11)
Canada	1 August 2009	Article 218
Singapore	1 August 2009	Article 2.4(3)
China	1 March 2010	Chapter 2, Article 19
European Free Trade Association (EFTA)	1 July 2011	Article 3.3
South Korea	1 August 2011	Article 2.16
Mexico	1 February 2012	Annex to Article 3.4-A, § 3
Japan	1 March 2012	Article 28
Panama	1 May 2012	Annex 2.3, para. 9.
European Union	1 March 2013	Article 30
Costa Rica	1 June 2013	Annex 2.3, para. 9
Guatemala	(not yet entered into force)	Annex 2.3, para. 9

of a provision that explicitly recognized its right to retain the PRS. The most notable exception is the US–Peru FTA.

Table 1 provides a list of the specific provisions found within the 12 FTAs.[53] Only the Guatemala–Peru FTA has yet to enter into force.

Two questions arise from this attempt of a WTO member to utilize FTAs to safeguard a measure that may be WTO-inconsistent: First, should a provision of an FTA concluded between two countries factor into the interpretation of the WTO obligations of the two countries to each other? Second, does the answer change if the FTA is one that has not yet entered into force?

In prior case law, the AB has recognized that WTO members may modify the obligations between themselves.[54] However, the question arises as to which mechanisms employed by WTO members to modify the obligations must be recognized by WTO adjudicators. Guatemala argued that modifications of WTO rights and obligations can only be done through the procedures established in Article X of the WTO Agreement and not through a bilateral treaty.[55] Guatemala further argued that for a Panel to examine (a) whether there is an inconsistency between an FTA and the WTO Agreement and (b) if the FTA modified the WTO rights of a party would fall outside of a Panel's terms of reference, since Panels cannot

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53 The precise language of each of these provisions is detailed in Annex 1 of the longer version of this Article, published as Vanderbilt University Working Paper No. VUECON-15-00009 and EUI Working Paper No. RSCAS 2015/58.

54 Appellate Body Report, *EC–Bananas III (Article 21.5 – Ecuador II) / EC–Bananas III (Article 21.5 – US)*, WT/DS27/AB/RW2/ECU, WT/DS27/AB/RW/USA, 26 November 2008, adopted 11 December 2008 and 22 December 2008, para. 217.

55 Panel Report, *Peru–Agricultural Products*, paras. 7.511–7.512.

consider matter outside of the WTO covered agreements.[56] Guatemala's views were shared by the United States as a third party.[57]

Peru, on the other hand, suggested that WTO treaty provisions are to be interpreted pursuant to the Vienna Convention on the Law of Treaties (VCLT). An FTA concluded pursuant to GATT Article XXIV serves as a form of permissible modification under VCLT Article 41.[58] Where the provisions of the FTA clash with the WTO Agreement, Peru argued the provision of the FTA should prevail as it represents a subsequent agreement.[59]

Brazil and the European Union (EU), as third parties, agreed that an FTA may modify the rights and obligations of a WTO agreement, but suggested that the scope for doing so is more limited. Brazil argued that only FTAs that have entered into force may modify the rights and obligations between two WTO members.[60] The EU argued that a modification arises in the WTO context only if the FTA includes a specific commitment that a party will refrain from initiating a WTO challenge to the other party's measure.[61]

This question of whether a ratified FTA may alter the terms of obligations between WTO members remains very much an open point of dispute. The AB, however, may opt not to address this question directly in the pending appeal.[62] Because the Peru–Guatemala FTA had not yet entered into force, it does not acquire the formal status of a modification made pursuant to VCLT Article 41. It does not acquire the status of a subsequent agreement, relevant for interpretation pursuant to VCLT Article 31(3)(a).

Pauwelyn (2014) has suggested that Peru should instead have relied on the International Law Commission (ILC)'s Articles on Responsibility of States for Internationally Wrongful Acts when making its argument. Article 20 states, 'Valid consent by a State to the commission of a given act by another State precludes the wrongfulness of that act in relation to the former State to the extent that the act remains within the limits of that consent.' Pauwelyn notes that such an argument turns the question into a factual inquiry into whether Guatemala has provided consent in allowing Peru to keep its PRS.

