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Understanding Agricultural Price Range Systems as Trade Restraints: *Peru – Agricultural Products* (DS457)

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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 consumed 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

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hand, they also worry that prices may suddenly spike, triggering inflationary concerns and harming consumers. To guard against these concerns, some governments have chosen to liberalize trade while simultaneously retaining some form of a price range system (PRS) that helps insulate the domestic market from fluctuations in world 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 adjustment, 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 additional 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 price 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 instrument 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 in which they are most commonly found. Much of the existing scholarship has focused on how other forms of trade-related distortions in global agricultural markets, such as subsidies, export taxes, etc. Such policies are more commonly imposed by developed countries. In contrast, policies introduced by developing countries in response to agricultural trade liberalization, such as the PRS, have received considerably less attention. Yet, as the recent *Peru – Agricultural Products* dispute¹ demonstrates, PRS policies also can give rise to trade distortions that harm farmers in other developing countries.

Using the *Peru – Agricultural Products* dispute as a case study, we seek to address three questions related to this phenomenon:

First, 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 a PRS, when considered under the canonical model of a small open economy with risk neutral consumers and producers that take world prices as given, is sub-optimal. Indeed, price variability is desirable because the 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. When the world price of a commodity is below the price that prevails in a country's local market in the absence of trade, it ends up importing that commodity and enjoys net gains from trade. While import competing domestic producers lose from trade, the increase in consumer surplus dominates their loss. Indeed, the lower the world price relative to a country's autarkic price, the larger its gains from trade. A PRS band supported by fluctuating tariffs reduces the extent to which the 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 do not fall below a certain minimum threshold as a result of agricultural trade liberalization. We argue that a PRS can be justified as 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 insure that the welfare of consumers and producers exceeds a certain minimum threshold. But as Eaton and Grossman (1985) note, tariffs do not constitute a first-best solution to the problem of income redistribution; for example, an income tax can redistribute income without distorting prices faced by domestic agents.

¹ Panel Report, *Peru – Additional Duty on Imports of Certain Agricultural Products*, WT/DS457/R, 27 Nov. 2014 [hereinafter 'Panel Report']. 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; it will be analyzed separately in conjunction with a future review of the 2015 WTO case law.

Second, how should we conceptualize a PRS under the laws of the World Trade Organization (WTO)? We highlight WTO rules that require member countries to convert agricultural duties into ordinary customs duties and discuss why duties arising out of a PRS generally do not comply with such obligations. Consequently, the typical PRS regime, such as the one implemented by Peru, is inconsistent with WTO rules. However, we draw attention to open questions in WTO jurisprudence with respect to whether a PRS consistent with WTO rules could ever be designed.

Third, if a PRS is WTO-inconsistent but a member country nevertheless wishes to preserve its flexibility to employ this instrument, can it do so through a preferential trade agreement? To what extent can such agreements 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 actual ratification? We examine a series of questions that arise out of Peru's Free Trade Agreements (FTAs) concerning the relationship between WTO obligations and subsequent FTA provisions. In general, these raise concerns over whether WTO rights can be traded away through FTAs, so as to allow for a PRS to remain in place and unchallenged, even if the PRS violates WTO rules.

The rest of this article is organized as follows: Using Peru as an example, section 2 describes how a PRS is typically employed by a developing country. This section also provides some background regarding the resulting WTO dispute between Guatemala and Peru that arose as a result of Peru's PRS. Section 3 then assesses the economic implications of Peru's PRS. Section 4 examines the Panel's legal rulings concerning the PRS's consistency with Peru's WTO commitments in the Agreement on Agriculture. Finally, Section 5 assesses the question of whether the fact that a PRS that has been agreed to in a FTA between two WTO members has any bearing on a WTO dispute between the same members.

2. Background

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 increased foreign exposure.

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 Development of 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 agriculture products (Trivelli 2003: 5). Peru consolidated its agricultural tariff bindings at 30 percent for most agricultural commodities; a few products, such as butter, wheat, and milk, were bound at 68 percent instead.²

In addition to this customs duty, Peru also imposed an additional duty on specific agricultural products. These include 45 agricultural products at the HS-10 tariff line level, which are separated into four general categories: milk, yellow maize, rice, and sugar.³ These are set forth in Supreme Decree No. 115-2001-EF, published on 22 June 2001. Within each category, there is one tariff line designated as the “marker” product and all others are designated as “associated” products.

The PRS established by the Supreme Decree operated as follows:

- 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:

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

² Peru's full schedule of tariff commitments can be found at the WTO's Tariff Analysis Online facility. The Peruvian government's decision to adopt a uniform tariff rate for most agricultural commodities is one that was also implemented by a number of other Latin American governments. See Ingco (2006) for more details.

³ For a complete list of these tariff lines, see Panel Report, para. 7.121.

⁴ Ibid., paras. 7.127-7.135.

⁵ Ibid., paras. 7.136-7.139.

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-fold⁶:

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”; and

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”

As suggested then, a PRS, similar to a price band, can operate as an instrument for small open economies to guard against both types of undesired price fluctuations associated with increased agricultural trade liberalization. Indeed, the Peruvian Ministry of Economy and Finance described the PRS exactly as such. The Ministry’s website noted that the PRS is intended to protect both domestic producers and consumers, through 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. *The WTO Dispute and the Guatemala–Peru FTA*

On 12 April 2013, Guatemala filed a request for consultations with Peru, alleging that Peru’s PRS violate several WTO commitments.⁸ These include:

⁶ Ibid., para. 7.118.

⁷ Ibid., para. 7.119.

⁸ 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 [hereinafter ‘WT/DS457/1’]

- 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.

What is of particular interest in this dispute is the fact that Guatemala and Peru earlier had negotiated a FTA, signed on 6 December 2011. The FTA included a provision, Article 9 of Annex 2.3, in which Guatemala *explicitly recognizes* Peru's right to maintain a PRS. The provision states: "Peru may maintain its Price Range System, established in Supreme Decree No. 1152001EF and the amendments thereto, with regard to the products subject to the application of the system marked with an asterisk (*) in column 4 of Peru's Schedule as set out in this Annex."⁹ 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."¹⁰

Why did Guatemala go ahead to challenge the PRS through WTO dispute settlement, when it had explicitly recognized Peru's right to maintain the PRS in a bilateral FTA? At the time that the complaint was filed, the FTA had not been ratified by either party. Thus, due to the incomplete ratification of the FTA, Guatemala perhaps did not consider itself bound by the FTA's obligations.

The two sides met through formal consultations on 14-15 May 2013, but failed to resolve the dispute.¹¹ Guatemala then proceeded to request a Panel on 14 June 2013.¹² Eleven WTO members reserved their right to participate as third parties to the dispute.¹³

Prior to the Panel's establishment, on 4 July 2013, Guatemala's Congress approved the FTA.¹⁴ In September 2013, the Panel for the dispute was composed. In December 2013, Guatemala initiated the procedures for ratification of the FTA, with Peru receiving a

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

¹⁰ *Ibid.*, art. 1.3 of Annex 2.3.

¹¹ Request for Establishment of a Panel by Guatemala, WT/DS457/2, 14 June 2013.

¹² *Ibid.*

¹³ The eleven WTO members were: Argentina, Brazil, China, Colombia, Ecuador, El Salvador, the European Union, Honduras, India, South Korea, and the United States. See Panel Report, para. 1.6.

