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Food security, developing countries and multilateral trade rules

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Executive summary

The WTO Agreement on Agriculture (AoA) is frequently criticised for not taking sufficient account of the needs of developing countries to pursue policies necessary to promote their food security. This paper assesses the extent to which existing and proposed trade rules in the AoA limit the policy space that developing countries have to pursue this goal.

Policy space refers to the room for manoeuvre available to countries to implement policies or commit budget expenditures which are not limited or constrained by AoA rules. The paper examines the extent of policy space available to developing countries to pursue their food security goals under the headings of import protection, domestic support, and the ability to respond to volatile world market prices. It examines the extent to which developing countries make actual use of the policy space that they currently have, while also drawing attention to areas where some change to AoA rules could be justified.

Developing countries have very heterogeneous needs as well as commitments under WTO rules, so there are inevitably exceptions to any generalizations that are made. With respect to import protection, most but not all developing countries have considerable unused policy space. Most developing countries have higher applied tariffs on agricultural imports than developed countries, and for most developing countries applied tariffs are well below bound rates.

The most important elements in the AoA domestic support provisions for developing countries are the exemptions from any discipline or limitation of a broad range of policies which can play an important role in enhancing their food security. These policies include green box policies, policies in the 'development box', as well as other trade-distorting policies up to the limit of their aggregate measurement of support (AMS) ceiling(s). For most developing countries, their disciplined trade-distorting support is limited to *de minimis* amounts under their AoA commitments. Most developing countries report no or minimal use of such support.

However, a number of emerging economies have been increasing trade-distorting support particularly through the use of administered support prices. The interaction between the AoA formula for calculating market price support due to the use of administered prices and the much increased level of world market prices now compared to the AoA base period in the mid-1980s has highlighted the restricted policy space that developing countries have to use this policy instrument. While the current AoA rules limit the negative spillover effects of domestic policies likely to distort trade including for other developing countries, the paper argues that there is a case on both economic and equity grounds for revisiting WTO rules in this area.

Only a minority of developing countries have access to an automatic safeguard mechanism to respond to imported price or volume volatility. Developing countries have thus sought greater flexibilities in the Doha Round negotiations to use safeguards when faced with import volume surges or low world market prices. While the principle of a special safeguard mechanism for developing countries is accepted, the use of this mechanism needs to have careful limits given that stabilizing prices or volumes in one country destabilizes prices for all others.

Finally, the lack of disciplines on export restrictions on foodstuffs is part of the unfinished business of the Uruguay Round, and strengthened disciplines should be an important objective for WTO members.

1. Introduction

The WTO occupies a distinct space in the emerging architecture of global food security governance. The Agreement on Agriculture (AoA) which resulted from the GATT Uruguay Round of multilateral trade negotiations is the first attempt to agree a comprehensive set of disciplines on members' trade policies.¹ The Agreement itself recognizes that it is but the first step towards the long-term objective of substantial progressive reductions in support and protection resulting in fundamental reform, and mandated negotiations to continue the process which began in 2000. These negotiations subsequently became part of the Doha Round of multilateral trade negotiations launched in 2001 (WTO, 2001a).

The relationship between trade rules and food security has been a central element in these negotiations. The AoA is frequently criticised for not taking sufficient account of the needs of developing countries to pursue policies necessary to promote their food security. This paper examines the validity of this criticism. It assesses the extent to which existing and proposed rules limit the policy space that developing countries might need. It also explores the way in which AoA rules enable trade to make a positive contribution to food security, while also highlighting areas where the absence of rules, incomplete rules or inappropriate rules hinder the role that trade can play.

That trade rules impinge on food security is formally recognised in the AoA in its preamble and is explicitly mentioned in several provisions of the Agreement. The preamble notes "that commitments under the reform programme should be made in an equitable way among all members, having regard to non-trade concerns, including food security [...]". Food security, in terms of the availability of adequate supplies of basic foodstuffs from external sources, was an explicit basis for the *Decision on Measures Concerning the Possible Negative Effects of the Reform Programme on Net-Food-Importing Countries* (also referred to as the Marrakesh Decision), which was designed to assist least developed countries (LDCs) and developing country net food importers faced with rising food prices as a result of the reform programme. Other provisions relevant to food security in the AoA include Article 10.4 which sets out the criteria for differentiation between legitimate international food aid and disguised government export subsidies; Article 12, which requires members (including developing country net food exporters) which propose to introduce export restrictions or prohibitions of foodstuffs to take account of their impacts on importing members' food security and sets out a consultation process; and Annex 2, which lays out the conditions to exempt expenditure on the accumulation and holding of food stocks which form an integral part of a food security programme as well as domestic food aid programmes from counting towards a country's allowed ceiling on trade-distorting support. Food security is also specifically addressed as part of the Doha mandate where "operationally effective special and differential treatment for developing countries is mandated to enable them to effectively take account of their development needs, including food security and rural development" (WTO, 2001a).²

¹ Other WTO Agreements such as the Sanitary and Phytosanitary (SPS) Agreement, the Technical Barriers to Trade (TBT) Agreement and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) are also relevant to the emerging governance of global food security but are not considered further in this paper. Although technically countries are members of the WTO, the two terms are used interchangeably in this report.

² Member country proposals to address food security are summarised in the WTO Secretariat backgrounder on the agricultural negotiations, https://www.wto.org/english/tratop_e/agric_e/negs_bkgrnd18_ph2foodsecurity_e.htm, updated 10 October 2002, accessed 20 March 2015.

However, there has been a continuing debate over whether the AoA disciplines and flexibilities are appropriate for developing countries seeking to promote their agricultural development and food security (Chatterjee and Murphy, 2014; Clapp, 2011; de Schutter, 2009; Díaz-Bonilla, 2014a; Gonzalez, 2002; Elliott, 2015; Häberli, 2010; Häberli, 2012; Josling, 2015; Sharma, 2011; Smith, 2012; Tangermann, 2013). Criticisms range from arguments that the AoA rules are lop-sided and essentially favour developed countries which can continue to heavily support their agricultural sectors, that they constrain the ability of developing countries to pursue their agricultural development and food security policies, and even that they undermine the right to food of developing countries. Critics allege that the liberalization of agricultural trade has benefited the larger, more export-oriented farmers, has led to the concentration of land and has marginalized small farmers and created unemployment and poverty. Olivier de Schutter, when UN Human Rights Council's Special Rapporteur on the Right to Food, criticized WTO rules on the grounds that they are not compatible with "vital measures to rehabilitate local food production capacity in developing countries" such as higher tariffs, temporary import restrictions, state purchase from smallholders, active marketing boards, and targeted farm subsidies (De Schutter, 2009). Public opinion is also swayed by calls for greater 'food sovereignty' made by many NGOs, expressed as the right "of each nation to maintain and develop its own capacity to produce its basic foods respecting cultural and productive diversity" (Via Campesina, 1996). A common refrain is that existing WTO rules constrain food-insecure states' policy space to improve their food security, even though many observers argue that the measures proposed would be ineffective or even counter-productive in helping countries to achieve this objective.

Another criticism is that WTO rules are no longer appropriate for the new reality of higher and more volatile food prices. According to de Schutter (2011, p. 3):

"Overproduction and declining prices dominated the agenda when States embarked on establishing a new international trade regime for agriculture during the Uruguay round of negotiations of the General Agreement on Tariffs and Trade (GATT). As a result, much of the existing WTO agricultural trade architecture, ranging from border protection, anti-dumping, and support for producers, are anchored within a framework primarily concerned with managing States' policy response to declining agricultural prices".

De Schutter suggests the global consensus on the need to support agricultural production in food insecure countries may well require creation of new types of food security trade-related measures and revising existing trade rules.

The difficulties that WTO members have in defining appropriate rules was underlined at the 2011 WTO Ministerial meeting which discussed food security. Two proposals were made, one calling for the removal and elimination of food export restrictions or extraordinary taxes for food purchased for non-commercial humanitarian purposes by the World Food Programme, while the other called for a 'work programme' on trade-related responses to mitigate the impact on food market prices and volatility. However, a consensus could not be found for either proposal.³

In this paper, I do not discuss the normative debate about the optimal policies to pursue and improve a country's food security. Whether more restrictive or more open trade policies lead to better food security outcomes for a developing country, and the relative merits of trade policies

³ The proposals are described at

https://www.wto.org/english/thewto_e/minist_e/min11_e/briefingfoodsec_e.htm, accessed 20 March 2015. The Chairman's summary of the discussions on this point are contained in WTO document WT/MIN(11)/11, https://www.wto.org/english/thewto_e/minist_e/...e/min11_11_e.doc, accessed 20 March 2015.

versus other measures to improve a country's agricultural productivity and its population's access to food, are heavily debated issues. For example, import protection which raises the price of food staples benefits farmers, at least those with a substantial market surplus, but will make access to food staples more difficult for consumers by raising their prices (for a flavour of this debate, see McCorriston *et al.*, 2013; OECD, 2013). For the purposes of this paper, I take an agnostic view on these issues. The aim of the paper is specifically to examine the scope within the existing and proposed AoA rules for countries to take the actions that *they* deem desirable. What is the 'policy space' available to developing countries? How extensive are the measures that they are able to take, and how binding are the obligations that they have accepted in the AoA? Would the proposed changes in the AoA rules set out in the now somewhat dated Revision 4 (Rev.4) of the draft modalities for agriculture put forward by the Chairman of the Special Session of the WTO Committee on Agriculture in 2008 (WTO, 2008b) change the policy space available to developing countries in significant ways?

However, the concept of 'policy space' cannot be limited to the freedom of action available to an individual country. A country's ability to pursue its food security goals is inevitably influenced by the actions of other countries. Trade rules also have a role in creating a more supportive environment for individual countries to improve their food security by limiting the possible negative impacts and spillovers from the policy actions of other countries, and particularly those measures that distort trade. In this respect, much of the negotiating effort of developing countries in the Doha Round has sought to restrain the trade-distorting policies of developed countries. Thus, a second focus of the paper is to outline and document the trends in trade-distorting support in developed countries since the conclusion of the AoA. Have developed countries reduced their trade-distorting support over the past two decades? How do the trends compare across import tariffs, domestic support and export subsidies? What would be the impact on developed country trade-distorting support if the Rev.4 draft modalities were agreed?

Increasingly, however, this distinction between developed and developing countries is losing its relevance. Developing countries are growing in importance in international trade and the scale of their policy interventions means that, for many developing countries, the world market prices and the degree of import competition that they face is increasingly determined by other developing countries. There is thus a trade-off between increasing the flexibility that individual developing countries have to choose the policy instruments they wish to use to support their domestic agriculture and their population's access to food, while limiting the potential for negative impacts from any trade distortions that might be induced by other developing countries making use of these same flexibilities.

As the concepts of developed and developing countries are used throughout the paper, this is the place to clarify what is meant by these categories. WTO rules recognize three groups of countries: the least developed countries (LDCs), developing and developed countries. The LDCs are defined by the UN Economic and Social Council on the basis of specific socio-economic criteria and the list is updated every three years. Developing countries and LDCs have access to special and differential treatment (SDT) provisions. However, there are no formal criteria to be met in order to be classified as a developing country in the WTO. This is a self-designated status for most members, although for new acceding members their status may be negotiated as part of their accession protocol. This has given rise to the paradoxical situation where some OECD members are considered developing countries in the WTO context with access to SDT provisions, while some developing country WTO members now have higher per capita incomes than countries classified as developed in the WTO which accept greater obligations (Schwab, 2011). There is no formal list of developing country WTO members, and some developing countries may be treated for some of their commitments as

developed countries (for example, Albania is treated as a developed country for its domestic support commitments).

Again, without taking a normative position on the usefulness or effectiveness of the specific policy instruments that countries might be allowed to use under WTO rules as part of their policy space, in line with the principle of special and differential treatment, it seems reasonable that developed countries should have the most constrained policy space while developing countries, and particularly LDCs, should have the greatest flexibility. The justification for this is that countries at different levels of socio-economic development have different capacities to make use of alternative policy instruments; thus, developing countries, and particularly LDCs, with more limited capacities, should be less constrained by external disciplines in their policy choices.

For this reason, I have adopted a distinction between developed and developing countries based on socio-economic criteria rather than self-declared status in the WTO in making comparisons of available policy space in this paper (the LDC category remains defined by the UN list). The classification used to define developed countries is the International Monetary Fund (IMF)'s list of 'advanced economies' for its World Economic Outlook, adapted to take into account customs territories which are WTO members but not IMF country members.⁴ Countries not in the developed country group and not on the LDC list are defined as developing countries. In some places in the paper, developing countries will be taken to mean those that have designated themselves as such in the WTO. Which definition of developing countries is used will be made clear where there is the possibility of ambiguity.

The paper is structured as follows. Section 2 elaborates on the dual nature of the policy space concept. Section 3 examines available policy space for developed and developing countries under AoA rules with respect to the use of import tariffs. Section 4 discusses the policy space developed and developing countries have to use domestic support instruments. Section 5 examines the scope that developed and developing countries have to address price volatility. Section 6 concludes.

2. The concept of policy space

Under the AoA, WTO members accept certain obligations, differentiated by the status of the country (developed, developing, LDC) which constrain or limit their ability to use a number of policy measures or budget expenditures, essentially those which potentially could have negative impacts on the trade of other countries (trade-distorting measures). Policy space refers to the remaining room for manoeuvre available to countries to implement policies or commit budget expenditures which are not limited or constrained by AoA rules.