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56 Ibid., para. 7.511.
57 Ibid., paras. 7.519–7.520.
58 Ibid., para. 7.508.
59 Ibid., para. 7.506.
60 Ibid., para. 7.518.
61 Ibid., para. 7.522.
62 The AB, in its subsequent report, simply noted that 'there appears to be ambiguity as to whether even the FTA itself, regardless of its legal status, allows Peru to maintain the PRS if it is found to be WTO-inconsistent'. See Appellate Body Report, *Peru–Agricultural Products*, para. 5.26. In light of this ambiguity, the AB rejected Peru's argument that Guatemala acted contrary to the good faith obligations of DSU Articles 3.7 and 3.10, and did not find it necessary to opine further on this question. Ibid., para. 5.28 and footnote 109.

Indeed, Peru appears to have adopted Pauwelyn's suggested tactic in its appeal. Peru's appeal contends that even if the FTA is not a subsequent agreement per VCLT Article 31(3)(a), it is nevertheless a 'relevant rule of international law' within the meaning of VCLT Article 31(3)(c).[63] This is on the basis of ILC Articles 20 and 45 of the ILC Articles on State Responsibility as rules of international law.

While this argument raises a series of interesting issues for the AB to consider in the appeal, it is still unclear to us that Peru will prevail. In *US–Line Pipe*, the AB made clear that the ILC Articles on State Responsibility 'do not constitute a binding legal instrument as such'.[64] Consequently, the AB adopted a two-part approach of analyzing whether a particular provision of the ILC Articles on State Responsibility ought to be considered when interpreting a WTO provision. First, it examined whether the particular provision of the ILC Articles is relevant to the analysis. Then, it examined whether that particular provision rose to the level of customary international law.

On both fronts, the appeal presents the AB with an opportunity to clarify when exactly the ILC Articles ought to be consulted in interpreting WTO law.[65] On the question of relevance, the AB's past jurisprudence has required a tight nexus between the particular provision of the ILC Articles and the provision of the WTO covered agreement whose interpretation is in doubt. In *US–Line Pipe*, Article 51 of the ILC Articles spoke directly to the issue concerning the proportionality of countermeasures relevant for interpreting Article 5.1 of the Safeguards Agreement.[66] Similarly, in *US–Anti-Dumping and Countervailing Measures (China)*, Article 4 of the ILC Articles spoke directly to the issue of how to consider state organs, regardless of their formal position in the organizational structure, when interpreting the term 'public body' in Article 2 of the SCM Agreement.[67] It remains to be seen whether the nexus is sufficiently tight for ILC Articles 20 and 45 to be relevant for interpreting the legal provisions at issue in this dispute.

Even if they are relevant, the AB must also find that the particular provisions amount to customary international law. The AB has made clear that the analysis

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[63] Notification of Appeal by Peru Under Article 16.4 and Article 17 of the Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU) and Under Rule 20(1) of the Working Procedures for Appellate Review, WT/DS457/7, 26 March 2015, para. 10.

[64] Appellate Body Report, *United States – Definitive Safeguard Measures on Imports of Circular Welded Carbon Quality Line Pipe from Korea*, WT/DS202/AB/R, 15 February 2002, adopted 8 March 2002, para. 259 [hereinafter '*US–Line Pipe*'].

[65] For elaboration on how the Appellate Body chose to address this question in the appeal, see Appellate Body Report, *Peru–Agricultural Products*, paras. 5.100–5.105 (concluding that 'the FTA and ILC Articles 20 and 45 are not "relevant"').

[66] Appellate Body Report, *US–Line Pipe*, paras. 250–260.