¹⁴ *Ibid.*, para. 7.32.

communication on 5 March 2014 that Guatemala had fulfilled the legal requirements for entry into force of the FTA.¹⁵

Ratification of the FTA in Peru did not require the President obtain prior approval from Congress.¹⁶ For the FTA to have entered into force, the President could simply have initiated the proper procedures for ratification. However, Peru's President chose not to do so because it viewed the filing of the WTO dispute as having "created uncertainty with regard to the existence of the balance negotiated" in the FTA.¹⁷ Peru nevertheless did not rule out the possibility of expressing consent to be bound by the FTA "provided that the balance agreed between Peru and Guatemala therein is respected."¹⁸ It simply kept ratification at a standstill, pending the WTO dispute. 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.¹⁹ In addition, the Panel also ruled that the duties arising from the PRS violated GATT Article II:1(b) because they were not ordinary customs duties and were not declared as other duties or charges.²⁰ The Panel exercised judicial economy with respect to the GATT Article X:1 and X:3(a) claims.²¹ 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.²²

Both Peru and Guatemala filed a notice of appeal to the Appellate Body concerning particular elements of the Panel decision. 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.²³ This article, however, concerns itself exclusively with the Panel ruling.²⁴

In order to better understand what was at stake in this dispute, it is useful to begin with an overview of trade between the two parties.

¹⁵ Ibid.

¹⁶ Ibid., para. 7.33.

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ Ibid., paras. 7.352 & 7.371-7.372.

²⁰ Ibid., paras. 7.425-7.432.

²¹ Ibid., paras. 7.467 & 7.501.

²² Ibid., paras. 7.525-7.528.

²³ Appellate Body Report, *Peru – Additional Duty on Imports of Certain Agricultural Products*, WT/DS457/AB/R, 20 July 2015 [hereinafter 'Appellate Body Report'].

²⁴ See *supra* note 1, noting that this was the scope asked of the authors for the 2014 WTO case law analysis.

2.3. Patterns of Trade Between Guatemala and Peru

Why would Guatemala bother to marshal the resources to file a WTO complaint against Peru's PRS? When viewed from an aggregate economic perspective, this dispute appears to be bit of a puzzle since it essentially involves two small economies that do not trade a great deal with each other. In 2013, when measured in PPP terms, the Peruvian economy constituted only 0.35% of the world economy and 3.88% of the Latin American economy. Peru's share of world imports equaled a tiny 0.22% in 2013. Similarly, Guatemala accounted for 0.11% of world GDP in PPP terms; 1.22% of Latin American GDP; and a miniscule 0.05% of world exports. The picture is rather similar from a bilateral trade perspective: only 0.07% of Peru's total imports were sourced from Guatemala while 0.30% of Guatemala's total exports went to Peru.²⁵ Thus, it is patently clear that, from an aggregate trade perspective, neither is Guatemala an important source of imports for Peru and nor is Peru a major destination market for Guatemalan exporters.

How large is trade in the relevant commodities between the two countries? Unfortunately, the poor quality of product level bilateral trade data between Peru and Guatemala does not allow us to answer this question with a great degree of precision. The dispute covered 45 products at the 10-digit HS level: 4 varieties of rice, 10 types of maize, 23 milk related products, and 6 products derived from sugar.²⁶ However, data were available only at the 6-digit HS level and as per the WITS data-set, there was significant trade among the two countries in only two products: cane sugar (HS 170111) and other cane and beet sugar (HS 170199).²⁷ Nevertheless, whatever data were available from the World Bank's data-set WITS regarding Peruvian imports of the relevant commodities from various countries are presented in Tables 1A and 1B.²⁸

Note that in 13 observations of the 34 available for all relevant products (i.e. over 1/3rd of the time) Guatemala appears in the list of the top three exporters (noted in bold font) to Peru. Perhaps most noteworthy is the fact that in 1998 Guatemala was the world's largest exporter of cane sugar (HS 170111) to Peru. Furthermore, Table 1A shows that during 2007-2013, Guatemala accounted for a significant share of total Peruvian imports of cane sugar: this share was 17.0% in 2007, 25.5% in 2012, and 26.2% in 2013.

Table 1B shows that a similar pattern holds for "other cane and beet sugar" (HS 170199): Guatemala exported "other cane and beet sugar" to Peru throughout 2007-2013, and ranked

²⁵ During 2013, the US and China were the two most important sources of imports for Peru, accounting for 20.3% and 19.4% of total Peruvian imports respectively. Brazil and Ecuador were the next two largest suppliers to Peru. Their shares however, were smaller and equaled 5.4% and 4.5% respectively. On the export side, in 2013, Peru's top five export partners were US, China, Switzerland, Canada and Japan. In particular, the value shares of Peru's exports to US and China were as high as 17.8% and 17.6% respectively. Moreover, the top five export partners accounted for roughly 54% of Peru's exports.

²⁶ For each product category, there was a single marker product upon which the international reference price was chosen to calculate the band for the PRS.

²⁷ Indeed, the low level of bilateral trade between Peru and Guatemala maybe one reason why the data are of poor quality.

²⁸ We thank Chad Bown for providing us with the data and Semira Ahdiyyih for excellent research assistance.

among the top three exporters in all years except 2009 and 2013. Excluding 2009 and 2013, the share of Peruvian imports of "other cane and beet sugar" sourced from Guatemala ranged between 10% and 30%. Finally, one may worry that these import data may understate Guatemala's potential exports to Peru in the relevant commodities since these were subject to the duties imposed under the PRS. To measure the real importance of Peru's market for the relevant commodities from the viewpoint of Guatemalan exporters, we would need to know what their exports to Peru would have been had no PRS been instituted by Peru. However, since Peru's PRS applied to all foreign exporters and not just Guatemala, the PRS is likely to have reduced Peruvian imports from all sources so that the export shares of various countries reported in Tables 1A and 1B are likely to paint a fairly accurate picture. We also examined Guatemala's exports in these two commodities and found that over 1998-2013, only in one year did Peru absorb more than 5% of Guatemalan exports for either of these commodities (i.e. those of cane sugar in 1998 when roughly 14.42% of Guatemalan exports went to Peru).

The takeaway from these facts is that while Peru is not an important destination market for Guatemalan exports, Guatemala is a reasonably important supplier of a few commodities relevant to the dispute. Nevertheless, even in these products, trade between Peru and Guatemala constitutes such a small part of the global market that the world price of these products is likely to be unaffected by their trade policies. Thus, in the jargon of economics, this case is best viewed as a dispute involving two "small" countries, i.e., countries that are incapable of affecting their terms of trade with respect to the world.²⁹

Armed with this motivation, below we construct a simple economic model to analyze the economic effects of a PRS on a small open economy.

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 discussed two political 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?

²⁹ In the presence of some frictions, such as sunk costs of accessing markets and reorienting exports, it is conceivable that Peru's trade policies could affect Guatemala's terms of trade. If Guatemalan exporters have made irreversible investments in order to export to Peru, they may be willing to accept a relatively lower price in Peru's market in order to avoid having to undertake similar investments in other markets. However, the role of such irreversible investments in context of agricultural commodities such as sugar seems rather unclear since they tend to be relatively homogenous and their sale may not require much investment in the way of marketing and distribution.

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) 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.³⁰ 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) $p_H \geq p_M \geq p_L$; (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 within the price band $[\underline{p}, \bar{p}]$ established by the PRS, the additional duty imposed by Peru equals zero.³¹

³⁰ In what follows we assume that the international reference price equals the world price. This helps simplify exposition without materially affecting our main conclusions. One added benefit of this normalization is that it makes a PRS equivalent to a price band system. Furthermore, since the import cost parameter b does not affect the working of the model, we set it equal to zero.

³¹ 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.