The measure of the policy space available to a particular country will depend on which pillar of the AoA is under discussion. With respect to the market access pillar where the only policy measure permitted under AoA rules is the imposition of tariffs, policy space is measured by the height of a country's bound tariffs. Countries are permitted to raise their tariffs to their bound levels but not to exceed them. In the domestic support pillar, a WTO member's policy space is defined by its right to exempt support under some policies when calculating its Current Total Aggregate Measure of Support (CTAMS) as well as by the size of its limits on AMS support (Brink, 2015). In the case of export subsidies, a country's policy space is defined by the limits on the quantities of subsidized

⁴ The IMF list is found at <http://www.imf.org/external/pubs/ft/weo/2015/01/weodata/groups.htm>. The countries defined as developed when using the socio-economic classification in this paper are Australia; Canada; China, Hong Kong SAR; China, Macao SAR; Taiwan Province of China; EU-28, Iceland, Israel, Japan, Republic of Korea, New Zealand, Norway, Singapore, Switzerland, United States of America.

exports and the expenditure on export subsidies which it has committed not to exceed. Other elements of policy space refer to the rules governing the use of temporary import safeguards, export restrictions, or the rules governing food aid, government public stock-holding or domestic food assistance programmes.

Building on this definition, the following sections of the paper discuss the policy space available to developing countries under current and proposed AoA rules to pursue their food security objectives. I do not make a judgement as to whether using this policy space would be an effective or efficient way of addressing these objectives. However, it is useful to make four points at the outset.

- There is a wide range of policies that countries can pursue to improve their food security which are not disciplined or limited under WTO rules. For those policies which are disciplined because they directly affect the production decisions of farmers (e.g. market price support, trade policies, coupled direct payments, or input subsidies), one country's policy space to make use of these policies is another country's trade distortion. One country's attempt to shield itself against imported price volatility and to stabilize its domestic prices has the effect of destabilizing further world market prices for all other trading countries. Discussion of the importance of policy space often ignores the fact that policy actions by one country will have negative spillover effects on other countries which can adversely affect their food security. Much of the criticism of WTO rules sees trade policy as purely a domestic policy issue, ignoring the spillover effects on other countries and their food security. The discussion of policy space cannot be limited to the freedom of action available to an individual country. It also refers to the right to be protected from the negative effects of the policy measures adopted in other countries. If other countries heavily subsidize their exports, for example, such that world prices are depressed, this affects the ability of the first country to pursue its food security objectives in the same way as its own domestic policy measures.
- WTO rules are an attempt to solve a collective action problem (Josling, 2014). Such problems arise when countries, rationally pursuing their own self-interest, end up with an outcome which is less desirable than what could be achieved through co-operative action. Individual countries have an incentive to use trade policy to promote their own agricultural production or to stabilize their own domestic market. But the results of such actions can have negative consequences for other countries. If these countries react with offsetting measures, the final outcome can make all countries worse off. Even if in the short-run an individual country can do better by using trade policy solely as a domestic policy instrument, in the long-run such actions, particularly by the larger traders, are likely to have a cascading effect as other countries follow suit. The result is that the world market becomes an unreliable residual market with adverse consequences for all countries. Thus, one country accepting constraints on its own freedom of action in return for similar constraints on other countries' freedom of action is not necessarily a reduction in its policy space, although the terms of the trade-off can be debated in any particular area.
- Openness to trade can bring unwelcome impacts for food security, at least for specific population sub-groups, as when import-competing sectors come under pressure from cheaper or better-quality imports, or world market price volatility is transmitted to the domestic market. However, there are invariably non-trade policies which can better tackle the negative effects of trade. Advocates of the use of trade policies, given their inevitable negative spillovers for other countries, need to show why such non-trade policies cannot be implemented or may not work in particular circumstances. Particularly for LDCs, lack of administrative capacity may be an argument to justify resort to trade policies in such cases.
- Trade-distorting support and protection distorts wherever it is provided. Multilateral rule-making for agricultural trade is often perceived as an exercise in imposing disciplines on

developed country policies while maximizing policy space for developing countries. This view is underpinned by the belief that conditions of competition in agricultural trade between rich and poor countries are unfair (HLPE, 2011; WTO, 2000). This North-South view of multilateral agricultural trade negotiations corresponds less and less to reality. South-South agricultural trade is growing in importance. While developing countries' share of agricultural trade is currently around 40 percent, their share in the growth of trade is higher and well over half (Matthews 2014b). In future, trade rules will increasingly apply to trade between what today are called developing countries, making the question 'whose policy space?' an even more urgent one. Also, while agricultural support, and particularly its trade-distorting component, in OECD countries has been falling, such support has been growing rapidly in a number of the larger middle-income developing countries (OECD, 2014). It is thus important to think about the appropriateness of WTO rules in the context where South-South agricultural trade becomes the norm.

3. Multilateral rules on import protection

3.1. Description of current disciplines

For those countries that are WTO members, their ability to apply tariffs on imports of agricultural products is now constrained by their commitments under the AoA. Under the AoA, countries undertook to bind 100 percent of their tariff lines on agricultural products. The bound tariff commitments were derived on the basis of the Modalities for the Establishment of Specific Binding Commitments under the Reform Programme (MTN.GNG/MA/W/24) which had four key elements:

- For agricultural products subject to ordinary customs duties only, the reduction commitment was implemented on the bound duty level or, in the case of unbound duties, on the level applied as at 1 September 1986. In the case of products subject to unbound ordinary customs duties, developing countries were given the flexibility to offer ceiling bindings on these products.
- For agricultural products subject to border measures other than ordinary customs duties, the reduction commitment was implemented on customs duties resulting from "tariffication" of such measures. Tariffication meant establishing the equivalent *ad valorem* tariff by establishing the actual difference between internal and external prices.
- Ordinary customs duties, including those resulting from tariffication, were reduced for developed countries, over the six-year period commencing in the year 1995, on a simple average basis by 36 percent with a minimum rate of reduction of 15 percent for each tariff line. Developing countries were required to reduce these duties by 24 percent with a minimum rate of reduction of 10 percent for each tariff line over a ten-year period to 2004. LDCs were exempted from the reduction commitments.
- Where there were no significant imports minimum access opportunities had to be established through tariff rate quotas to represent 5 percent of domestic consumption by the end of the implementation period. Current access opportunities in excess of these minimum access quantities had to be maintained.

Commitments made by countries which joined the WTO after the AoA was signed were not based on these modalities but have been negotiated on a case-by-case basis with the existing members. In general, the bound tariffs negotiated by acceding members have been set at lower levels and, in particular, the option of ceiling bindings has not been available. The average agricultural bound tariff for members with AoA schedules of commitments is 63 percent, while the average for members

acceding to the WTO up to the end of 2013 (excluding countries which later became EU members) is 20 percent. Of the 22 countries in this group, 17 are considered as developing countries in the WTO.

The schedule of bound tariff commitments that each country submitted to the WTO when signing the Marrakesh agreement in 1995 (or attached to its accession protocol if it was not an original member and acceded subsequently to the WTO) thus sets the maximum tariff that any country can apply to an agricultural import. However, there is a procedure open to all WTO members that want subsequently to change a bound tariff commitment for whatever reason. When a tariff concession is modified or withdrawn, the principle is that compensation in the form of new concessions should be granted in order to maintain a general level of concessions not less favourable to trade. The GATT 1994 provides a procedure for the modification or withdrawal of agreed tariff concessions in agreement with those countries that are deemed to have a 'principal supplying interest'. These are countries with a significant export trade with the country proposing the change in the tariff concession.⁵ However, it is widely recognized that this is an arduous procedure which is not undertaken lightly and there is no guarantee of a successful outcome.

3.2. Import tariffs faced by developing countries

One objective of the Uruguay Round negotiations on agricultural trade liberalization was to lower protection and support in developed countries as one way to contribute to food security in developing countries. It was hoped that the AoA, by disciplining developed country policies, would help to lift world market prices, providing greater incentives to farmers in developing countries, particularly if developing countries also reformed their policies, and thus positively contribute to their welfare and food security (Anderson and Tyers, 1993; Anderson, 1998).

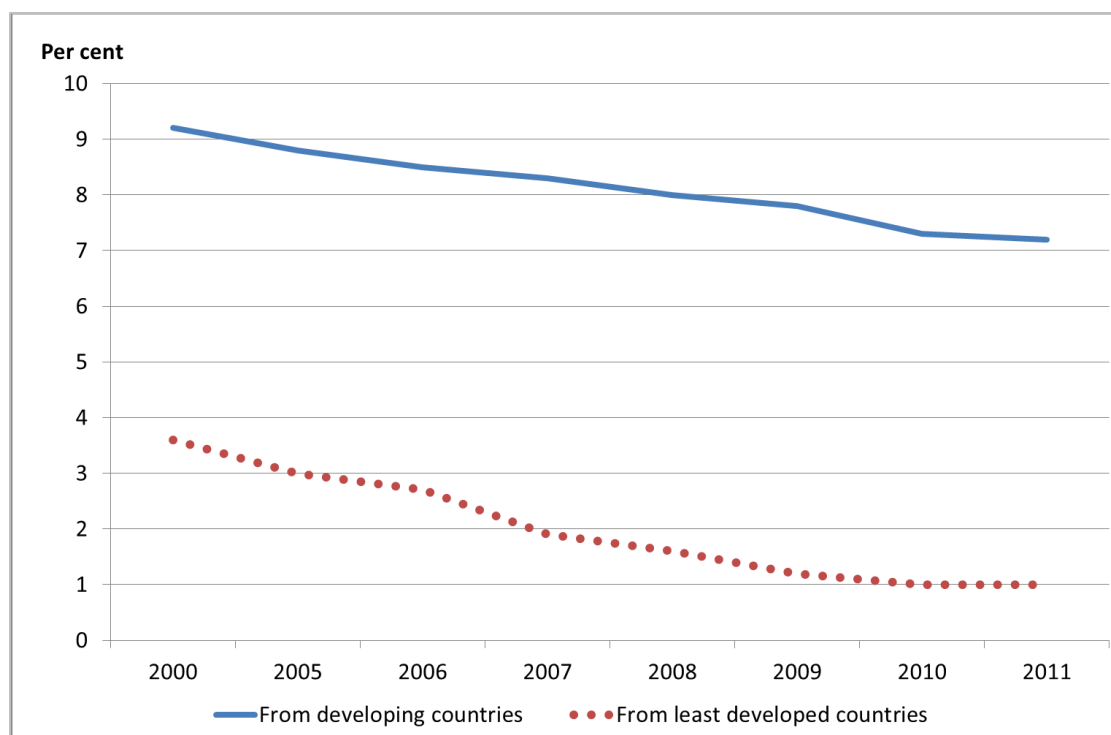
In reporting on progress towards the Millennium Development Goal (MDG) Target 8.A to develop further an open, rule-based, predictable, non-discriminatory trading and financial system, the UN MDG Monitoring Report 2014 examined trends in the tariff barriers facing developing country exporters (United Nations, 2014) using data prepared by the WTO (Figure 1). Developed country tariffs are still over 7 percent for agricultural exports from developing countries, even when preferential agreements are taken into account. However, this average tariff on agricultural goods dropped by 1.3 percentage points between 1996 and 2004, and by a further 1.4 percentage points by 2012. For LDCs, the average tariffs that they face in developed country markets have now dropped below 1 percent on their agrifood exports, resulting in a preference margin of almost 6.8 percentage points compared with competing exports originating from other developing countries. So developed country agricultural tariffs have been falling,⁶ even if a more ambitious rate of

⁵ For example, in 2000 India negotiated modified tariff rates on imports of rice, maize, sorghum and millet which had previously been bound under GATT at zero tariffs with the US, EU and Australia. See Government of India, Ministry of Commerce and Industry, *Negotiations under Article XXVIII of the GATT 1994*, <http://commerce.nic.in/wtomar2k2.htm>, accessed 24 March 2015. In 2012 Ukraine submitted a request to renegotiate its bound tariffs on 371 items, just four years after its accession to the EU. This proposal was received very critically by other WTO members, many of which called on Ukraine to withdraw the request (see the ICTSD Bridges report, 28 November 2012 at <http://www.ictsd.org/bridges-news/bridges/news/goods-council-ukraine-renegotiation-request-russia-trade-policies-under>). In October 2014 Ukraine withdrew its proposal while imposing a one-year tariff surcharge of 10 percent on agriculture products and five percent on non-agriculture products (exempting specified "vital commodities") under GATT 1994 Article XII to address Ukraine's balance of payments crisis. The Ukrainian request was clearly unusual in its scope and justification; nonetheless, countries do have the possibility to renegotiate individual bound tariff lines provided equivalent compensation is offered. This needs to be kept in mind if problems arise in further reducing tariffs on products of particular interest for the food security, livelihood concerns and rural development of a developing country.

⁶ This contradicts the claim made by some developing countries in their proposal for a Development Box (WTO, 2000).

progress would have contributed even more to improving export opportunities for developing country farmers.

Figure 1: Average tariffs levied by developed countries on agricultural exports from developing countries and least developed countries (LDCs), 2001–11 (percentage *ad valorem*)



Source: WTO (2014c, Table F.4).