[67] Appellate Body Report, *United States – Definitive Anti-dumping and Countervailing Duties on Certain Products from China*, WT/DS379/AB/R, 11 March 2001, adopted 25 March 2001, paras. 309–310.

is to be done on a provision-by-provision basis.[68] Because the ILC Articles are not an international agreement, the AB cannot resort to the typical approach of examining the breadth of its signatories and whether the particular parties to the dispute have ratified the agreement. Instead, the AB has relied upon consideration of two other factors to determine whether a particular provision amounts to customary international law.[69] First, has the particular provision been cited as such in another international judgment? Second, has the WTO member against whom the provision is being invoked either explicitly or tacitly acknowledged the provision as such? Again, it remains to be seen whether this can be shown for Articles 20 and 41 of the ILC Articles on State Responsibility.

Even if the AB agrees that Articles 20 and 45 are 'relevant rules of international law', it still faces interesting questions over how those provisions are to be interpreted. Article 20 speaks to 'valid consent' that 'precludes the wrongfulness of the act … to the extent that the act remains within the limits of that consent'. Article 45 speaks to the waiver of a claim by the injured party. How ought the AB consider what amounts to 'valid consent' and 'waiver' in a context where an FTA has only been ratified by one party and has not yet entered into force?

Although Guatemala did ratify the FTA during the course of the dispute, it is unclear that this ratification represents an absolute consent as opposed to a contingent consent. The ratification process does not oblige Guatemala to consent unilaterally to all that it has agreed to in the FTA, including its explicit recognition of WTO-inconsistent measures enacted by Peru, without any action on the part of Peru. Rather, Guatemala's consent is only contingent upon Peru's ratification. In the absence of such notice, Guatemala would not appear to have provided explicit consent.

A similar argument can be made with respect to the question of waiver. Again, Guatemala will likely argue that its ratification does not require it to waive claims against Peru upon the moment of ratification, but instead is contingent upon Peru's ratification. Without this reciprocal action, nothing has been waived.

Finally, there is the question of the treaty language that the FTA must employ in order for a WTO member to consent to a WTO-illegal act and/or waive its right to WTO dispute settlement. The EU has put forward the position that the language must be explicit and refer specifically to an agreement to refrain from initiating a WTO challenge. Peru, on the other hand, will likely contend that consent and waiver can be implicit, even without direct treaty language in the FTA concerning WTO challenges. The appeal also presents the AB with an opportunity to decide this question, if it desires.

Most likely, the AB will choose to confront only a subset of the questions identified above. Because the Guatemala–Peru FTA has not entered into force, the facts

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68 See ibid., para. 311.
69 See footnote 222 of ibid. and Appellate Body Report, *US–Line Pipe*, footnote 256 and para. 259.

of this dispute are unusual. The appeal may not serve to definitively answer the question of how FTAs between WTO members should factor in a subsequent WTO challenge involving those parties, but it is a question that clearly lurks over the WTO. As WTO members negotiate increasing numbers of FTAs with one another, additional clarity into whether WTO members can circumvent WTO rights through FTAs – and, if so, what treaty language is necessary – will be of benefit to the system as a whole.

6. Conclusion

Because of the sensitivities associated with the agricultural sector, a PRS continues to be viewed as a potentially attractive policy instrument to complement agricultural trade liberalization. This may be particularly the case with small open economies that take world prices as given. A PRS offers it the ability to restrain prices for agricultural products in its domestic market, even after opening up its market to trade.

This article suggests that from an economic welfare standpoint, a PRS represents a sub-optimal policy intervention for a small open economy that seeks to maximize its expected welfare. However, under certain conditions, a government may nevertheless choose to implement a PRS in order to ensure that, with agricultural trade liberalization, the welfare of consumers and producers does not fall below a certain minimum threshold in light of significant risk aversion on the part of either group in the presence of incomplete or missing insurance markets.