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:

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

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

$$d(p) = a - p \quad (4)$$

and the domestic supply function by

$$s(p) = p \quad (5)$$

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

$$m(p) = d(p) - s(p) = a - 2p \quad (6)$$

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

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

so that expected consumer welfare can be written as

$$ECS = \sum_i \theta_i CS(p_i) \quad (8)$$

Similarly, the surplus of domestic producers equals

$$PS = \int_0^p p dp = \frac{1}{2}p^2 \quad (9)$$

which gives expected producer surplus as

$$EPS = \sum_i \theta_i PS(p_i) \quad (10)$$

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

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

which yields expected tariff revenue as

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

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:

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

where the parameter $\lambda \geq 1$ 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

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

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 impose any minimum price on the commodity. Similarly, we have

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

i.e. it is optimal for Peru to raise the upper bound of the PRS band. It is worth emphasizing 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 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 (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 $\frac{\partial EW}{\partial \underline{p}} = 0$ and $\frac{\partial EW}{\partial \bar{p}} = 0$ 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 raises 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 maybe 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 and Safeguard Measures Relating to Certain Agricultural Products (DS 207)*, 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.³² The standard model of a small open economy presented above ignores 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 to 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.³³

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 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. But as Bagwell and Sykes (2004) note, a PRS may simultaneously amplify fluctuations in the net price received by foreign exporters. Thus, for a PRS 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 -- see Devadoss (1992).³⁴

³² 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.

³³ 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.

³⁴ 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

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 in section 3.2 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 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 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 assumptions underlying 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 not necessarily a first-best solution.

4. Conceptualizing a PRS in Light of the Agreement on Agriculture

Although a PRS may prove desirable for a government to maintain under certain conditions, it is difficult to align with WTO obligations. The drafters of the Agreement on Agriculture sought to limit the types of border measures designed to restrict the volume and/or distort the price of agricultural imports.³⁵ 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. This would increase transparency and the quantification of measures

evidence that real world variable duties even begin to approximate the finely calibrated system proposed in Nordström (2001).

³⁵ Appellate Body Report, *Chile – Price Band System and Safeguard Measures Relating to Certain Agricultural Products*, WT/DS207/AB/R, 23 Sept. 2002, adopted 23 Oct. 2002, para. 200 [hereinafter ‘*Chile – Price Band System*’].

would also make it easier for trading partners to compare various measures and negotiate mutual reductions.³⁶

The principle is captured within Article 4.2 of the Agreement on Agriculture which 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.³⁷ The PRS, however, does not act as a quantitative restriction. Instead, the two types of measures that it most closely approximates are (1) a variable import levy, and (2) a minimum import price.³⁸ These concepts have been discussed at length in only one WTO dispute, the *Chile – Price Band System* case mentioned earlier.

Below, we analyze whether a PRS falls under either of these measures. Provided it does, it is then illegal under WTO rules. Besides elaborating upon the status of Peru’s PRS, we also consider whether a PRS designed differently might pass muster under Article 4.2.

4.1. Variable Import Levy

In *Chile – Price Band System*, the Appellate Body discussed extensively the nature of “variable import levies” that must be converted to an ordinary customs duty pursuant to Article 4.2 of the Agreement on Agriculture. The Appellate Body noted that while variability is required, it alone is not determinative whether a particular tariff scheme constitutes a “variable import duty.”³⁹ It declared:

“[A]t least one feature of ‘variable import levies’ is the fact that the *measure* itself – as a mechanism – must impose the *variability* of the duties. Variability is inherent in a measure if the measure incorporates a scheme or formula that causes and ensures that levies change automatically and continuously. . . . However, in our view, the presence of a formula causing automatic and continuous variability of duties is a

³⁶ Ibid.

³⁷ See Panel Report, *Turkey – Measures Affecting the Importation of Rice*, WT/DS334/R, 21 Sept. 2007, adopted 22 Oct. 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 Aug. 1999, adopted 22 Sept. 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 Jan. 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.

³⁸ These are also the two cited by Guatemala in its complaint. See WT/DS457/1 at p. 2.

³⁹ Appellate Body Report, *Chile – Price Band System*, para. 232.

necessary, but by no means a *sufficient*, condition for a particular measure to be a ‘variable import levy’ within the meaning of footnote 1. ‘Variable import levies’ have additional features that undermine the object and purpose of Article 4, which is to achieve improved market access conditions for imports of agricultural products by permitting only the application of ordinary customs duties. These additional features include a lack of transparency and a lack of predictability in the level of duties that will result from such measures. This lack of transparency and this lack of predictability are liable to restrict the volume of imports. . . . [A]n exporter is less likely to ship to a market if that exporter does not know and cannot reasonably predict what the amount of duties will be. This lack of transparency and predictability will also contribute to distorting the prices of imports by impeding the transmission of international prices to the domestic market.”⁴⁰

The question of whether a PRS is a border measure similar to an illegal “variable import levy” turns on whether the PRS exhibits the features deemed essential by the Appellate Body. In the particular instance of Peru’s PRS, the analysis is relatively straightforward.

The Peruvian PRS is inherently variable. As explained, the PRS levies an additional duty or rebate through a mathematical formula subject to change every fortnight. On this point, there was not a deep disagreement between the parties.⁴¹ The Panel found that because the duties resulting from the PRS were subject to change every two weeks, the requirement of variability was met.⁴²

Beyond variability, however, the PRS must also embody some other characteristic that makes it intrinsically different than an ordinary customs duty. The Panel focused on transparency and predictability. Although the Appellate Body has highlighted that these need not be the differentiating characteristics, the fact that this was the emphasis of a past ruling made it the logical starting point for the second part of the analysis. Peru attempted to argue that the PRS was transparent and predictable by highlighting how many elements of its formula are made explicit and how private parties can predict with some accuracy the result of applying the PRS formula.⁴³ The Panel, however, noted that certain elements nevertheless remained non-transparent or difficult to predict and that the PRS remains less transparent and predictable than an ordinary customs duty.⁴⁴

Consequently, the Panel held that the duties arising from the PRS constitute a variable import levy, or at the very least, share sufficient characteristics making them similar to a variable import

⁴⁰ Ibid., paras. 233-234 (emphases in the original) (footnotes omitted).

⁴¹ Peru acknowledged that the duties resulting from the PRS are variable. See Panel Report, para. 7.235. Peru, however, argued that the PRS did not operate automatically since various organs of the Peruvian state have to complete certain administrative steps in order for the duty / rebate to be updated. The Panel, however, rejected this argument by noting that the actors still operated under a PRS. Ibid., paras. 7.239, 7.319 & 7.323.

⁴² Ibid., para. 7.324.

⁴³ Ibid., para. 7.230-7.234 & 7.331-7.332.

⁴⁴ Ibid., para. 7.331 & 7.334-7.336.

levy.⁴⁵ Because Peru maintained such duties and had not converted them to an ordinary customs duty, it was in breach of Article 4.2 of the Agreement on Agriculture.⁴⁶ The Panel further ruled that such duties violated Article II:1(b) of the GATT 1994.⁴⁷

Although we believe that the Panel ruled correctly on the issue of whether the duties associated with the PRS constitute variable import levies or are measures similar to variable import levies, two open questions are worth highlighting. Both relate to the question of whether a PRS could ever be crafted in a WTO-consistent manner.

First, in the present case, the PRS was deemed variable because the reference price was subject to change every fortnight. Note that the Appellate Body's language in *Chile – Price Band System* referred to variability as being inherent in any “scheme or formula that causes and ensures that levies change automatically and *continuously*.”⁴⁸ The Appellate Body noted that “[o]rdinary customs duties, by contrast, are subject to discrete changes in applied tariff rates that occur independently, an unrelated to such an underlying scheme or formula.”⁴⁹ In this dispute, the fact that duties related to the PRS were subject to potential change every two weeks was deemed to be frequent enough to meet the “continuously” requirement put forward by the Appellate Body.

But suppose that the PRS relied upon a reference price that was updated monthly or quarterly. Would that still qualify as “continuously”? If a government kept the duty / rebate associated with the PRS fixed beyond a certain period of time, could it no longer be considered “variable”? If so, how long would this period need to be?