Another perspective on the trend in farm protection in developed countries is provided by indicators from the OECD's Producer Support Estimate database.⁷ The Producer Nominal Protection Coefficient (producer NPC) measures the ratio between the average price received by producers at farm gate (including payments per tonne of current output), and the border price (measured at farm gate). It can be considered as a measure of applied protection although it will underestimate the applied tariff if there are cases of tariff redundancy. These cases arise where a country is a net exporter of a commodity, so that the producer price is closely determined by world market prices (in the absence of export subsidies). The country may have a positive applied tariff on this commodity, but its role in supporting producer prices is effectively redundant. The producer NPC also does not take input subsidies into account although these are relatively unimportant in developed countries.

A second indicator is the Producer Nominal Assistance Coefficient (producer NAC). This measures the ratio between the value of gross farm receipts (including support) and gross farm receipts valued at border prices (measured at farm gate). It thus takes into account, in addition to market price support and payments coupled to output captured by the NPC, other budgetary payments to individual producers (for example, agri-environment payments, disaster payments, regional payments and decoupled income support). These other budgetary payments would mostly meet the green box criteria and thus not be limited under AoA rules (see Section 4.2). The NPC is thus a better indicator of the trend in trade-distorting support, but the NAC trend is also shown for comparison. In

⁷ Note that this database now also covers a number of both OECD and non-OECD countries which have designated themselves as developing countries in the WTO. The figures in this section refer to developed country members of the OECD.

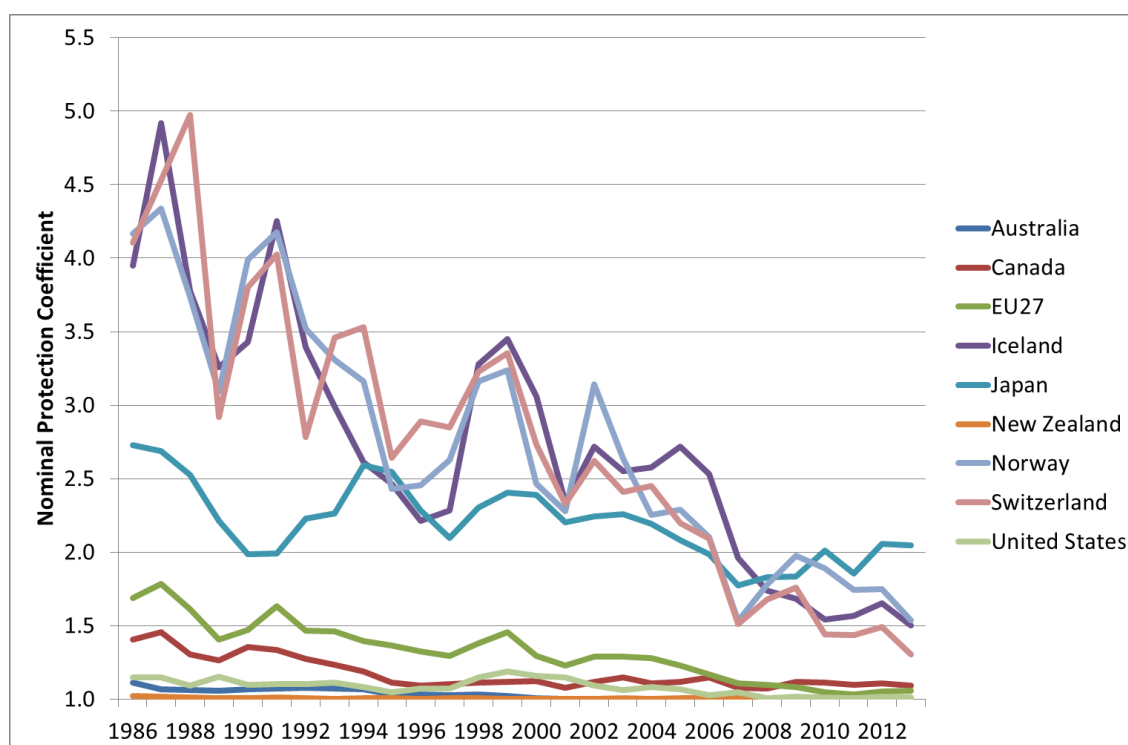
both cases, a value of 1 implies the absence of support and values greater than 1 indicate either positive price support (for the NPC) or total support (for the NAC).⁸

Both indicators show a clear reduction in farm protection and support in developed countries over time. The largest fall in agricultural protection took place prior to the tariff reductions under the AoA which were made over the period 1995–2000. The average NPC for the nine countries in Figure 2 fell from 2.42 in 1986–88 to 1.98 in 1992–94. However, it continued to fall steadily to 1.74 in 2000–02, 1.51 in 2005–07 and to 1.31 in 2011–13. While some of the recorded reduction in developed country agricultural protection in the period since 2005–07 is due to stronger world market prices, policy reforms since the introduction of the AoA have also been important. In this connection, the possibility that the 2014 United States Farm Bill might lead to a reversal in the downward trend in US farm support if world prices fall and trigger large counter-cyclical payments is a worrying development (Glauber and Westhoff, 2015; Smith, 2014).

Comparing these trends with the trend in the NAC for the nine countries underlines that some of the reduction in trade-distorting support has been replaced by other forms of support or transfers to producers. The simple average NAC for the nine countries was 2.43 in 1986–88 and 2.05 in 1992–94, values very close to the NPC values for those years. Following the introduction of the AoA, the average NAC fell to 2.01 in 2000–02, to 1.77 in 2005–07 and to 1.55 in 2011–13. Thus, over the period since the AoA came into force, the NAC has also fallen but not by as much as the NPC. There has been a relative increase in the share of support which is deemed not to be trade-distorting under the AoA's green box rules. Whether this support really has only a minimal impact on trade is disputed; this issue is taken up again in Section 4.2.

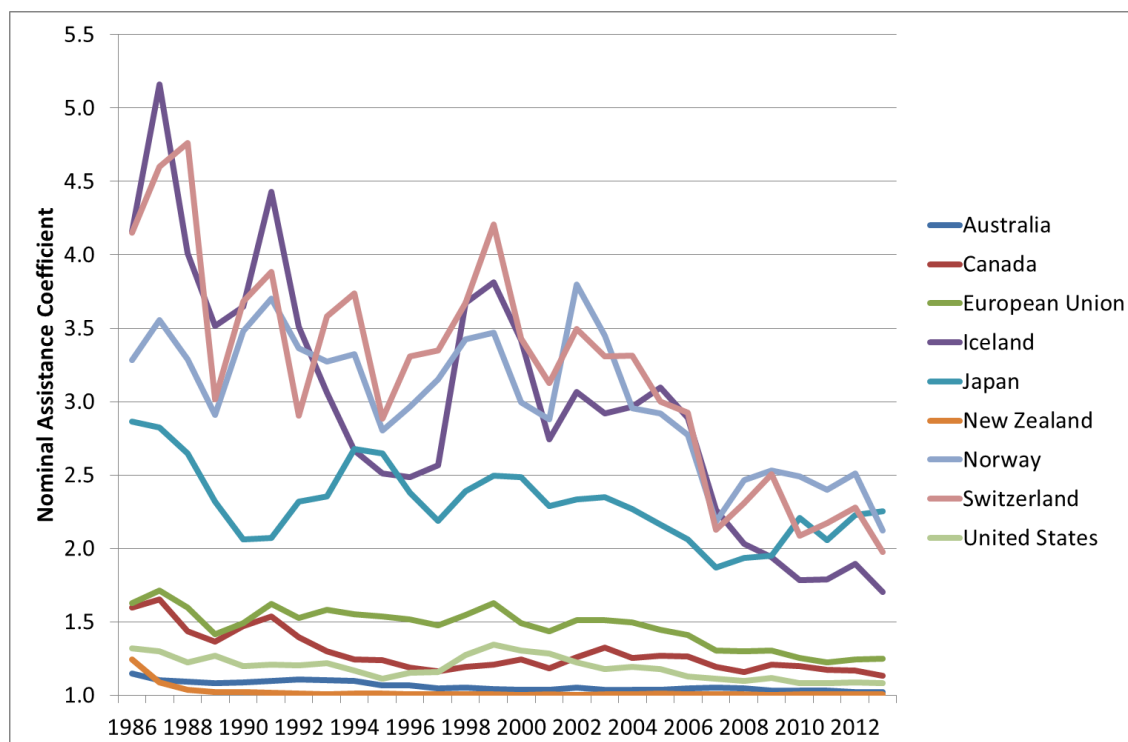
⁸ Support measured in the PSE database is defined and measured differently to the amount of support reported to the WTO under the AoA. The PSE indicators are used here to highlight the trend in agricultural support in developed countries.

Figure 2: Trend in Nominal Protection Coefficients in developed countries, 1986–2013



Source: Own calculations based on OECD PSE database.

Figure 3: Trend in Nominal Assistance Coefficient for developed countries, 1986–2013



Source: Own calculations based on OECD PSE database.

3.3. Food security and current import disciplines in developing countries

Many developing countries claim to want the possibility to protect their farmers in the face of low world market prices or an import surge as a way to improve their food security in some circumstances. Bound tariffs represent the policy space available to a country with respect to import protection, as in principle a country can raise its tariffs to the bound levels.

3.3.1. What policy space currently exists?

When looking at the pattern of bound tariffs, a clear hierarchy emerges (Table 1). LDCs have the highest tariff bindings on average, followed by developing countries, with the lowest bound tariffs in developed countries. However, when the tariffs actually applied are examined, there is almost no difference between the three groups. The consequence of this is that, on average, both LDCs and developing countries have considerably more unused policy space (the difference between their average bound and applied tariffs) than developed countries. While these averages paint a broad picture, there is an enormous amount of heterogeneity within these categories.

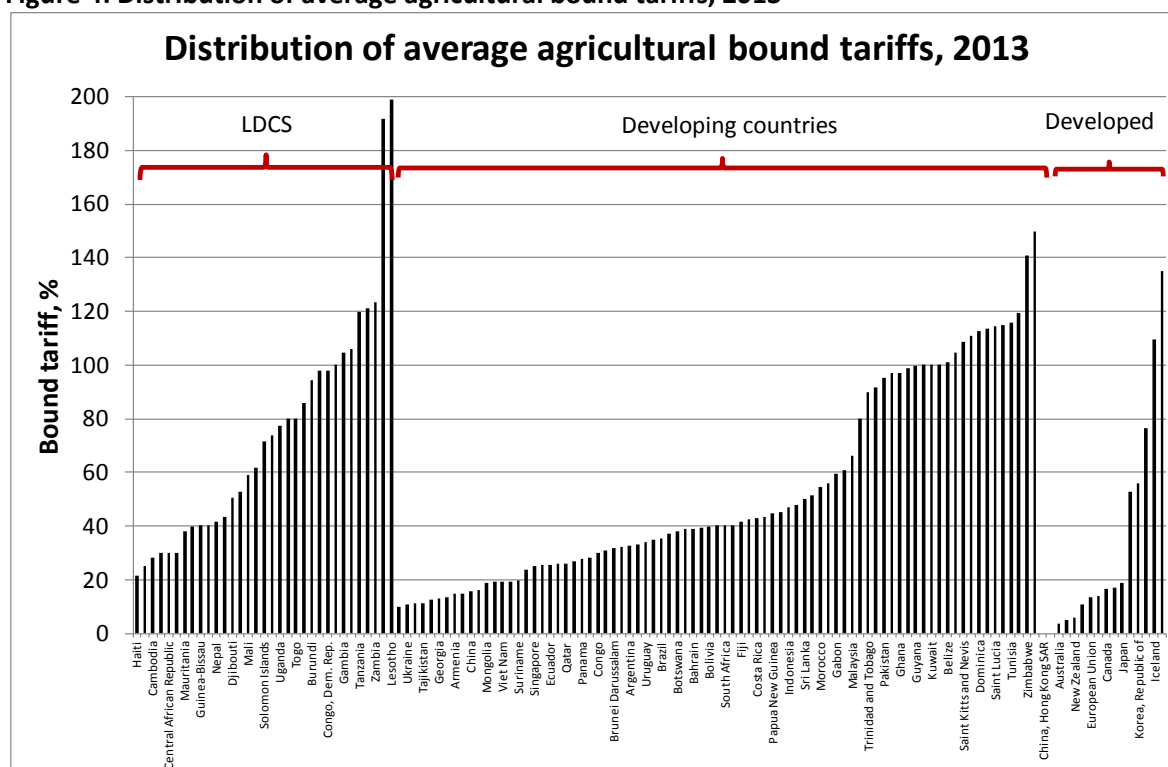
Table 1: Average tariff structures, by main country groups, 2013

	Average bound tariffs, %	Average applied tariffs, %	Average unused policy space, %
LDCs	74.5	15.1	59.3
Developing countries	52.9	14.8	38.1
Developed countries	35.7	16.7	19.0

Source: Own calculations based on WTO tariff data (WTO 2015). Countries are classified according to socio-economic status (see Section 1) rather than by their self-designated status in the WTO.

For example, within the group of LDCs, bound tariffs range from Haiti (21%), Yemen (25%) and Cambodia (28%) to Zambia (123%), Bangladesh (192%) and Lesotho (199%) (Figure 4). Of the 32 LDCs which are WTO members and for which data are available, 24 have average bound tariffs over 40%. For the group of developing countries (as defined by the IMF), average bound tariffs vary from 10% for Albania and 11% for Tajikistan, to 120% for Mauritius, 141% for Zimbabwe and 150% for Nigeria. Of the 82 WTO developing country members for which data exist, 42 have average bound tariffs of 40% and over. Average bound tariffs for developed countries range from 0% for China, Hong Kong SAR, 4% for Australia and 5% for the United States to 109% for Iceland and 135% for Norway.