WTO law, and in particular the obligations of Article 4.2 of the Agreement on Agriculture to convert non-tariff barriers to tariffs, present a number of significant legal constraints on the PRS. The structure and design of a PRS create an implicit minimum price threshold, and the duties generated by a PRS can operate as a variable import levy. Thus, a WTO member seeking to prove that a PRS is consistent with its WTO obligations faces a heavy burden. The Panel ruling in the *Peru–Agricultural Products* dispute gives rise to a number of unanswered legal questions as to what is required of WTO members that seek to preserve the flexibility to implement a PRS; the Appellate Body may seek to clarify some of these questions in the ongoing appeal.

Finally, the particular zeal with which Peru has sought to preserve its right to maintain the PRS through explicit recognition in preferential trade agreements raises interesting questions about the relationship between provisions in FTAs and WTO agreements. In this case, the Panel was able to avoid providing an answer outright because of the fact that the applicable FTA had not yet entered into force. But given the expanding nature of preferential trade agreements and the stalled multilateral round, it is simply a matter of time before WTO adjudicators are confronted with this question outright. We would all do well to consider carefully how we envision these multiple treaty schemes to intersect with one another in the realm of WTO dispute settlement.

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Appendix

Table 1A. Peru's imports of HMS 170111 (Cane Sugar), current $, thousands

1998	**Guatemala** **20083.46 (71.9%)**	Bolivia 3655.23 (13.1%)	Colombia 2760.5 (9.9%)	Mexico 1411.94 (5.1%)	World 27941.05 (100%)
1999	Guatemala 0 (0%)	Colombia 267.635 (78.7%)	Brazil 68.742 (20.2%)	USA 2.212 (0.6%)	World 339.866 (100%)
2000	Guatemala 0 (0%)	Colombia 151.016 (99.0%)	USA 0.593 (0.3%)	Hong Kong 0.508 (0.3%)	World 152.584 (100%)
2001	Guatemala 0 (0%)	Colombia 2425.465 (78.3%)	Bolivia 668.27 (21.6%)	UK 1.51 (0.0%)	World 3096.469 (100%)
2002	Guatemala 0 (0%)	Colombia 557.054 (60.6%)	Bolivia 331.355 (36.0%)	USA 29.085 (3.1%)	World 918.861 (100%)
2003	Guatemala 0 (0%)	USA 3.376 (57.9%)	Italy 0.587 (10.1%)	Hong Kong 0.462 (7.9%)	World 5.828 (100%)
2004	Guatemala 0 (0%)	Bolivia 1547.17 (52.6%)	Colombia 1387.96 (47.2%)	UK 1.015 (0.0%)	World 2936.543 (100%)
2005	Guatemala 479.825 (4.6%)	Colombia 8642.85 (83.6%)	Bolivia 1207.991 (11.6%)	Belgium 17.816 (0.1%)	World 10348.812 (100%)
2006	**Guatemala** **3315.398** **(30.0%)**	Colombia 6551.091 (49.3%)	Nicaragua 1949.581 (14.7%)	Bolivia 645.626 (4.9%)	World 13281.523 (100%)
2007	**Guatemala** **1338.976** **(17.0%)**	Colombia 4501.341 (57.3%)	Nicaragua 1214.512 (15.7%)	Bolivia 767.618 (9.7%)	World 7853.985 (100%)
2008	Guatemala 0 (0%)	Colombia 813.955 (86.1%)	Bolivia 76.992 (8.1%)	Paraguay 21.075 (2.2%)	World 944.998 (100%)
2009	Guatemala 0 (0%)	Bolivia 2545.896 (72.5%)	Colombia 911.968 (26.0%)	Paraguay 33.894 (0.9%)	World 3511.172 (100%)
2010	Guatemala 0 (0%)	Brazil 4385.985 (78.6%)	Colombia 827.096 (14.9%)	Bolivia 246.82 (4.4%)	World 5577.88 (100%)
2011	Guatemala 0 (0%)	Colombia 2383.222 (87.7%)	Paraguay 215.422 (7.9%)	Chile 43.988 (1.6%)	World 2718.68 (100%)
2012	**Guatemala** **8927.789** **(25.5%)**	Colombia 17723.094 (50.7%)	Nicaragua 4492.297 (12.8%)	Honduras 2668.393 (7.6%)	World 34983.071 (100%)
2013	**Guatemala** **441.866** **(26.2%)**	Colombia 697.898 (41.3%)	Paraguay 460.101 (27.3%)	Bolivia 58.392 (3.4%)	World 1687.901 (100%)