Suppose the reference price for the PRS were tweaked only twice a year, along with the floor and ceiling price. In this hypothetical, it would be hard to argue that the PRS is a scheme that causes duties to change continuously. Nevertheless, it would also not be the case that the additional duty amounts to an ordinary customs duty, at least as far as the concept is defined by the Appellate Body. The duty would still be set by a discrete formula; it would not be set independently of any scheme or formula.

This thought exercise raises a question as to whether the original language of “continuously” as employed by the Appellate Body in *Chile – Price Band System* is necessarily the term that best captures what the notion of variability sought in its exposition of a variable import levy. It would appear that a levy need not be altered continuously in order for it to be variable. What is important, in our view, is the question of whether the additional duty/ rebate associated with the PRS is fixed for a period that is sufficiently long enough for foreign producers to predict reasonably what duties it will face at the border. If not, then the duty is variable. When given the opportunity, the Appellate Body may wish to clarify this notion.

⁴⁵ Ibid., paras. 7.350-7.352.

⁴⁶ Ibid., para. 7.371-7.372.

⁴⁷ Ibid., para.

⁴⁸ Appellate Body Report, *Chile – Price Band System*, para. 233.

⁴⁹ Ibid.

Second, could a duty set partially on the basis of a formula ever not be considered a variable import levy? The Appellate Body's guidance in *Chile – Price Band* suggests that another key differentiator for determining variability is whether the levies change automatically. Peru attempted to argue that the PRS was not variable because it did not trigger an automatic change in the duty but rather must be approved by various state organs. This is a formalistic argument that the Panel roundly rejected, noting that the executive authorities are still operating within the parameters of the legislation establishing the PRS and hence, the administrative actions are not discretionary.⁵⁰

However, left unanswered is the question of whether a PRS could ever be designed in a way such that the tweaking of the additional duty rate, even if guided by a formula, could ever be considered non-automatic and discretionary? For example, what if the change in the tariff rate were implemented by legislative, rather than administrative, action? Suppose that the PRS formula served only as guidance from the executive branch to the legislature, but the legislature remained free to reset applied tariffs as it saw fit. Would the fact that the decision now occurs in a separate branch of government matter? What about the fact that the legislature in this hypothetical would not be bound to adhere to the informal guidance provided by a PRS, even if it normally does? Does this extra degree of potential flexibility render the scheme non-automatic and hence, no longer a variable import levy? Or is this still a formal distinction that should not matter, especially if the same outcome is almost always achieved in the end?

Consider one other hypothetical: Suppose the PRS formula, instead of arriving at an absolute additional duty, churned out a range. In other words, suppose the PRS only mandated that the additional duty lie within 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? One possibility is to hold that this would depend on the extent of the range. At some point, the range might be wide enough for the implementing authority to be viewed as given genuine discretionary authority. For example, suppose that $AD_H > AD_L$ by 10 percentage points, thereby providing a significant range for the authorities to set an *ad valorem* duty. Another approach, however, would be to find, as the Panel did in this dispute, that since the

⁵⁰ Panel Report, para. 7.323.

implementing authority is still acting within the bounds of the PRS's mandate, it is not displaying the discretion necessary for the scheme to be considered non-automatic.

These hypotheticals suggest that the concept of a variable import levy, as elaborated upon in *Chile – Price Band System*, requires further interpretative clarification. All of the PRS schemes discussed above all remain more complicated, and therefore less predictable and clear, than an ordinary customs duty. Is it the case that the Article 4.2 requires that all such schemes to be eliminated? A plausible reading of the provision is that the aim of the drafters was to seek exact quantification of the border measure. Any measure that impedes this ought to be transformed. If this is the case, then the Appellate Body ought to say so even more clearly than it has to date. It can shift away from emphasizing the “automatically and continuously” features of a PRS formula as determinative of whether the duty is a variable import levy.

On the other hand, the Appellate Body may instead interpret Article 4.2 more narrowly, as simply seeking to ban the imposition of import duties that vary frequently enough such that trading actors are not able to plan accordingly. If this is the case, then the Appellate Body's past emphasis on automaticity and the period for which the duty/rebate is fixed may indeed be correct. However, this would suggest that there might be a way for a WTO member to design a PRS such that the duties that arise out of the PRS would not violate Article 4.2 because it is a variable import levy. Possibilities include if the exact duty rate were not fixed by the formula but set as a range, if it were fixed for a given period of time with sufficient advance notice, and if it were enacted by the legislature rather than an administrative agency within the executive branch. From a policy perspective, a PRS designed in this manner might be viewed as less optimal than a PRS designed along the lines of the Peruvian PRS. The only saving grace would be that it might be viewed as WTO consistent, whereas the Peruvian scheme is not.

The above discussion highlights the fact that the Appellate Body may wish to clarify further whether WTO members retain any policy flexibility to impose some form of a PRS under the Agreement on Agriculture and GATT Article II.⁵¹ Is it the case that all duties arising out of a PRS constitute a measure similar to a variable import levy, and therefore, by nature, violate WTO law? This question may be of particular importance to developing countries, especially as they consider the possibility for further agricultural trade liberalization.

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.⁵² 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

⁵¹ 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, paras. 5.40-5.48

⁵² The subsequent Appellate Body Report tacks toward this approach. See *ibid.*, para. 5.54 (emphasizing the “structure, design, and operation of the PRS”).

with the Appellate Body's approach toward duty schemes under other circumstances, most notably GATT Article III:2.⁵³

4.2. Minimum Import Price

A duty arising out of the PRS may also violate Article 4.2 because the PRS imposes minimum import price or a measure similar to a minimum import price. In *Chile – Price Band System*, the Appellate Body 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.”⁵⁴ It further noted that the Panel had clarified that “[these] schemes generally operate in relation to the actual transaction value of the imports.”⁵⁵ In the dispute’s compliance proceedings, the Panel further clarified that “a minimum import price is a measure which ensures that certain imported products will not enter a domestic market at a price lower than a certain threshold, normally by imposing an import duty assessed on the basis of the difference between such a threshold and the transaction value of the imported good.”⁵⁶ The Appellate Body subsequently confirmed that the Panel’s approach was in proper accord with its understanding of how the provision is to be interpreted.⁵⁷

In *Chile – Price Band System*, the Panel found that the price band system imposed by Chile constituted a measure that is *similar to* a minimum import price.⁵⁸ 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. The Appellate Body has previously clarified that “[a] measure is ‘similar’ to a minimum import price when it shares a sufficient number of

⁵³ See Appellate Body Report, *Japan – Taxes on Alcoholic Beverages*, WT/DS8/AB/R, WT/DS10/AB/R, WT/DS11/AB/R, 4 Oct. 1996, adopted 1 Nov. 1996, p. 29.

⁵⁴ Appellate Body Report, *Chile – Price Band System*, para. 236.

⁵⁵ Ibid. (citing Panel Report, *Chile – Price Band System*, para. 7.36(e)).

⁵⁶ Panel Report, *Chile – Price Band System (Article 21.5 Argentina)*, WT/DS207/RW, 8 Dec. 2006, adopted 22 May 2007, paras. 7.30.

⁵⁷ Appellate Body Report, *Chile – Price Band System (Article 21.5 Argentina)*, WT/DS207/AB/RW, 7 May 2007, adopted 22 May 2007, para. 195.

⁵⁸ Panel Report, *Chile – Price Band System*, para. 7.47.

characteristics with, and has a design, structure, and effects similar to, a minimum import price, even if it is not ‘identical’ to such a scheme in all respects.”⁵⁹

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.⁶⁰ It is worth reflecting upon the differences between the two schemes to understand what the latter Panel considered to be necessary for a PRS to not amount to a violation. Note that the Appellate Body’s prior guidance suggests that a Panel must examine and weigh two separate factors: (1) the structure and design of the PRS, and (2) the PRS’s effects.