Figure 4: Distribution of average agricultural bound tariffs, 2013

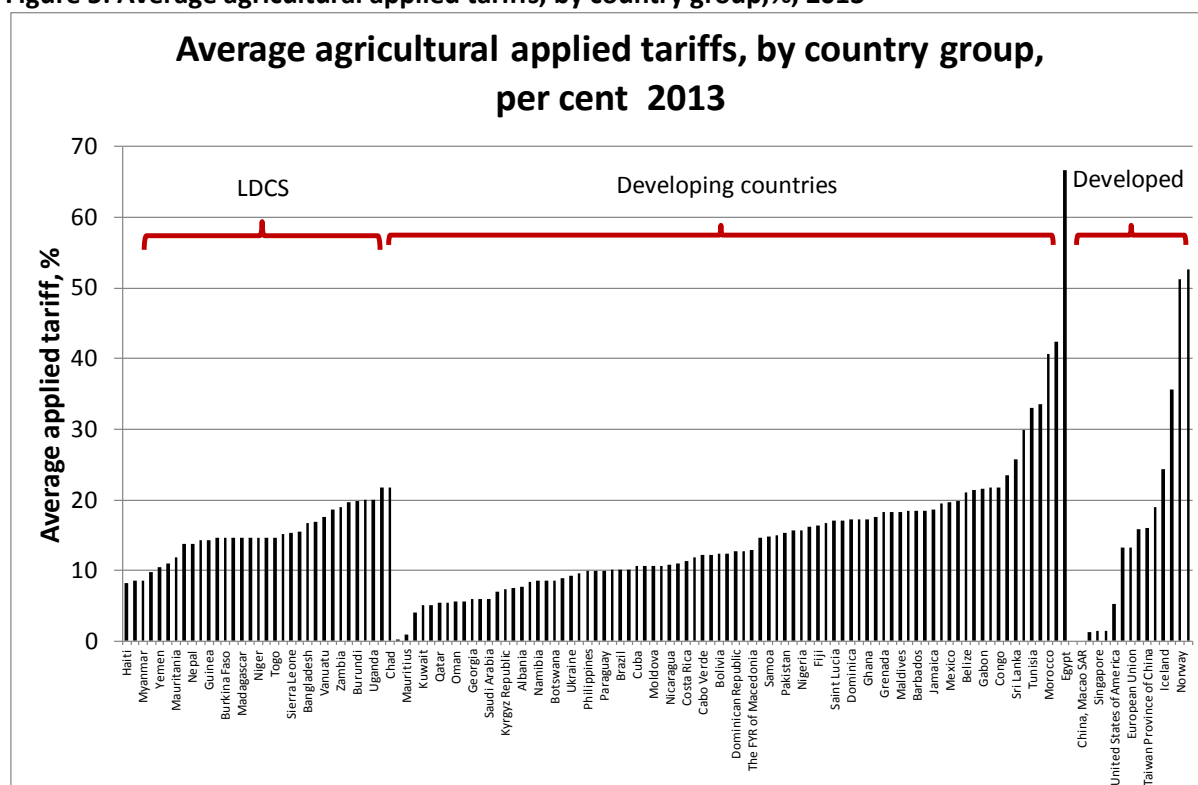


Source: Own calculations based on WTO tariff data (WTO 2015).

As shown already in Table 1, the distribution of applied agricultural tariffs is much more even both within and across the country groups (Figure 5). Most applied tariffs fall within the range 10–20%, but there are some outliers. Haiti has the lowest applied tariff among LDCs (8%), followed by Lesotho (9%), even though the latter has the highest average bound tariff of any WTO member.⁹ Among developing countries low rates are applied by Brunei, Mauritius, Singapore and many of the oil states in the Middle East. Among important agricultural producers Chile has the lowest applied rate of 6%. On the other hand, four developing countries have average applied tariff rates over 40% (Egypt 67%, the Republic of Korea 53%, Turkey 42% and Morocco 41%), while India comes next with an average applied tariff rate of 34%. Applied tariffs in developed countries follow the hierarchy of bound tariffs, ranging from 0% for China, Hong Kong SAR, and 1% for Australia and New Zealand to 36% for Switzerland and 51% for Norway.

⁹ This discrepancy arises because of its membership of the South African Customs Union.

Figure 5: Average agricultural applied tariffs, by country group,%, 2013



Source: Own calculations based on WTO tariff data (WTO 2015).

Combining the information on bound and applied tariffs yields an indicator of unused policy space, which is the difference between the two average tariff rates. While its bound tariff represents the full policy space available to a country, its unused policy space gives scope to increase current tariffs in the light of an unexpected fall in world market prices. Unlike bound tariffs, applied rates may be changed without formal notice to the WTO or compensation of trading partners as long as they do not exceed the bindings.¹⁰ A country's unused policy space also represents the extent to which further reductions in bound tariffs in the Doha Round would not require changes in its applied tariffs.¹¹ There are again very considerable differences between countries within each of the three country groups (Figure 6).

Among LDCs, six countries have less than 20 percentage points of unused policy space. However, as discussed in Section 3.4, LDCs are not likely to be asked to reduce their bound rates further as part of a Doha Round outcome. Twenty-four developing countries have less than 20 percentage points of unused policy space. The most important country in this group is China, where the margin between its bound and applied tariffs is just 0.2 percent.¹² Some of these countries are recently acceded WTO members that accepted low bound rates on accession, and for which special arrangements are likely to be made in a

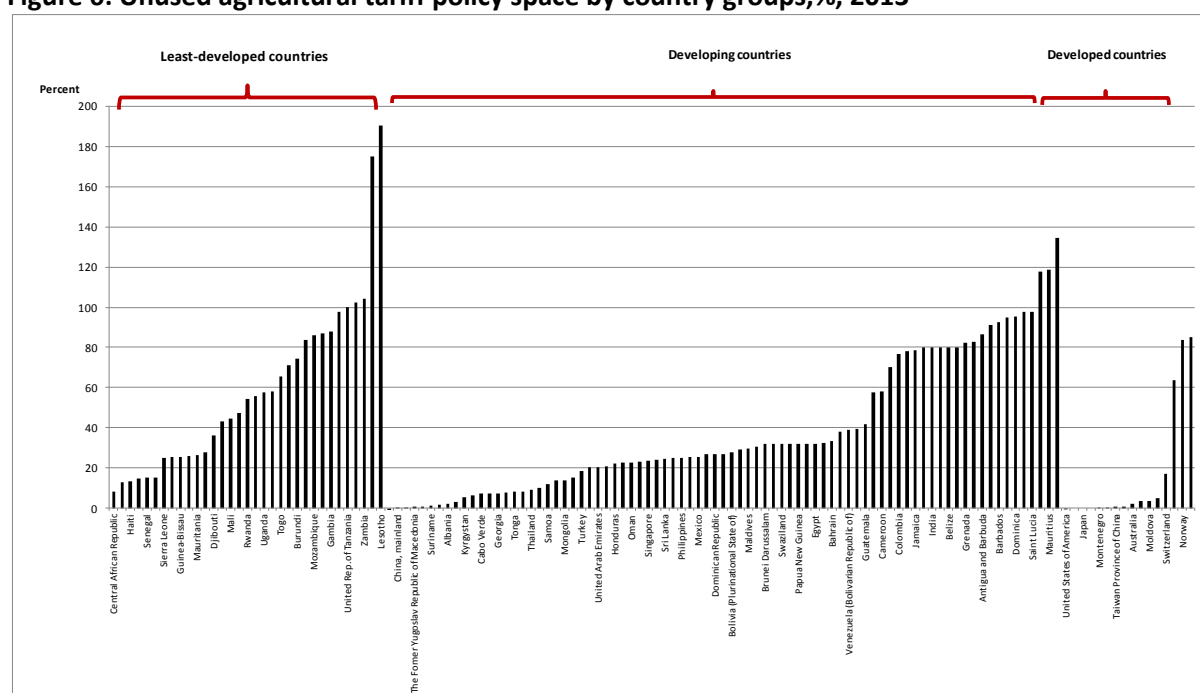
¹⁰ However, countries are not allowed to turn their tariffs into a variable levy in which the tariff level is directly related to the level of the international price, see *Chile-Price Band System DS 207* which resulted from a complaint brought by Argentina against the price band system used by Chile to stabilise its domestic prices, https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds207_e.htm. The result of the *Chile-Price Bands* case showed that varying applied tariffs even within the bound ceiling could be found illegal if the way that they are applied is inconsistent with the footnote to Article 4 AoA (Gifford & Montemayor 2010).

¹¹ In the tariff literature, unused policy space is referred to as 'water in the tariff'.

¹² The list includes Côte d'Ivoire, Tajikistan, Suriname, Albania, Viet Nam, Republic of Korea, Kyrgyz Republic, Jordan, Cabo Verde, Ecuador, Georgia, Armenia, Tonga, Democratic Republic of the Congo, Thailand, Saudi Arabia, Samoa, Morocco, Mongolia, Panama and Turkey.

Doha Round outcome. Others have low unused policy space because they have unusually high applied tariffs at present (Morocco, Turkey, the Republic of Korea). Thailand is the only other populous Asian country on the list, while Suriname and Panama are the only countries from Latin America.

Figure 6: Unused agricultural tariff policy space by country groups, %, 2013



Source: Own calculations based on WTO tariff data (WTO, 2015).

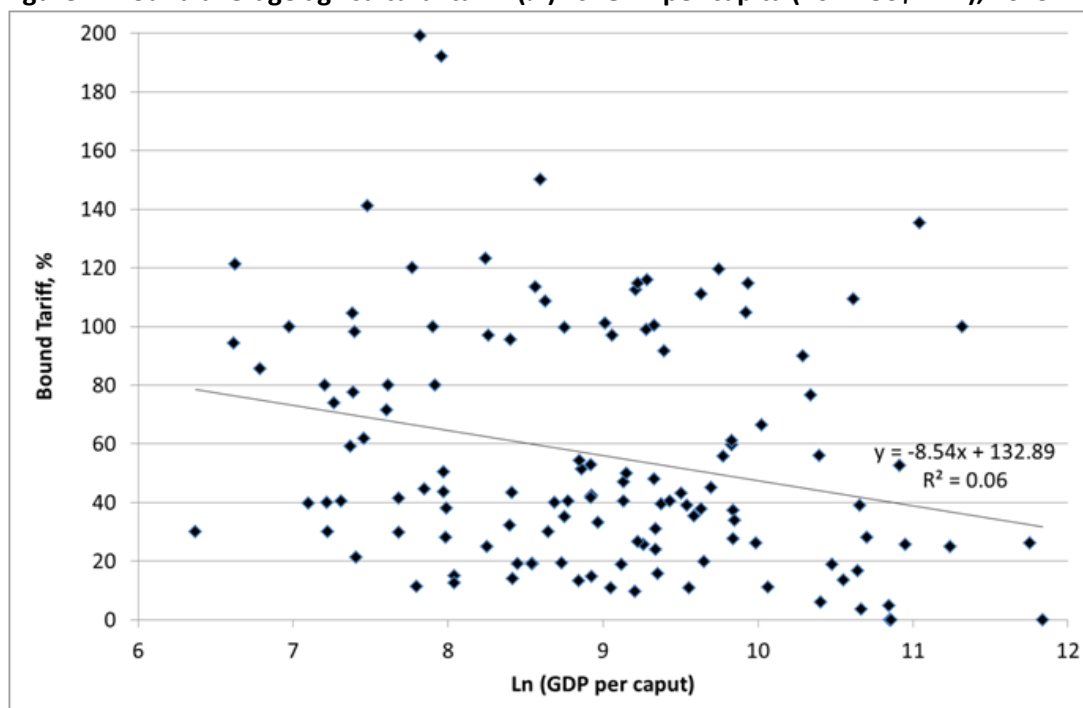
What emerges from these tabulations is not only the great heterogeneity of country situations, but also a sense that the differences between countries are rather arbitrary and not linked to any evident criteria, such as level of development. This pattern is the result of historical differences in applied tariffs and protection (for countries which bound their tariffs at the outset of the AoA at their applied rates or on the basis of tariffication) or, in the case of developing countries which had the option to offer ceiling bindings, in the different choices they made with respect to these ceiling bindings. The timing of accession to the WTO has also been important as acceding members after 1995 have had to offer lower bound tariffs as part of their accession agreements. While there is a general pattern that poorer and more vulnerable countries have greater import policy space, there are many exceptions.

The rather arbitrary nature of import policy space is explored further in the following two figures, which compare bound and applied average agricultural tariffs with GDP per capita. The presumption is that poorer countries have relatively larger numbers of poor and vulnerable small farmers and thus have greater need for policy space in the form of high bound tariffs.¹³ Figure 7 shows a weak negative relationship (in line with the aggregate figures in Table 1) but huge variation around this trend. Many developing countries opted for ceiling bindings, but it appears there was no sense among poorer countries that they necessarily needed greater import policy space. This is also borne out by the evidence in Figure 8, which shows the agricultural tariffs actually applied. Here the negative relationship virtually disappears. Most countries seem content with average agricultural tariffs in the range 10–20 percent, with the dispersion increasing as one moves to the right of the

¹³ A more direct measure of the vulnerability of the farm population might be average farm income (constructed as agricultural value added divided by the agricultural workforce). GDP per capita is here used as a proxy, but there are obvious exceptions. Gabon, for example, has a high GDP per capita but much of its rural population is still very poor.