Table 1B. Peru's imports of HMS 170199 (other cane or beet sugar), current $, thousands

1998	Guatemala	Brazil	Colombia	Bolivia	World
	32366.3	25313.8	23570.81	14514.83	129604.544
	(25.0%)	(19.5%)	(18.1%)	(11.2%)	(100%)
1999	Guatemala	Colombia	Brazil	Ecuador	World
	8109.546	38027.705	13336.173	9505.746	84315.545
	(9.6%)	(45.1%)	(15.8%)	(11.2%)	(100%)
2000	Guatemala	Colombia	Brazil	Mexico	World
	3656.519	24227.232	5978.214	4935.809	46074.408
	(7.9%)	(52.6%)	(13.0%)	(10.7%)	(100%)
2001	Guatemala	Colombia	Ecuador	Bolivia	World
	6615.852	28564.382	6603.171	4654.843	53288.648
	(12.4%)	(53.6%)	(12.4%)	(8.7%)	(100%)
2002	Guatemala	Colombia	Bolivia	Brazil	World
	6362.536	19895.43	3353.046	3223.715	33709.985
	(18.9%)	(59.0%)	(9.9%)	(9.8%)	(100%)
2003	Guatemala	Bolivia	France	USA	World
	0	1665.081	33.526	6.748	2963.453
	(0%)	(56.1%)	(1.1%)	(0.2%)	(100%)
2004	Guatemala	Ecuador	Bolivia	Colombia	World
	88.744	18282.151	15238.501	10953.238	47119.314
	(0.1%)	(38.8%)	(32.3%)	(23.2%)	(100%)
2005	Guatemala	Colombia	Bolivia	Ecuador	World
	892.475	33787.116	12792.212	12311.754	64000.128
	(1.4%)	(52.8%)	(20.0%)	(19.2%)	(100%)
2006	Guatemala	Colombia	Brazil	Bolivia	World
	6780.931	54332.902	13814.809	10654.803	93388.238
	(7.2%)	(58.2%)	(14.8%)	(11.4%)	(100%)
2007	Guatemala	Colombia	Bolivia	Brazil	World
	6077.705	54160.209	14467.328	4473.966	82860.16
	(7.3%)	(65.3%)	(17.5%)	(5.3%)	(100%)
2008	Guatemala	Colombia	Bolivia	Brazil	World
	9576.184	39292.018	16554.384	5683.314	78677.457
	(12.2%)	(49.9%)	(21.0%)	(7.2%)	(100%)
2009	Guatemala	Colombia	Bolivia	Brazil	World
	628.575	35222.83	18164.825	4489.098	59174.148
	(1.0%)	(59.6%)	(30.7%)	(7.6%)	(100%)
2010	Guatemala	Colombia	Brazil	Bolivia	World
	36476.885	59457.925	18032.946	8874.507	124713.045
	(29.2%)	(47.6%)	(14.5%)	(7.1%)	(100%)
2011	Guatemala	Colombia	Brazil	Honduras	World
	39082.165	66986.108	33027.344	1373.289	141246.373
	(27.7%)	(47.4%)	(23.4%)	(0.9%)	(100%)
2012	Guatemala	Colombia	Brazil	Bolivia	World
	32076.767	93761.102	23589.2	8351.341	164666.979
	(19.5%)	(57.0%)	(14.3%)	(0.5%)	(100%)
2013	Guatemala	Colombia	Bolivia	Brazil	World
	1100.403	67349.734	5073.969	4104.905	81209.131
	(1.3%)	(82.9%)	(6.2%)	(5.0%)	(100%)