Let us start by examining the similarities and differences in structure and design. First, note that there is a difference in semantics. The Chilean scheme is referred to as a PBS (*bando de precios*), whereas the Peruvian scheme is declared to be a PRS (*franja de precios*). Upon closer examination, however, we find that despite the difference in name, the structure and design of the two systems are largely similar. The Chilean PBS does not mandate a true price band; the Peruvians also occasionally refer to their scheme occasionally as a price band.⁶¹ The basic structure and design of the two systems are the same - both impose an additional duty through use of a formula in which a reference price is compared against a floor price.

The differences only begin to reveal themselves when we examine how the exact components of the formula are computed in the two systems. Three points of contrast are worth noting: First, the Peruvian reference price is updated every two weeks, as opposed to weekly for the Chilean reference price. Second, the Peruvian reference 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 schemes requires that reference price to 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.

However, the Panel did not emphasize these design components in elaborating upon why the PRS was not similar to a minimum import price. Instead, it focused primarily on the second factor – its actual effects. In the earlier dispute, the Chilean government conceded that it was “unlikely” for imports to enter the Chilean market at a price below the floor price, but hinged its argument on that the fact that it was “not impossible.”⁶² Hence, the Panel considered it to be a “proxy” or “substitute” for a minimum import price.⁶³ In contrast, in this dispute, the Peruvian government 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

⁵⁹ Appellate Body Report, *Chile – Price Band System (Article 21.5 Argentina)*, para. 193.

⁶⁰ Panel Report, paras. 7.370-7.371.

⁶¹ We draw further attention to this point in Section 5 and in Annex 1.

⁶² Panel Report, *Chile – Price Band System (Article 21.5 Argentina)*, paras. 7.30

⁶³ Appellate Body Report, *Chile – Price Band System (Article 21.5 Argentina)*, paras. 194-95.

and floor price.⁶⁴ These amounted to more than one-third of trade transactions recorded over these periods.⁶⁵ The Panel found this evidence to be decisive in showing that the measure did not impose a *de facto* threshold and was therefore not similar to a minimum import price.⁶⁶

On appeal, Guatemala has challenged the Panel's ruling on whether the PRS is similar to a minimum import price.⁶⁷ The Panel's ruling tees up three points that the Appellate Body may wish to clarify.

First, did the Panel err in treating the question of whether a PRS constitutes a measure similar to a minimum import price as primarily an effects-based test⁶⁸? The PRS, by nature, allows for the possibility of the measure will create a *de facto* threshold price for imports. The Panel's ruling, along with those of the *Chile – Price Band Systems* dispute, suggest that the burden falls on the respondent to prove that this is not the actual effect of the PRS. To do so, the respondent must offer actual evidence that imports continue to enter the market below the alleged threshold price created by the reference price plus the additional duty arising from the PRS.

This approach appears to follow the Appellate Body's prior command that a Panel consider the effect of a PRS.⁶⁹ But the prior Appellate Body ruling in *Chile – Price Band Systems* also required a consideration of the structure and design of the PRS.⁷⁰ The Panel ruling leaves open the question of what role is to be played by the structure-and-design element of this two-part test. As Guatemala rightly noted in its appeal, the PRS does give rise to an implicit minimum price threshold.⁷¹ But as we noted above, there are various elements of the design of the Peruvian PRS that make it more likely that actual import transactions would occur below this implicit threshold stipulated in the PRS. However, the Panel did not elaborate on any of these in its ruling. After highlighting how the structure of the Peruvian PRS is similar to that of the Chilean measure, the Panel then simply goes on to conclude that it is not convinced that the Peruvian PRS "lead[s] to the establishment of a minimum import price with a *de facto* threshold" without explaining why this is the case given the PRS's design.⁷² The Appellate Body may wish to elaborate on the level of analysis that a Panel must provide in its ruling with respect to the first part of the two-part test, especially if it is to conclude that the structure and design of the PRS also favors the respondent's arguments.

⁶⁴ Panel Report, *Peru – Agricultural Products*, para. 7.357.

⁶⁵ *Ibid.*

⁶⁶ *Ibid.*, paras. 7.366-7.369.

⁶⁷ 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, at paras. 5-7 [hereinafter 'Guatemala Notice of Appeal']

⁶⁸ 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, paras. 5.139-5.142, 5.153-5.155, & 5.164-5.165.

⁶⁹ Appellate Body Report, *Chile – Price Band System*, para. 246.

⁷⁰ *Ibid.* para. 252.

⁷¹ Guatemala Notice of Appeal, para. 5.

⁷² Panel Report, *Peru – Agricultural Products*, para. 7.370.

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).⁷³

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 turns, 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. To demonstrate this point, suppose, for example, that Peru submitted evidence of three transactions over a two-week period in which the actual price of the transaction fell below the reference and floor prices. Consider a first scenario in which the three transactions were out of more than 100 such transactions during the period and amounted to less than 1% of imports of the product in that period. Contrast that with a second scenario in which the three transactions identified were out of only ten transactions and they amounted to nearly 25% of total imports of the product in that period. In both instances, Peru can claim that this is a fortnightly period in which imports entered below the alleged threshold. It can also point to three specific transactions. But the actual effect of the PRS varies widely depending on the overall context. For that reason, we believe that a respondent, in seeking to demonstrate the effect of the PRS on import price, ought to present evidence in terms of the total volume of trade.

Note that in this dispute, Peru submitted statistical evidence on the total volume of trade for only sugar. In that instance, Peru indicated that 3 percent of sugar imports enter below the alleged threshold price.⁷⁴ Is this figure sufficient to defeat the allegation of the PRS acting in a manner similar to a minimum import price? The Appellate Body will need to consider whether to allow a line to emerge naturally through the jurisprudence or elaborate upon it more clearly in its ruling.

Third, should the respondent, when seeking to prove the actual effect of a PRS, be asked to present evidence on a product-specific level? The appeal offers the Appellate Body the opportunity to scrutinize whether the statistical evidence offered by Peru in Exhibit PER-90 is sufficient for proving that the measure is not similar to a minimum import price. Note that the Peruvian PRS affected imports at 45 HS-8 tariff lines. For it not to amount to a measure similar to a minimum import price, it ought to be the case that imports below the alleged *de facto* threshold entered the market with some regularity for *all* of the tariff lines. If, say this were the

⁷³ Ibid., para. 7.357.

⁷⁴ Ibid.

case with only 43 of the 45 tariff lines, then the possibility exists that the PRS acted in a manner similar to a minimum import price, at least with respect to the two remaining products.

In this case, Peru appears to have focused its evidence on the four marker products rather than on the associate products.⁷⁵ While the Panel ruling notes that Peru submitted statistical evidence on product entries, it is not altogether clear whether or not this evidence spans the entire 45 tariff lines associated with the PRS.⁷⁶ If not, then the Appellate Body is faced with the question of whether the evidence submitted by Peru is extensive enough for the Panel to have concluded that the PRS does not act in a manner similar to a minimum import price. While Peru may be on the right track in terms of gathering the statistical evidence to demonstrate the lack of an actual effect, the Appellate Body would do well to scrutinize whether the evidence submitted is sufficient when considered on a product-by-product basis. After all, for the respondent to prevail, the evidence must demonstrate that the PRS does not behave similar to a minimum import price each and every product at issue.

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 levv or minimum import price. Hopefully, the Appellate Body will clarify some of these issue in the upcoming appeal. In the course of doing so, it 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 Preferential 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 fourteen free trade agreements (FTAs).⁷⁷ Many of these included provisions specifically designed to address the PRS.

Our examination of the text of Peru's FTAs suggests that in at least twelve of these agreements, Peru managed to negotiate the inclusion of a provision that explicitly recognized its right to retain the PRS. Table 2 provides a list of the specific provisions found within the given FTAs. The full text of the provision for each FTA can be found in Annex 1.