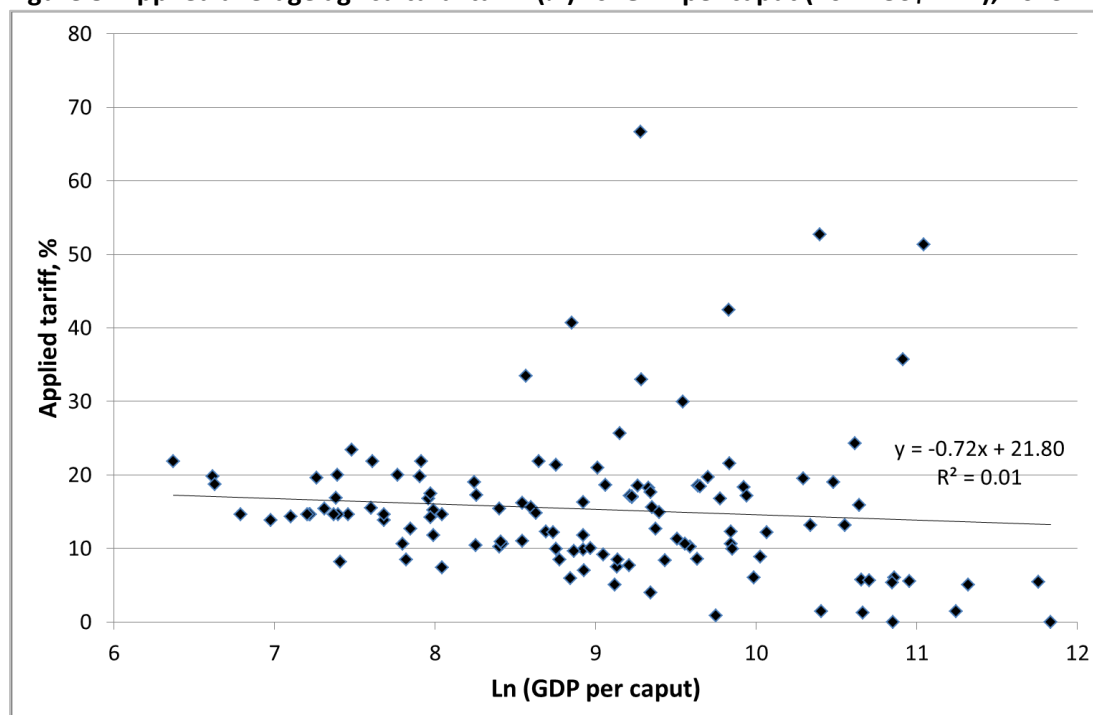
chart; higher-income countries include those both with much lower and much higher applied tariffs than for countries as a whole.

Figure 7: Bound average agricultural tariff (%) vs. GDP per capita (2011 US\$ PPP), 2013



Source: Own calculations.

Figure 8: Applied average agricultural tariff (%) vs. GDP per capita (2011 US\$ PPP), 2013



Source: Own calculations.

The data used until now show average agricultural tariffs. Individual country tariff schedules can be highly complex, with up to several thousand tariff lines, so there is inevitably a loss of information when these are summarized in an average tariff. The finding that many developing countries have

both high bound tariffs and much unused import tariff policy space does not necessarily hold true for each and every tariff line.

A more detailed tariff-line examination was carried out by Bernabe (2008) for selected members of the G-33 group with respect to 16 identified 'special products' (LDC members of the group were excluded as they would not be required to reduce bound tariffs under the Rev.4 draft modalities while tariff data were not available for some others). These emerged as the most commonly identified potential Special Products ('proxy' special products) from country studies conducted by the International Centre for Trade and Sustainable Development (ICTSD). The products are: rice, corn, wheat, beans, milk, dairy products, bovine meat, goat meat, sheep meat, pork, chicken, potatoes, tomatoes, onions, vegetable oils and sugar (ICTSD, 2007). In addition, researchers in 16 country case studies identified country-specific lists of potential Special Products which were also used in Bernabe's analysis.

The purpose of her analysis was to assess if there was a need to exempt special products from further tariff reductions because the difference between bound and applied tariffs was already very low. Further reductions in this tariff overhang would then limit the policy space of these countries to implement their desired applied tariff level. Products with tariff overhangs that were below 10 and 20 percentage points, respectively, were deemed appropriate for exclusion from further tariff cuts either because further bound tariff cuts would necessitate cuts in existing applied tariffs, or because of the need to maintain a buffer between bound and applied tariffs to address problems arising from downward volatility in world market prices. Of the 30 G-33 Members covered by the study, nine had at least one special product that has zero or negative overhang. Seventeen countries had at least one special product with a tariff overhang less than 10 percentage points, while twenty had special products that have tariff overhangs under 20 percentage points. These numbers increase if the country-specific lists of special products are used, given that the country-specific lists were drawn up, in part, taking account of commodities with low tariff overhangs.

Table 2 shows greater detail for four individual product groups that are important to food security, namely, cereals, oilseeds, meat and dairy products, for an arbitrary selection of countries drawn from each of the three country groups. The extent to which the average tariff gap is a good predictor of the unused policy space for individual commodities depends on the extent of tariff dispersion in a country's tariff schedule; the greater the degree of tariff dispersion in both bound and applied tariff structures, the more likely it will be to find products where the gap between the bound and applied tariff may be relatively small. There is some evidence that many developing countries have more even tariff structures, thus making this outcome less likely (coefficients of variation for bound and applied tariffs for individual WTO members are given in WTO (2014b)). This would mean that the average tariff gap can be a good proxy also for the unused policy space available for individual products. The extent to which the unused policy space differs across the four product groups in Table 2 can be evaluated by comparing the gap between bound and applied rates for each product group with the average gap for all agricultural products. In general, there are minimal differences between the tariff gaps for the individual product groups and the overall average tariff gap, suggesting (admittedly still at a high level of tariff aggregation) that the overall level of unused policy space carries over also to the individual product groups.

Table 2: Comparison of selected elements of tariff profiles in agriculture, 2013

Country	Tariffs in agriculture %		Tariffs in product groups, %							
	Simple average bound	Simple average applied	Animal products bound	Animal products applied	Dairy products bound	Dairy products applied	Cereals bound	Cereals applied	Oilseeds bound	Oilseeds applied
Developed countries										
Australia	3.5	1.2	1.5	0.4	4.7	3.9	2.7	1.1	3.3	1.5
Canada	16.8	15.9	28.1	24.5	246.9	248.9	19.7	21.4	5.5	3.9
EU28	13.5	13.2	23.2	20.0	53.9	52.8	21.9	17.1	5.6	6.1
Japan	19.0	19.0	12.3	11.0	98.0	135.3	66.0	52.0	8.1	9.1
Switzerland	52.6	35.7	148.3	116.7	106.3	116.9	47.9	27.9	62.4	22.3
United States of America	4.9	5.3	2.4	2.3	19.9	20.5	3.6	3.1	4.4	7.3
Developing countries										
Argentina	32.6	10.1	27.6	8.3	35.0	18.3	32.9	10.9	34.6	8.0
Brazil	35.4	10.2	37.8	8.2	48.8	18.3	42.9	10.6	34.6	7.9
China	15.8	15.6	14.8	14.1	12.2	12.3	23.7	23.0	11.6	10.9
Egypt	98.9	66.7	44.2	15.6	23.3	6.0	42.3	15.3	19.9	3.7
India	113.5	33.5	106.1	31.1	65.0	33.5	115.3	31.3	169.7	37.4
Indonesia	47.0	7.5	44.0	4.6	74.0	5.5	44.6	5.3	39.9	4.5
Mexico	45.1	19.7	62.4	36.0	63.0	30.6	46.3	15.8	44.4	13.8
Philippines	35.1	9.9	37.6	20.5	27.2	3.9	37.6	10.2	36.8	5.4
South Africa	40.4	8.4	41.7	10.6	93.2	9.7	47.0	8.5	47.5	7.6
Thailand	38.9	29.9	29.9	29.5	33.0	31.1	33.0	21.9	37.9	24.4
Turkey	61.0	42.4	132.8	103.7	169.8	129.6	68.6	37.9	24.4	14.0
Least developed countries										
Bangladesh	192.0	16.8	192.6	19.3	157.5	23.5	196.3	13.7	193.7	9.5
Cambodia	28.2	15.2	32.5	27.9	36.5	21.6	29.1	13.5	21.9	7.6
Mali	59.2	14.6	60.0	19.0	38.8	16.3	59.1	13.2	59.2	9.5
Mozambique	100.0	13.8	100.0	18.1	100.0	16.3	100.0	12.9	100.0	9.5
Senegal	29.8	14.6	30.0	19.0	27.4	16.3	29.5	13.2	30.0	10.7
United Rep. of Tanzania	120.0	20.0	120.0	23.1	120.0	43.3	120.0	23.5	120.0	34.3

Source: Own calculations based on WTO (2014d).

These numbers may give a misleading impression of the number of commodities that are actually affected. Bernabe found just 45 specific instances of potential special products in these 16 countries when potential special products have negative, zero or minimal tariff overhangs, given existing bound and applied tariff rates. This suggests that any perceived problem of lack of policy space even at the individual tariff line level is limited, and is highly specific to particular commodities in particular countries. As suggested above, such problems can be addressed making use of the WTO's provision for renegotiating specific tariff lines rather than investing large amounts of negotiating capital to defend rules of which the great majority of developing countries will never take advantage.

3.3.2. How has developing countries' use of policy space changed over time?

The WTO Tariff Profiles can also be used to examine how countries have used their import tariff policy space over time. Again, the issue is how to derive meaningful aggregate indicators from the very large number of tariff lines. Two indicators are examined in Table 3. The first is the change in the simple average applied tariff over the period 2006–13 (the average bound tariff in 2013 is also shown for comparison). The second is the change in the share of duty-free applied tariff lines in the

total number of agricultural tariff lines over the period. The period since 2006 begins before the first price spike in the recent period in 2007–08 so the period covered was of considerable volatility in world prices. A number of observers have noted that many countries responded to the increase in world market prices by reducing applied border tariffs in order to mitigate the rise in domestic prices (Konandreas, 2012).

The change in the average applied tariff over time is only a partial indicator of how a country has used its import tariff policy space. Only most favoured nation (MFN) tariffs are considered, so no account is taken of lower protection as a result of a country entering into preferential trade agreements. The simple averages are measured over all agricultural tariff lines, so they include highly processed food commodities, alcoholic beverages and tobacco as well as basic food commodities more relevant to food security. Also, the average is unable to capture the possibility that a country might lower its import tariff on some commodities (say, basic foodstuffs important to household budgets) while raising tariffs on other food or drink commodities (perhaps to make up for any tariff revenue shortfall). Here the second indicator, the change in the share of duty-free tariff lines, can help to indicate whether tariff dispersion has increased or not. Finally, for countries which make use of specific tariffs, a change in applied tariffs may reflect changes in world market (import) prices rather than a discretionary use by the country of its policy space. To evaluate the potential importance of this effect, the proportion of non-*ad valorem* tariff lines in total agricultural tariff lines is also shown in Table 3.

In examining changes in average applied tariffs over time, very small changes can be discounted as these may reflect changes in the tariff structure and the number of tariff lines. Such changes could affect the simple average applied tariff without implying any change in the level of protection provided by the tariff structure. Many of the developed countries in the sample in Table 3 have reduced their applied tariffs in recent years, in line with the previous discussion (Figure 1). The final column shows that these countries make significant use of non-*ad valorem* tariffs, and higher world market prices would have the effect of reducing applied *ad valorem* tariffs even in the absence of discretionary policy changes. Another characteristic of developed countries' agricultural tariff schedules is the high proportion of duty-free tariff lines (which implies higher average tariffs on those tariff lines which carry a tariff). Both Australia and Canada offered duty-free access on a much higher proportion of their tariff lines than they were required to under their schedules of commitments, but there was little overall change in the proportion of duty-free lines among the developed countries in the sample over the period.

For developing countries, despite the evidence that many countries lowered import tariffs on some foodstuffs in response to the increase in world market prices, the picture shown in Table 3 is more mixed. Applied tariffs were reduced in India, Indonesia and South Africa, but increased in Mexico and Thailand, and marginally in the Philippines and Turkey. Only South Africa and Thailand make significant use of non-*ad valorem* tariffs in the agricultural sector, which could explain some of the observed average tariff reduction in South Africa. A stronger pattern emerges when looking at the share of duty-free tariff lines. These are, in general, not a feature of developing countries' bound tariff commitments (South Africa is an exception). In practice, countries have chosen to apply duty-free treatment to a proportion of agricultural imports and this proportion has tended to increase over time, sometimes significantly (for example, Egypt increased its share of duty-free tariff lines from 3 percent in 2006 to 16 percent in 2013).

A mixed picture also emerges for the least developed countries. Average applied tariffs increased marginally in Mali, Senegal and Tanzania, while decreasing in Bangladesh, Cambodia and Mozambique. Non-*ad valorem* tariffs play no role in explaining changes in this group of countries. In general, duty-free access is not common for agricultural imports in this group. Two of the countries

in the sample in Table 3 reduced the proportion of duty-free lines, while one (Cambodia) substantially increased its share.