⁷⁵ See *ibid.*

⁷⁶ See footnote 486 of *ibid.*

⁷⁷ See Organization of American States, Foreign Trade Information System, Information on Peru, Trade Agreements, http://www.sice.oas.org/ctyindex/PER/PERAgreements_e.asp (last visited 3 May 2015).

Table 2. 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

Three points emerge out of this analysis: First, Peru was able to obtain a concession recognizing the legality of its PRS in most of its FTAs. This is true of the FTAs concluded with other developing countries in Latin America as well as those concluded with trading partners outside of the region in which Peru would be perceived as being the weaker of the two bargaining parties (*e.g.*, EU, Japan, Canada, South Korea). The one agreement in which Peru was not able to secure this type of explicit recognition was in its FTA with the United States.

Second, note that the description of the measure varies by agreement. In some, Peru refers to its scheme as a PRS, whereas in others, it is described as a price band. This validates what we noted earlier that the difference between a PRS and PBS is often one of semantics. Indeed, lawyers for the same government may use the terms interchangeably to describe the same measure. Thus, adjudicators would do well to not focus on the terminology of the measure but rather how it operates in practice. As noted in the Introduction, a PRS does differ from a pure price band, but it is not always the case that a so-called PBS is necessarily reflective of a price band regime rather than a PRS.

Finally, of most importance to the present dispute is the fact that of the twelve FTAs in which Peru secured explicit recognition of its right to maintain a PRS, only one – the Guatemala-Peru FTA – has yet to enter into force. Peru argued that nevertheless, despite the FTA not being in force, paragraph 9 of Annex 2.3 of the FTA constitutes a valid defense with respect to its obligations vis-à-vis Guatemala.⁷⁸

Two questions arise from this attempt from a WTO member to utilize FTAs to safeguard a measure that may be WTO-inconsistent: First, should a provision of a 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 Appellate Body has recognized that WTO members may modify the obligations between themselves.⁷⁹ However, the question arises as to which mechanisms employed by WTO members to modify the obligations must be recognized by WTO adjudicators. In *EC – Bananas III*, the Appellate Body confirmed that Understandings reached in conjunction with WTO dispute settlement can serve to modify such obligations.⁸⁰ However, an open question remains with respect to preferential trade agreements concluded pursuant to GATT Article XXIV, and in particular, such treaties prior to their entry into force.

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.⁸¹ For a Panel to examine whether (a) there is an inconsistency between a FTA and WTO Agreement, and (b) the FTA modified the WTO rights of a party, Guatemala argued, would fall outside of a Panel's terms of reference, since Panels cannot consider matter outside of the WTO covered agreements.⁸² Guatemala's views were shared by the United States, which offered a similar view as a third party.⁸³

Peru, on the other hand, argued that WTO treaty provisions are to be interpreted pursuant to the Vienna Convention on the Law of Treaties (VCLT). Article 41 of the VCLT recognizes the right of two or more parties to a treaty to modify the treaty provided the possibility of modification exists within the treaty (or is not prohibited within the treaty) and the modification does not affect the rights and obligations of other parties and is not incompatible with the object and purpose of the treaty as a whole. According to Peru, a FTA concluded pursuant to GATT Article XXIV serves as a form of permissible modification.⁸⁴ Where the provisions of the FTA

⁷⁸ Ibid., para. 699.

⁷⁹ 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 Nov. 2008, adopted 11 Dec. 2008 and 22 Dec. 2008, para. 217.

⁸⁰ Ibid.

⁸¹ Panel Report, *Peru – Agricultural Products*, paras. 7.511-7.512.

⁸² Ibid., para. 7.511.

⁸³ Ibid., paras. 7.519-7.520.

⁸⁴ Ibid., para. 7.508.

clash with the WTO Agreement, the provision of the FTA should prevail as it represents a subsequent agreement.⁸⁵

Brazil and the European Union (EU), as third parties, offered similar views as to whether a 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.⁸⁶ 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.⁸⁷

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 Appellate Body, however, may opt not to address this question directly in the pending appeal.⁸⁸ 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. To the extent that the Appellate Body wishes to tackle this broader question, it would be simply to provide *obiter dictum* for future disputes.

Instead, the Appellate Body's analysis is likely to start with a second, and narrower, question of whether the status of a FTA matters when considering the broader question of whether a FTA modifies WTO obligations between parties.⁸⁹ The Panel's view was that it did matter. Consequently, the FTA did not amount to a modification pursuant to VCLT Article 31. Nor was it obliged to consider it when interpreting the rights established under Article 4.2 of the Agreement of Agriculture between Guatemala and Peru in light of VCLT Article 31(3)(a). Finally, the Panel rejected Peru's argument that Guatemala, by persisting with its claim even after ratifying the FTA, violated the obligation under DSU Articles 3.7 and 3.10 to engage in dispute settlement proceedings in good faith.⁹⁰

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.

⁸⁵ Ibid., para. 7.506.

⁸⁶ Ibid., para. 7.518.

⁸⁷ Ibid., para. 7.522.

⁸⁸ The Appellate Body, 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." Appellate Body Report, para. 5.26. In light of this ambiguity, the Appellate Body 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 & footnote 109.

⁸⁹ Note that the subsequent Appellate Body ruling stated that its findings were reached "irrespective of the status of the FTA as not being ratified by both parties." Ibid.

⁹⁰ Panel Report, *Peru – Agricultural Products*, para. 7.96.

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).⁹¹ This is on the basis of ILC Articles 20 and 45 of the ILC Articles on State Responsibility as rules of international law.

Even when evaluated on this basis, however, it is still unclear to us that Peru will prevail. In *US – Line Pipe*, the Appellate Body made clear that the ILC Articles on State Responsibility "do not constitute a binding legal instrument as such."⁹² Consequently, the Appellate Body 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 the second question of whether that particular provision rose to the level of customary international law. This tact is derived from the language of VCLT Article 31(3)(c), which commands the treaty interpreter to consider "relevant rules of international law."

This approach raises several interesting questions for the Appellate Body and challenges for Peru in its appeal: First, how tight must the nexus be between the particular provision of the ILC Articles on State Responsibility and the particular provision of a WTO agreement in order for the former to be considered "relevant"? In previous instances, the particular provision of the ILC Articles spoke directly to a narrow question of interpretation of the provision of the WTO covered agreement at issue in the dispute. For example, in *US – Line Pipe*, the Appellate Body confronted a question over how Article 5.1 of the Agreement on Safeguards ought to be interpreted; Article 51 of the ILC Articles spoke directly to the issue at hand concerning the proportionality of countermeasures.⁹³ Similarly, in *US – AD/CVD (China)*, the Appellate Body confronted a question over how the term "public body" found in Article 2 of the SCM Agreement ought to be interpreted; 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.⁹⁴

Following this logic, Peru then would need to demonstrate that interpretation of a given term in a WTO covered agreement remains in doubt and that the particular provision of the ILC Articles on State Responsibility directly serves to answer that question. Peru has argued that a question of interpretation exists with respect to the term "good faith" as used in Article 3.10 of the DSU.⁹⁵ The provisions of the ILC Article to which Peru is referring, Articles 20 and 45, do

⁹¹ 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 Mar. 2015, para. 10..

⁹² Appellate Body Report, *United States – Definitive Safeguard Measures on Imports of Circular Welded Carbon Quality Line Pipe from Korea*, WT/DS202/AB/R, 15 Feb. 2002, adopted 8 Mar. 2002, para. 259 [hereinafter '*US – Line Pipe*'].

⁹³ *Ibid.*, paras. 250-260.

⁹⁴ Appellate Body Report, *United States – Definitive Anti-dumping and Countervailing Duties on Certain Products from China*, WT/DS/379/AB/R, 11 Mar. 2001, adopted 25 Mar. 2001, paras. 309-310 [hereinafter '*US – AD/CVD*'].