Table 3: Change in applied agricultural tariffs, 2006–13

Country	Simple average			Percentage of duty-free tariff lines			Non <i>ad valorem</i> duties
	Average bound tariff 2013	Average tariff applied 2006	Average tariff applied 2013	Bound	Applied 2006	Applied 2013	Applied 2013
Developed countries							
Australia	3.5	1.2	1.2	31.3	77.6	77.0	0.9
Canada	16.8	17.3	15.9	46.1	57.8	59.3	12.3
EU27/28	13.5	15.1	13.2	32.3	31.1	31.3	32.1
Japan	19.0	24.3	19.0	34.1	35.9	35.9	13.9
Switzerland	52.6	43.8	35.7	22.7	27.0	30.0	70.0
United States	4.9	5.3	5.3	30.2	32.9	30.8	41.4
Developing countries							
Argentina	32.6	10.1	10.1	0.1	6.4	7.4	0.0
Brazil	35.4	10.2	10.2	2.7	6.3	7.9	0.0
China	15.8	15.7	15.6	5.8	6.0	7.2	0.3
Egypt	98.9	66.6	66.7	0.0	2.9	16.0	1.3
India	113.5	37.6	33.5	0.0	2.5	5.1	0.3
Indonesia	47.0	8.2	7.5	0.0	13.3	8.6	3.3
Mexico	45.1	18.2	19.7	0.4	9.0	18.8	4.5
Philippines	35.1	9.6	9.9	0.0	0.2	0.4	0.0
South Africa	40.4	9.0	8.4	21.4	44.8	47.2	12.8
Thailand	38.9	22.1	29.9	2.0	3.7	4.6	28.1
Turkey	61.0	42.0	42.4	0.0	17.2	16.9	0.5
Least-developed countries							
Bangladesh	192.0	17.3	16.8	0.0	11.5	10.4	0.7
Cambodia	28.2	18.1	15.2	0.0	5.1	13.5	0.0
Mali	59.2	14.3	14.6	0.0	0.0	0	0.0
Mozambique	100.0	16.4	13.8	0.0	0.6	0.7	0.0
Senegal	29.8	14.3	14.6	0.0	0.0	0.0	0.0
Tanzania	120.0	19.0	20.0	0.0	17.0	15.4	1.0

Source: Own calculations based on WTO (2014d).

The evidence from the sample of countries in Table 3 suggests that tariff policy on agricultural products on average did not change radically between 2006 and 2013 despite the upheavals on world markets during this period. It is important to reiterate that the use of simple averages for each country smooths out and conceals any changes in individual tariff lines that may have taken place (for example, on basic grains) particularly if countries at the same time raised tariffs on luxury or more highly processed foods in order to recoup lost tariff revenue. It may also be the case that countries temporarily suspended or lowered tariffs for a short period of time before reinstating them at the original level. For example, (Baldwin and Alcamo, 2013) describe how poor domestic harvests and rising prices in India led to the elimination of duties on sugar in 2009 and 2010, on wheat between September 2006 and January 2009, on rice from March 2008 to March 2009, on pulses in June 2006, and on vegetable oils in 2007. This volatility in applied tariffs would not be

picked up in the medium-term comparison shown in Table 3. They also note that the Indian cut flower tariff was raised from 30 to 60 percent in the FY 2005/06 budget, reportedly to protect an infant industry with expanding employment and export potential.¹⁴

Despite this caveat, the message conveyed by Table 3 is that applied tariff structures for agricultural imports appear to be 'sticky'. This may reflect the importance of tariffs as a source of government revenue rather than their role in helping to achieve domestic food price objectives.

An alternative source of data on changes in developing countries' support for their agricultural sectors are the nominal rates of assistance (NRA) to developing country agriculture calculated in the World Bank Agricultural Distortions Project (Anderson 2013). This dataset has the advantage of a longer time series thus allowing post-1995 trends to be seen in a historical perspective. The nominal rate of assistance compares domestic market prices with external prices in each year (thus following the methodology set out for tariffication in the AoA modalities, although the NRA also includes direct payments linked to output) but it does not measure border tariffs directly. Domestic market prices could be influenced by, in addition to border tariffs, other policy instruments including quantitative import restrictions, administered prices as well as exchange rate misalignment. The nominal rate of assistance for developing country agriculture increased between 1990–94 and 2000–04 (the period over which developing countries phased in the AoA) before falling somewhat in 2005–2010 (most likely due to the high world market prices in that period). Although indirect evidence, it contradicts those who claim that the AoA not only prevented developing countries from supporting their agriculture but also forced the opening up of their markets. Developing countries on average increased their protection of agriculture over this period. It is again important to emphasize that the experience of individual countries may differ from this average for all developing countries.

3.3.3. Has the AoA constrained developing countries' policy space to set import tariffs?

This evidence shows that WTO tariff bindings have not been a major factor in constraining the ability of developing and least-developed countries to set their applied tariffs in the period since the AoA came into force (see also Sharma, 2007; Laroche Dupraz and Postolle, 2013). The evidence also contradicts the claim often made in the literature that the AoA forced the further opening up of markets in developing countries (Ching and Khor, 2013; Lilliston and Hansen-Kuhn, 2013; McKeon, 2011). The AoA did require developing countries that used ordinary customs duties only or that set bound duties using the tariffication formula to reduce these bound duties by 24 percent on average over the ten-year period 1995–2004, with a minimum reduction for any tariff line of 10 percent. However, all developing countries signing the AoA had the option to choose ceiling bindings for previously unbound tariff lines (and 83 percent of all developing country agricultural tariff lines were unbound prior to the Uruguay Round, see Tangermann, 2002) from which to make these cuts, and LDCs in any event were not required to reduce bound tariffs. It appears that bound tariffs for many countries were set at sufficiently high levels that most developing countries have retained the flexibility to apply tariffs at the level they wanted.¹⁵

¹⁴ Baldwin and Alcamo work for the US International Trade Commission (USITC). Another USITC publication notes that "The Indian government frequently changes its rates on heavily traded international commodities, such as wheat, rice, sugar, and vegetable oils, to mitigate food price inflation, depending on market conditions. If domestic agricultural prices rise, tariff rates are lowered to create downward pressure on those prices to minimize the impact on consumers; when prices fall, the rates are often increased to protect farmers by raising the overall cost of imports." (USITC, 2009).

¹⁵ It is also asserted in the literature that the Uruguay Round AoA led to an "uneven nature of trade liberalization, where the developing countries in effect liberalised to a much greater extent than the rich countries" (Clapp, 2011). This claim was made earlier by the same author in (Clapp, 2006, p. 2006) which argued that "under the AOA the depth of the tariff cuts made by developing countries was on average greater

Another claim in the literature is that the adoption of low applied tariffs by developing countries is the result of structural adjustment programmes, implying that they are not the first choice of developing countries themselves (Margulis, 2014). It is implied that developing countries would choose to implement much higher tariffs if left to their own devices and if they were not under the supervision of external agencies. Tariff reform and reduction was often part of Structural Adjustment Programmes in the 1980s and 1990s designed as conditions for countries in balance of payment difficulties to access funding from the IMF and the World Bank. (Ingco, 1995), in her analysis of agricultural trade liberalization in the Uruguay Round, observed that many Latin American countries had undertaken unilateral trade reforms in the late 1980s or early 1990s and consolidated this liberalization in their commitments under the AoA. However, the number of developing countries entering into IMF arrangements fell dramatically during the 2000s as macroeconomic and growth indicators improved, and only began to slowly increase again following the economic crisis in 2008 (see Annual Reports of the IMF Executive Board). The tariff choices of developing countries since the entry into force of the AoA are thus much less likely to have been the result of external pressures; it is much more plausible to see them as the outcome of domestic political economy pressures as is also the case for developed countries (Anderson, 2010). In any event, WTO rules do not apply to applied tariffs, but to bound tariffs. Only where applied tariffs are equal to bound tariffs can there be evidence that WTO rules have constrained the policy space of developing countries. Yet in no developing countries (with the exception of China) have applied tariffs been consistently set at close to the bound rates.

3.4. Food security implications of the Doha Round Rev.4 proposals

The ongoing Doha round of multilateral trade negotiations is intended “to achieve substantial improvements in market access; reductions of, with a view to phasing out, all forms of export subsidies; and substantial reductions in trade-distorting domestic support” (WTO, 2001a). Some developing countries fear that a lack of sufficient flexibilities in the current and proposed WTO rules could lead to economic and social disruption if tariffs on sensitive products are substantially reduced and if they are prevented from taking action to offset a sudden surge in imports or unusually low world market prices.

These countries sought exemptions from tariff reductions for products they saw as important for their food security (special products, SP), as well as for the right to protect themselves from destabilizing import competition (special safeguard mechanism, SSM). In addition, all countries would have the right to designate a specified number of tariff lines on sensitive products, where lower tariff reductions than mandated by the formula approach would apply, in return for increases

than the cuts made in industrialised countries”. This assertion was supported by a reference to (Anderson and Martin, 2005) which in turn referenced work by (Finger and Winters, 2002). However, this reference refers to tariff reductions in all merchandise trade and not just agricultural tariffs. A comprehensive investigation of the pattern of agricultural tariff reductions was undertaken by Ingco (1995). Comparing pre- and post-Uruguay Round tariffs requires strong assumptions given that many countries had not bound their agricultural tariffs prior to the Uruguay Round. That paper does not calculate average tariff reductions for developed and developing countries as groups but examines the pattern for individual countries. She concludes that both developed and developing countries used the tariffification process to increase their base bound tariffs above previous applied levels (‘dirty tariffification’). She also concludes that, in Asia and Africa but not necessarily in Latin America, many developing countries opted for ceiling bindings which were also much higher than their applied tariffs prior to the Uruguay Round. Least developed countries were required to bind but not to reduce agricultural tariffs in the Uruguay Round. If final bound tariffs are compared to applied tariff equivalents in 1986-88, she concludes that tariff protection increased in some developed countries (e.g. the United States and the EU but not Japan) and also increased significantly in most developing countries (both because many had negative applied tariff equivalents in 1986-88 and because of their use of high ceiling bound rates).

in market access through tariff rate quotas (Box 1). It is not easy to work out from the Rev.4 draft modalities how individual countries might be affected by an agreement on that basis. This would depend partly on how countries responded to the various flexibilities offered in the modalities, particularly the provisions for special and sensitive products. It is also unclear if the Rev.4 modalities can form the basis for a successful Doha Round outcome and what further changes might need to be made to secure the agreement of all parties. Nonetheless, the Rev.4 draft modalities remain the most specific guidelines as to how WTO rules might change in the future.

Developing countries' food security will be affected by the additional commitments undertaken by developed countries as well as by the impact of the draft modalities on import protection policy space. The tariff-cutting formula in the Rev.4 draft modalities is aggressive, particularly relative to the approach used in the Uruguay Round negotiations. Based on the application of the tariff reduction formula alone, the weighted average applied tariffs in developed countries would fall by more than 50 percent and by 18.5 percent in developing countries (Laborde *et al.*, 2012). This difference reflects both the impact of the differentiated formula reductions and the much greater gaps between bound and applied tariffs in developing countries (Table 3).

The inclusion of flexibilities reduces the cuts in applied rates in the developed countries, although there would still be a substantial cut in their average applied rates. In the developing countries, by contrast, the inclusion of flexibilities reduces the cut in average applied rates to 0.8 percent of the initial tariff rate. Overall, applied tariffs facing both developed and developing countries (including in other developing country markets) after taking account of flexibilities would fall by around 20 percent. Brink (2014) examines the possible implications for some individual developing countries based on the Laborde and Martin (2011) study. He concludes that several countries would not reduce their average applied tariff at all: Brazil (average applied tariff of 4.8%); India (52.9%); Indonesia (7.6%); Mexico (3.9%); and South Africa (5.9%). For other countries the reduction in their applied tariffs would be minimal, i.e. one percentage point or less: China (from 7.8% to 7.5%), the Republic of Korea (from 27.8% to 27.1%), Thailand (from 20.6% to 19.6%), and Turkey (from 13.6% to 13.2%).¹⁶

Thus, it appears that the Rev.4 draft modalities would have little impact on the existing import protection policy space used by developing countries although it would reduce their potential or unused policy space. For LDCs and some very recently-acceded members and transition economies, their unused import protection policy space would not be affected by the Rev.4 draft modalities as they are not required to implement any reduction in bound tariffs. Conversely, this implies that little new market access would be created in developing countries as a result of the Doha Round, which has reduced the attractiveness of an agreement based on the Rev.4 draft modalities for agricultural exporters. Bridging this divide remains one of the outstanding issues in the negotiations.

¹⁶ Note that these applied trade-weighted average agricultural tariffs differ, sometimes very substantially, from the same figures in the WTO tariff profiles. Part of the explanation is that the figures relate to different time periods (generally 2004 for the Laborde and Martin figures and 2013 for the WTO tariff profile figures), part is due to differences between simple and trade-weighted average tariffs, while another part is due to differences in the treatment of non ad valorem tariffs and tariff rate quotas in calculating WTO tariff profiles and in the MACMAPs database used by Laborde and Martin. Nonetheless, for some countries, the differences are striking.

Box 1: Tariff-cutting provisions in the Doha Round Rev.4 draft modalities

The Rev.4 draft modalities on market access concern tariffs and Tariff Rate Quotas (TRQs). This box describes the provisions affecting tariffs.

Tariffs would be cut according to a formula which prescribes steeper cuts on higher tariffs. For developed countries the cuts would rise from 50% for tariffs below 20%, to 70% for tariffs above 75%, subject to a 54% minimum average, with some constraints on tariffs above 100%. For developing countries the cuts in each tier would be two thirds of the equivalent tier for developed countries, subject to a maximum average of 36%. Several groups of developing countries are allowed to make smaller tariff reductions. These include Small and Vulnerable Economies (SVEs) and recently-acceded members (RAMs), while least developed countries and a group of very recently-acceded members and transition economies are not required to make any reductions. Special provisions apply for tariff escalation products, with the general principle that processed products subject to tariffs higher than their raw or intermediate forms would be subject to higher reductions.

Some products would have smaller cuts via a number of flexibilities designed to take into account various concerns. These include:

- sensitive products (available to all countries), the smaller cuts offset by tariff quotas allowing more access at lower tariffs. Developed countries could designate up to 4% and developing countries up to 5.33% of their tariff lines as sensitive products. There may or not be a requirement that sensitive products can only be designated for those tariff lines for which TRQs already exist.
- special products. Developing countries would be able to self-designate up to 12% of their tariff lines as special products (13% in the case of Small Vulnerable Economies (SVEs) and RAMs), guided by indicators based on the criteria of food security, livelihood security and rural development. Further, a proportion (5%) would be exempt from tariff cuts, although the overall average cut would have to be 11% (10% for SVEs and RAMs).

Special provisions would apply for tropical and diversification products, as well as for products benefiting from long-standing preferences. For tropical and diversification products, developed countries would undertake tariff reductions greater than required under the formula, under one of two alternative provisions. For long-standing preference products, tariff reductions would take place over a longer period or be delayed by a certain number of years.

In general, all tariffs would be converted into ad valorem tariffs, with some flexibilities and exceptions, as a step towards greater tariff simplification.

Developed countries will scrap the old “special safeguard” (available for “tariffied” products). Developing countries which have the right to use the special safeguard could continue to do so for a limited number (2.5%) of tariff lines. Developing countries would have access to a new “special safeguard mechanism” under which either volume or price triggers would permit an increase in a country’s bound tariffs. Issues remain over how long the special safeguard mechanism could be applied and whether it would allow countries to raise tariffs even above current (i.e. pre-Doha) levels.

4. WTO disciplines on domestic support

4.1. Description of current disciplines

The general approach of the AoA with regard to domestic support is to discipline measures that are deemed to be production and trade-distorting but to exempt policies deemed to have no or minimal trade-distorting effects. All policies are disciplined through commitments based on the Aggregate Measurement of Support (AMS). A product-specific AMS is calculated for each basic agricultural product receiving either market price support, non-exempt direct payments, or any other subsidy not exempted from the reduction commitment. Support which is non-product specific is totalled into one non-product-specific AMS in total monetary terms. A country calculates its Current Total AMS in any year by summing the individual AMS's for each product and for non-product specific support. A WTO member's policy space is defined by its right to exempt support under some policies when calculating its Current Total AMS as well as by the size of its limits on AMS support (Brink, 2013a).

Exempt policies include the following:¹⁷

- Annex 2 policies (green box)
- Article 6.5 policies (blue box)
- Article 6.2 policies (development box)

Green box measures must meet a number of criteria set out in Annex 2 of the AoA intended to ensure that they have “no, or at most minimal, trade distorting effects or effects on production”. They include general government services, including research, extension services, infrastructure and transport, pest and disease control, and marketing and promotion. Other measures include spending on domestic food aid, public stockholding, direct support to producers, income insurance and safety-nets, disaster relief, investment aids, agri-environment measures, regional assistance and structural adjustment programmes, provided the policies meet the specific criteria set out in Annex 2. The Doha Ministerial Conference specifically urged members “to exercise restraint in challenging measures notified under the green box by developing countries to promote rural development and adequately address food security concerns” (WTO, 2001b, Para. 2.1).

There are two specific food security provisions in Annex 2 of the AoA. They are the rules which exempt expenditure on public stockholding for food security purposes and the provision of domestic food aid from domestic support reductions. Food reserves can play an important role in developing countries faced with volatility in both food availability and food prices, and food assistance programmes provide a vital safety net for food-insecure families. The current AoA rules recognize that the creation of food reserves and the provision of domestic food aid which meet the specified conditions should not be restricted. If food for public reserves or food assistance programmes is purchased at market prices, then spending under these programmes is without limitation.

Public stockholding for food security purposes covers “expenditures (or revenue foregone) in relation to the accumulation and holding stocks of products which form an integral part of a food security programme identified in the national legislation”. This can include government assistance to private storage of products as part of a food security programme. All such operations have to be conducted subject to three conditions: (i) the volume and accumulation of such stocks has to correspond to predetermined targets in relation solely to food security; (ii) the processes of stock accumulation and disposal have to be financially transparent; and (iii) food purchases by the

¹⁷ Note that the terms ‘policies’ and ‘measures’ are used interchangeably in this section on domestic support.

government have to be made at current market prices and sales from food security stocks have to be made at no less than the prevailing domestic market price for the product and quality in question. However, programmes in developing countries which provide food at subsidized prices with the objective of meeting the food requirements of the urban and rural poor are assumed to be in conformity with green box criteria. There are no restrictions on such expenditure by a developing country.

There is a further provision for developing countries with respect to expenditures on public stockholding measures for food security purposes. Developing countries with programmes under which stocks of foodstuffs for food security purposes are acquired and released at administered prices are assumed to be in conformity with the agreement, provided that the difference between the acquisition price and the external reference price is accounted for in the AMS. As (Häberli, 2014) notes: “Depending on the interpretation of this paragraph, it can offer considerable flexibility to developing countries or it can be of no significance”. It makes no change to the standard treatment of administered price policies under the AoA, but it allows a developing country to exempt acquisition expenditure even if the stocks are not bought and released at market prices, i.e., even if the stock acquisition policy does not meet the standard green box criteria. This extra flexibility to exempt the acquisition expenditure does not eliminate the need to treat administered price policies in the standard way in measuring the product’s AMS.

Expenditures on domestic food aid can also be exempted under the green box. They are defined as expenditures (or revenue foregone) in relation to the provision of domestic food aid to sections of the population in need. To be exempted, eligibility to receive the food aid should be subject to clearly-defined criteria related to nutritional objectives. Such aid should be in the form of direct provision of food to those concerned or the provision of means to allow eligible recipients to buy food either at market or at subsidized prices. Food purchases by the government should be made at current market prices and the financing and administration of the aid should be transparent.

The **blue box** was introduced into the AoA largely to facilitate some developed countries in moving away from market price support. Article 6.5 provides that payments under production-limiting programmes shall not be subject to the commitment to reduce domestic support if such payments are based on fixed area and yields; or such payments are made on 85 percent or less of the base level of production; or livestock payments are made on a fixed number of head. Only ten countries have ever notified the use of the blue box, all of which are developed countries. Blue box measures must be “under production-limiting programmes” and are thus of little interest to developing countries.

The final exempt group of measures are those in the **development box** (Article 6.2 of the AoA).¹⁸ The ability to exempt these measures is only available to developing countries (with the exception of China). Developing countries can exclude from their Current Total AMS investment subsidies which are generally available to agriculture, agricultural input subsidies generally available to low-income or resource-poor producers, and support to encourage diversification from growing illicit narcotic crops.

Support under all other measures must be included in a country’s AMSs. Under the AoA, a country’s domestic support policies are disciplined through commitments based on the AMS, for some countries in the form of a ceiling on the Current Total AMS and for others in the form of ceilings on

¹⁸ Note that the designation of Article 6.2 as a development box is widely used but, as for the other boxes, the term has no official status. It is also not the same as the proposal for a development box made by 11 developing countries which contributed to the negotiations on further liberalization of agricultural trade after 2000 (WTO, 2000).

the individual AMSs. In calculating Current Total AMS, a country is allowed to exempt *de minimis* AMSs. For developing countries (excluding China), the *de minimis* level for each product's AMS is 10 percent of the value of the product's production, and 10 percent of the value of total agricultural production for the non-product-specific AMS. In the case of China, these percentages are 8.5 percent in each case. If the AMS exceeds its *de minimis* level, then all of that support (and not just the excess amount above the *de minimis* level) must be counted in a country's Current Total AMS.

Some countries have an upper limit on their Current Total AMS included as part of their WTO schedule of commitments. This limit is called the Bound Total AMS. These are generally countries which provided a significant amount of non-exempt domestic support in the base period. Under the AoA, those WTO members that had calculated a Total AMS in the base period (average of 1986–88) undertook reduction commitments reaching their final levels in 2004 for developing countries and in 2000 for developed countries. For countries without a Bound Total AMS, no individual AMS (product or non-product specific) may exceed the *de minimis* amount and the country's entitlement to a Current Total AMS is effectively nil (Table 4). As Brink (2015) explains, "For most but not all developing countries, the *de minimis* levels are upper limits on their AMS's. For most but not all developed countries, the *de minimis* levels are thresholds, and it is the Current Total AMS that is subject to the country's limit set out in the country's schedule of commitments". Unlike countries that have a Bound Total AMS entitlement as a single ceiling for their total non-exempt domestic support (whether product or non-product specific), those without a Bound Total AMS face multiple ceilings in their WTO obligations. They are in breach of their commitment if any of their product-specific AMSs or the non-product-specific AMS is in excess of *de minimis* (Konandreas, 2014).

Table 4: Domestic support policy space in the Agreement on Agriculture

Members	Exempt measures	Non-exempt measures	Numbers (early 2015)
Members with scheduled Bound Total AMS commitment levels	Required to comply with the relevant exemption criteria, (i.e., Article 6.2, Article 6.5 or Annex 2)	Required not to exceed the Bound Total AMS commitment levels (Article 3.2) ¹	15 developed countries 17 developing countries
Members with no scheduled Bound Total AMS commitment levels		Required not to exceed the relevant <i>de minimis</i> levels (Article 7.2(b))	4 developed countries 96 developing countries

¹ For countries with a Bound Total AMS, the amount of support that would otherwise count towards that limit can be reduced by the *de minimis* exemptions for product-specific and non-product-specific AMSs
Source: Own tabulation; numbers from Brink (2015). The classification of countries as developed or developing in this table may differ slightly from that used elsewhere in this report.

Brink (2011) highlights another difference between Bound Total AMS and *de minimis* limits. The former are fixed in nominal terms, and thus the amount of real policy space they provide diminishes over time with inflation. Because the *de minimis* limits are fixed as a percentage of a country's value of production (of individual products, for product-specific *de minimis* and for total agricultural production for non-product-specific *de minimis*), they automatically increase with inflation and with growth in the volume of agricultural output.¹⁹ For example, the value of production in India has increased by 156 percent since 2001, and by 210 percent in China (Brink 2013a). Thus, for the

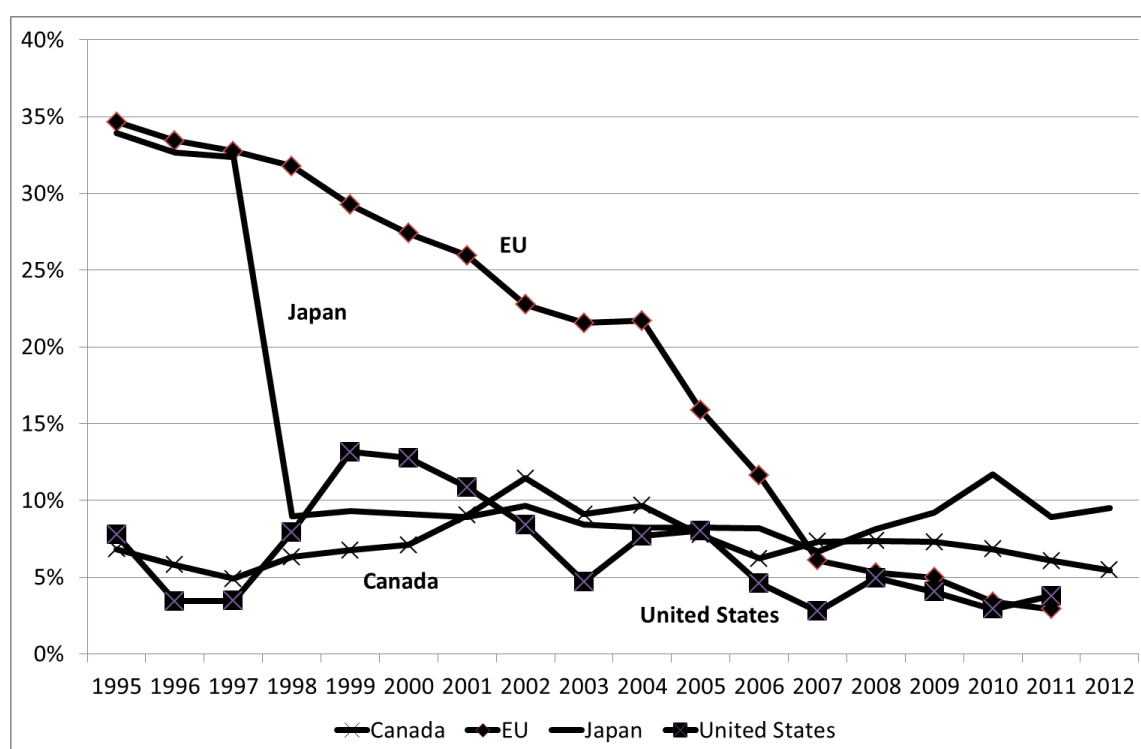
¹⁹ The 17 developing countries with Bound Total AMS can also make use of the *de minimis* exemptions. However, their overall policy space is less than the sum of their *de minimis* levels and their Bound Total AMS. This is because if a country reports support above the *de minimis* limit for a specific product, it cannot at the same time claim a *de minimis* exemption for that product (Brink 2013a).

majority of developing countries whose use of non-exempt measures such as price support is constrained by their *de minimis* limits, these limits automatically adjust for inflation and increase further with real growth in the volume of output.