⁹⁵ Panel Report, paras. 7.43-7.51.

not speak directly to the issue of “good faith” for dispute settlement procedures but rather to the issue of “consent [that] precludes the wrongfulness of the act.”⁹⁶ While the issues are related, they are not identical, as was the case in the previous instances when the Appellate Body sought to draw on the ILC Articles on State Responsibility for interpretation. To the extent that a nexus exists, it is not as direct as the previous instances. This raises the questions of whether the provision is “relevant” for the interpretation of the provision at issue, and if so, what makes it so. The appeal, therefore, presents the Appellate Body with an opportunity to clarify when precisely a provision of the ILC Articles can be drawn upon for interpretation purposes because it is “relevant”.⁹⁷ Such clarification is important, especially as the Appellate Body has already made clear in *US – Line Pipe* that the ILC Articles on State Responsibility are not a binding instrument on WTO members.⁹⁸

Second, even if Peru demonstrates that Articles 20 and 45 of the ILC Articles on State Responsibility are “relevant,” it would need to convince the Appellate Body that the particular provisions amount to customary international law. The Appellate Body’s past jurisprudence suggests that it does not consider the entire text of the ILC Articles on State Responsibility to be customary international law. Instead, it examines the question on a provision-by-provision basis.⁹⁹ Only when the Appellate Body finds a particular provision of the ILC Articles to rise to the level of customary international law will it then rely upon that provision to resolve a question of interpretation in line with VCLT Article 31(3)(c).

Because the ILC Articles of State Responsibility are not an international agreement, the Appellate Body 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 Appellate Body has relied upon consideration of two other factors to determine whether a particular provision amounts to customary international law: 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?

In *US – Line Pipe*, the Appellate Body cited two past judgments of the International Court of Justice to assert that Article 51 of the ILC Articles amounted to customary international law.¹⁰⁰ It also cited explicit acknowledgment by the United States of the principle noted in Article 51 in the commentary submitted by the U.S. on the ILC Articles.¹⁰¹ In *US – AD/CVD (China)*, the Appellate Body cited a Panel report in a previous case as support for Article 4 of the ILC

⁹⁶ *Responsibility of States for Internationally Wrongful Acts*, adopted by the International Law Commission at its 53rd session (2001), arts. 20 & 45.

⁹⁷ For elaboration on how the Appellate Body chose to address this question in the appeal, see Appellate Body Report, paras. 5.100-5.105 (concluding that “the FTA and ILC Articles 20 and 45 are not ‘relevant’”).

⁹⁸ Appellate Body Report, *US – Line Pipe*, para. 259.

⁹⁹ See Appellate Body Report, *US – AD/CVD*, para. 311 where the Appellate Body treated Articles 4 and 5 of the ILC Articles differently in its analysis.

¹⁰⁰ See Appellate Body Report, *US – Line Pipe*, footnote 256.

¹⁰¹ *Ibid.*, para. 259.

Articles being customary international law.¹⁰² In that instance, the Appellate Body considered the respondent, the United States, to have given tacit acknowledgement to this fact, by not having challenged this contention in its appeal or made note of its disagreement before the Dispute Settlement Body.

In this instance, is it the case that Articles 20 and 45 of the ILC Articles of State Responsibility have similarly been cited in past legal judgments and acknowledged by the parties? If not, then the Appellate Body will have to decide whether it wishes to defer on the question of whether the particular provisions amount to customary international law and not rely upon them for its judgments – as it did with Article 5 of the ILC Articles in *US – AD/CVD (China)*.¹⁰³ Again, the appeal presents an opportunity for the Appellate Body to clarify when a non-binding international legal text can be considered in WTO treaty interpretation.

As noted above, Peru will face significant hurdles in demonstrating to the Appellate Body that Articles 20 and 45 of the ILC Articles on State Responsibility ought to be considered in the context of interpreting the legal provisions at issue in this dispute. But even if the Appellate Body agrees that Articles 20 and 45 are “relevant rules of international law” for assisting with treaty interpretation in this context, it still faces interesting questions over how the provision ought to be considered.

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 then should the Appellate Body consider what amounts to “valid consent” and “waiver” in a context where a FTA has only been ratified by one party and 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

¹⁰² See Appellate Body Report, *US – AD/CVD*, footnote 222 and para. 311.

¹⁰³ *Ibid.*, para. 311.

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 Appellate Body with an opportunity to decide this question, if it desires.

Most likely, however, this dispute will serve to resolve only a subset of the questions identified above. Because this dispute involves a FTA that has not yet entered into force, its fact pattern is more unusual, and the appeal will not necessarily serve to definitively answer the question of how FTAs between WTO members should factor in a subsequent WTO challenge involving those parties. Yet, that question is one clearly lurking over the WTO. Imagine instead if one of Peru's other FTA partners, with a FTA that has already entered into force, brought a similar dispute. The question of whether they can do so is of paramount importance to WTO members as they negotiate increasing numbers of FTAs with one another. Having additional clarity into whether WTO members can circumvent WTO rights through FTAs, and if so, what treaty language is necessary to do so, 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.

While the political rationale for a PRS is well understood, the legal and economic issues associated with the policy are not. 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 do 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 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.

References

- Bagwell, K. and A. O. Sykes (2004), 'Chile -- Price Band System and Safeguard Measures Relating to Certain Agricultural Products', *World Trade Review*, 3: 507-528.
- Bigman D. (1987), 'The Theory of Variable Levies', *Oxford Economic Papers*, 39: 357-377.
- Devadoss. S. (1992), 'Market Interventions, International Price Stabilization, and Welfare Implications', *American Journal of Agricultural Economics*, 74: 281-290.
- Eaton, J. and G. M. Grossman (1985), 'Tariffs as Insurance: Optimal Commercial Policy When Domestic Markets are Incomplete', *The Canadian Journal of Economics*, 18: 258-272.
- Ingco, M.D. (1995), 'Agricultural Trade Liberalization in the Uruguay Round', Washington D.C.: World Bank Publications.
- Massell, B. (1969), 'Price Stabilization and Welfare', *The Quarterly Journal of Economics*, 83: 284-298.
- Newberry, D. M. G. and J. E. Stiglitz (1984), 'Pareto Inferior Trade', *Review of Economic Studies*, 51: 1-13.
- Nordström, H. (2001), 'Do Variable Levies Beggar Thy Neighbor?' *European Journal of Political Economy*, 17: 403-420.
- Oi, W. (1961), 'The Desirability of Price Instability under Perfect Competition', *Econometrica*, 29: 58-64.
- Pauwelyn, J. (2014), 'Waiving WTO Rights in an FTA? Panel Report on Peru-Agricultural Products', *International Economic Law and Policy Blog*, 3 December, <http://worldtradelaw.typepad.com/ielpblog/2014/12/waiving-wto-rights-in-an-fta-panel-report-on-peru-agricultural-products.html>.
- Trivelli, C. et al. (2003), 'Economic Liberalization and Evolution of Rural Agricultural Sector in Peru', Tokyo: Institute of Developing Economies, IDE-JETRO.
- Turnovsky, S. J. (1974), 'Price Expectations and the Welfare Gains from Price Stabilization', *American Journal of Agricultural Economics*, 56: 706--716.
- Waugh, F. V. (1966), 'Consumer Aspects of Price Instability', *Econometrica*, 34: 504-508.

Annex 1

Canada – Peru FTA

ARTICLE 128: PRICE BAND SYSTEM

Except as otherwise provided in this Agreement, Peru may maintain its Price Band System established in the D.S. N° 115-2001-EF and its amendments, with respect to the products subject to the application of the system as set out in Annex 218.

Chile-Peru FTA

ARTÍCULO 3.2: PROGRAMA DE LIBERACIÓN

11. En la utilización del Sistema de Banda de Precios, vigente en Chile, o de Derechos Específicos Variables vigentes en el Perú, relativas a la importación de mercaderías, las Partes se comprometen en el ámbito del presente Acuerdo, a no incluir nuevas mercancías ni a modificar los mecanismos o aplicarlos de tal forma que signifique un deterioro de las condiciones de acceso a sus respectivos territorios.

China – Peru FTA

CHAPTER 2. NATIONAL TREATMENT AND MARKET ACCESS FOR GOODS

ARTICLE 19: PRICE BAND SYSTEM

Peru may maintain its Price Band System established in the D.S. N° 115-2001-EF and its amendments, respect to the products subject to the application of the system and provided in Annex 3 (Price Band System).

Costa Rica – Peru FTA

ANEXO 2.3. PROGRAMA DE ELIMINACIÓN ARANCELARIA

9. Perú podrá mantener su Sistema de Franja de Precios en el D.S. N° 115-2001-EF y sus modificatorias, respecto a los productos sujetos a la aplicación del sistema indicado con un asterisco (*) en la columna 4 en la Lista de Perú establecida en este Anexo.

EFTA States - Peru FTA

ARTICLE 3.5: PRICE BAND SYSTEM

Peru may maintain its Price Band System for agricultural products as set out in Appendix 3 to Annex III (Processed Agricultural Products).

EU – Peru FTA

ARTICLE 30: PRICE BAND SYSTEM

Unless otherwise provided in this Agreement: . . .

- (b) Peru may apply its Price Band System established in the Supreme Decree 115-2001-EF and its modifications, or subsequent systems for agricultural goods covered in such Decree.

Guatemala – Peru FTA

ANEXO 2.3. ELIMINACIÓN ARANCELARIA

- 9. Perú podrá mantener su Sistema de Franja de Precios, establecido en el Decreto Supremo N° 1152001EF y sus modificatorias, respecto a los productos sujetos a la aplicación del sistema indicado con un asterisco (*) en la columna 4 en la Lista de Perú establecida en este Anexo.

Japan – Peru FTA

ARTICLE 28: PRICE BAND SYSTEM

Peru may maintain its Price Band System referred to in Note 2 of Section 1 of the Schedule of Peru in Annex 1, with respect to the agricultural goods specified in one asterisk (“*”) in column 5 of its Schedule.

Korea – Peru FTA

ARTICLE 2.16: PRICE BAND SYSTEM

Peru may maintain its price band system, established in its Supreme Decree N° 115-2001-EF and its amendments, with respect to the goods subject to the application of the system and listed in Annex 2D.

Mexico – Peru FTA

ANEXO AL ARTÍCULO 3.4-A. PROGRAMA DE ELIMINACIÓN ARANCELARIA

SECCIÓN 3: NOTAS PARA LA LISTA DEL PERÚ

Perú podrá mantener su Sistema de Franja de Precios establecido en el Decreto Supremo N° 115-2001-EF y sus modificatorias, únicamente para las mercancías sujetas a la aplicación del Sistema

indicado con un asterisco (*) en la columna 6 de la Lista. En caso que dicho Sistema sea modificado o eliminado, Perú otorgará a México de manera inmediata e incondicional el trato que surja de dicha modificación o eliminación.

Panama – Peru FTA

ANEXO 2.3. ELIMINACIÓN ARANCELARIA

9. Perú podrá mantener su Sistema de Franja de Precios, establecido en el Decreto Supremo N° 115-2001-EF y sus modificatorias, respecto a los productos sujetos a la aplicación del Sistema indicado con un asterisco (*) en la Lista de Perú establecida en el Anexo 2.3 (Programa de Eliminación Arancelaria).

Singapore – Peru FTA

ARTICLE 2.4: ELIMINATION OF CUSTOMS DUTIES

7. Peru shall maintain the application of its Price Band System as established in its Supreme Decree 115-2001-EF and 197-2002-EF and its subsequent legal modifications or succeeding system, for the products covered by that Decrees.

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

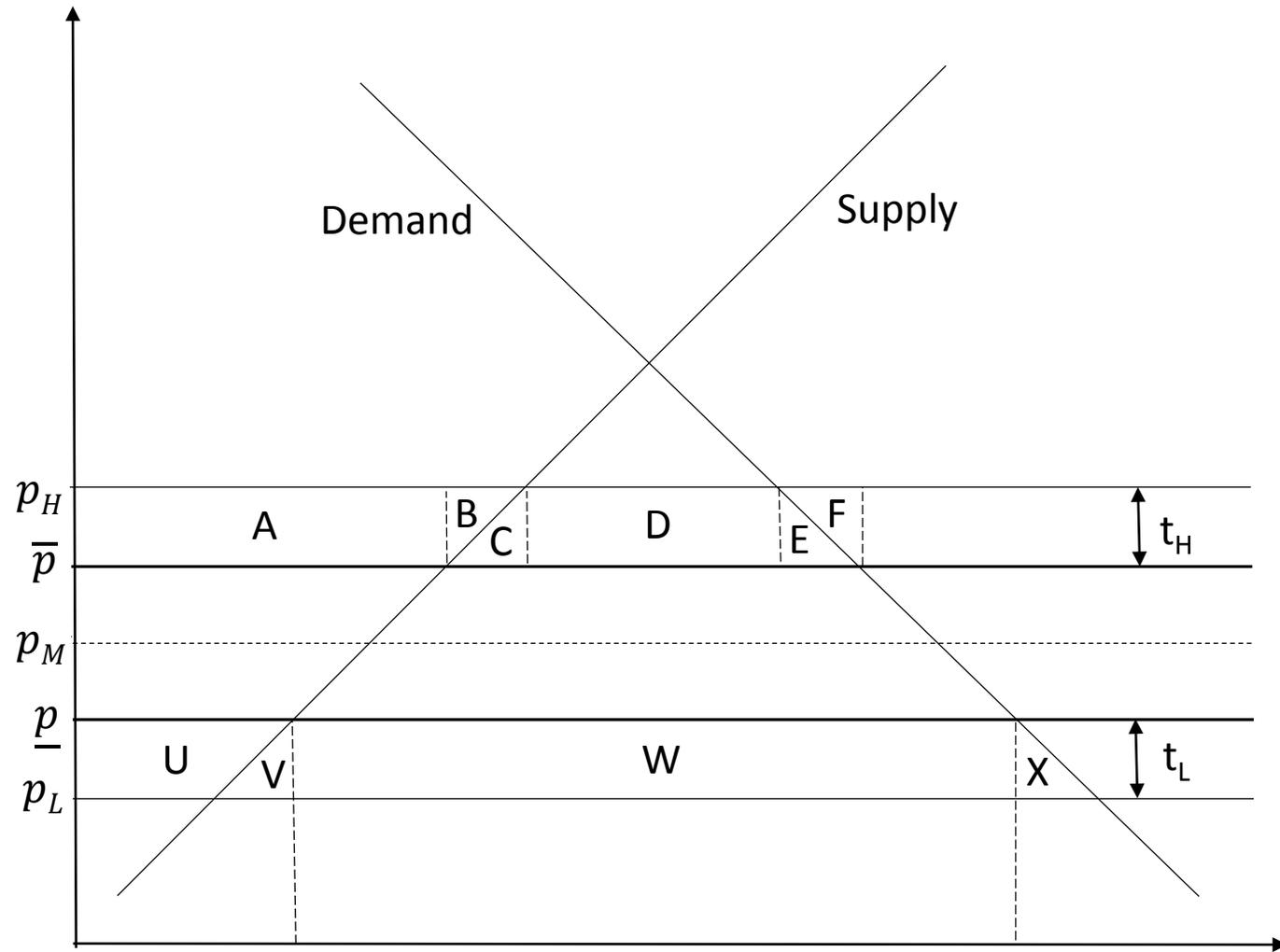


Figure 1: Effects of the PRS system on a small open economy