4.2. Domestic support trends in developed countries

Trade-distorting support in some major developed economies has fallen since the introduction of the AoA, and particularly noticeably in the EU. This can be demonstrated using different indicators. In Figure 9, non-green box support is compared to the value of production in selected developed countries. All support not exempted on green box grounds is counted as trade-distorting. Policy reforms have made a major contribution (for example, the move from using administered prices for price support to providing a safety net in the EU) but there has also been a cosmetic element. For example, Japan eliminated its administered support price for rice in 1997, which led to a sharp drop in the value of its domestic support notified to the WTO. However, very high rice tariffs and thus protection to Japanese rice farmers remained in place.

Figure 9: Non-green box support as % of value of production, selected developed countries



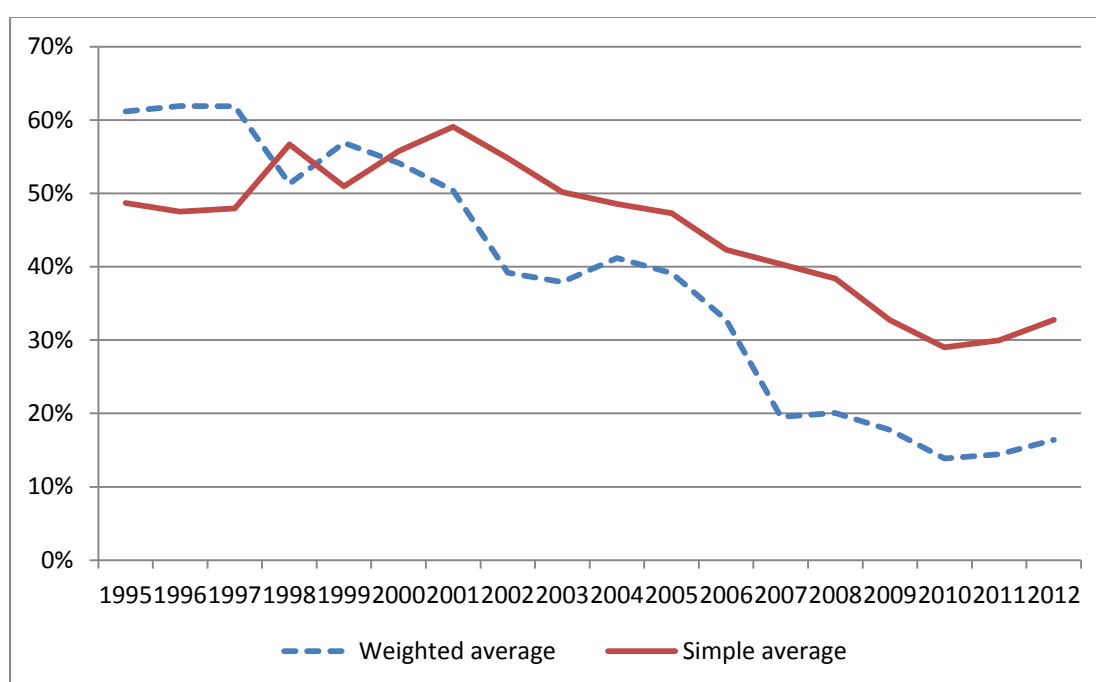
Source: Own calculations based on WTO transparency toolkit and member notifications, following Brink (2014b).

Another way of looking at the trend in domestic support in developed countries is to examine the use made of their 'policy space' as represented by the percentage utilization of their Bound Total AMS ceilings. For all the countries included in this figure, the ceiling on their allowed trade-distorting support (ignoring exempted support) is given by their Bound Total AMS totals. Two indicators are shown. The first is the simple average of the percentage utilization by each country of its Bound Total AMS in each year. This has the merit of avoiding the need to convert annual figures into a common currency using fluctuating exchange rates from year to year but it gives equal weight to countries with very different amounts of domestic support, such as Iceland and the EU. The weighted average, on the other hand, converts all figures into US dollars to permit the summation of individual country figures. While it takes account of the relative amounts of domestic support in

each country, the country amounts can vary from one year to the next solely because of currency exchange rate changes relative to the dollar.

Developed countries used about 55 percent of their total allowed trade-distorting support (excluding exempt support) at the end of the Uruguay Round transition period, but this has fallen to around 30 percent (using a simple average) or less than 20 percent (using the weighted average) of their Total Bound AMS. Both indicators thus show a downward trend, but this is more pronounced in the weighted average series because of the weight of the EU and the sharp drop in its percentage utilization.

Figure 10: Percentage of Bound Total AMS used by major developed countries



Source: Own calculations based on the WTO members' transparency toolkit and notifications.

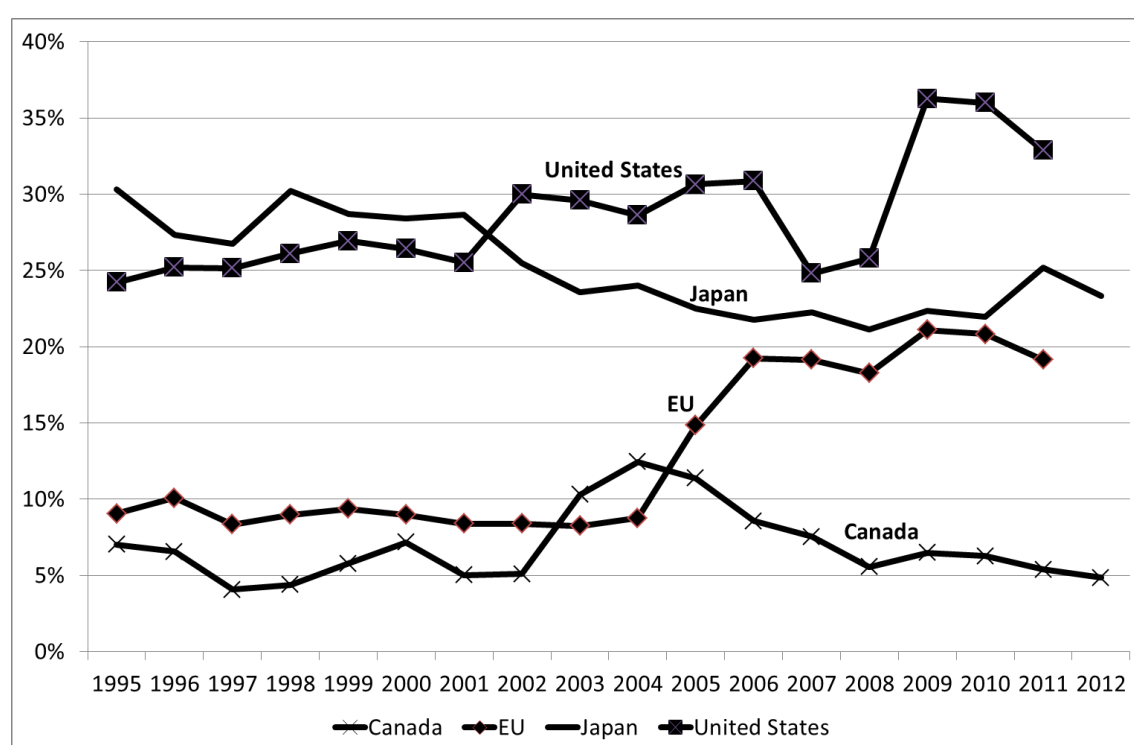
Note: Developed countries include Australia, Canada, European Union, Iceland, Japan, New Zealand, Norway, Switzerland and United States. Notifications in local currencies have been converted to US dollars using annual average exchange rates from the World Bank's World Development Indicators (in the case of Iceland which notifies in SDRs, the appropriate exchange rate with the US dollar was obtained from the Federal Reserve Economic Database). In the case of the EU, the figures for its Bound Total AMS have been taken from the EU notifications rather than from the transparency toolkit where there is a discrepancy after 2007.

In many developed countries the reduction in non-green box support was accompanied by an increase in green box support, a phenomenon sometimes referred to as 'box-shifting' (Figure 11). This is particularly noticeable for the EU and, to a lesser extent, for the US in its latest notifications, but is not the case for Japan. Critics point out that there has been little change in the overall volume of support provided to developed country farmers, and that these green box policies, given their size and scale, also have trade-distorting effects. They have called for further disciplines on the use of green box policies in developed countries to counter this effect (Meléndez-Ortiz *et al.*, 2009).

Whether green box policies help to attract resources into farming and thus result in distortions to production and trade depends a great deal on the specific programme design. At issue is the extent to which these payments are coupled (linked) to production (OECD, 2001). Payments which are fully coupled have the same outcome as the equivalent level of market price support; payments which are fully decoupled are not expected to influence at all the production choices of farmers. Payments

may even be negatively coupled to production if they require farmers to cease production (set-aside) or to extensify production (agri-environment schemes) as a condition of eligibility for payments. An extensive academic literature has attempted to measure the degree of coupling of direct payments, particularly payments claimed as decoupled income support for a period in the United States following their introduction in the 1996 Farm Act, and in the EU since the 2003 CAP reform (Moro and Sckokai, 2013). Another way of addressing this issue is to ask to what extent direct payments are capitalized into the value of land (assuming that land is specific to agricultural production, a non-discriminatory land subsidy will raise land rents and thus the incomes of landowners, but will not have any effect on production). The literature broadly concludes that even payments that meet the green box criteria for decoupled income support do have effects on production through a variety of channels, but that these effects quantitatively may not be very important compared to the effects of payments that do not meet the criteria. Whether these payments can be justified as a domestic policy instrument is a matter debated within these countries (the US eliminated its decoupled direct payments in the 2014 Farm Act). However, even if overall support (including both market price and budget support) to farmers in developed countries has changed little over time in absolute amount (the total value of the OECD Producer Support Estimate has fluctuated around US\$250 billion during the whole period 1986–2013 with no evident trend), the composition of that support is now much less trade-distorting than it was before.

Figure 11: Green box support as % of value of production, selected developed countries



Source: Own calculations based on the WTO transparency toolkit and member notifications.

In 2004, WTO negotiators agreed on a mandate for a ‘review and clarification’ of green box criteria, to ensure that green box measures do indeed have no, or at most minimal, trade-distorting effects or effects on production. At the 2005 Hong Kong Ministerial meeting, they also specified that this review should ensure that programmes of developing country members that cause not more than minimal trade distortion are effectively covered. The latter commitment resulted in the Bali Ministerial Declaration on General Services which clarified that programmes related to land reform and rural livelihood security in order to promote rural development and poverty alleviation were covered by the exemption for general services in the AoA (WTO, 2013).

However, little consensus has emerged on how best to review and clarify the green box criteria (Hepburn and Bellman, 2014). Some negotiating proposals sought to expand the measures potentially covered by the green box, while others sought more rigorous disciplines. The Rev.4 draft modalities contain some proposals which would tighten the policy criteria required for green box eligibility of specific programmes (e.g. decoupled income support, disaster assistance, crop insurance, regional assistance). More far-reaching suggestions are to include a future limit on the amount of green box support, or specifically, those programmes eligible for the green box which mainly operate to support farm incomes, as distinct from other programmes which are more oriented to addressing market failures and providing public goods (government general service programmes, agri-environment programmes) (Tangermann, 2013). It has also been queried whether the particular structure and classification of agricultural subsidies introduced in the AoA is necessary any longer, and whether agricultural subsidies might not be addressed as for other subsidies under the provisions of the Agreement on Subsidies and Countervailing Measures (Josling, 2015). Josling also notes that there seems to be much leeway in the notification of domestic support subsidies. At a minimum, greater transparency in the reporting of agricultural subsidies to the WTO's Committee on Agriculture might make it easier for countries to be held to account when existing subsidies are increased or new subsidies are introduced.

4.3. Domestic support limits and policy space in developing countries

Most measures that developing countries take to promote their food security fall into one of the exempt categories in the AoA. The WTO places no limits on countries' use of these policies. Konandreas (2014) classifies developing countries according to the major types of domestic support they use based on their notifications to the WTO Committee on Agriculture. Leaving aside countries for which no notifications have been received, the majority of developing countries report that they provide only exempted support to their producers, if they provide any support at all. Only the ten developing countries reporting that they have made payments under their *de minimis* limits and the fourteen developing countries which have a Bound Total AMS have notified that they have used AMS support, i.e., support subject to limit(s).

The main policy instrument used by developing countries which is not exempted, and which therefore counts in a product's AMS, is market price support. Although the measures included in the development box are qualified (investment subsidies must be "generally available to agriculture" and only input subsidies "generally available to low-income or resource-poor producers" are exempted from inclusion in an AMS), these terms are not defined in the Agreement and in practice countries seem to have exempted all such subsidies under Article 6.2.

Developing countries providing support under policy measures that are not exemptible under the green, blue, or development boxes, such as market price support, need to include that support in their AMS's. For the majority of developing countries, which do not have a Bound Total AMS, the use of non-exempt measures is thus limited to the (usually) growing *de minimis* AMS levels. If the country is one of the 17 developing countries with a Bound Total AMS, this is the upper limit on the Current Total AMS, i.e., the sum of those AMS's above the *de minimis* levels.²⁰

Table 5 lists those developing countries with a Bound Total AMS and compares their commitments to those of developed countries. Developed and developing country shares are 92 percent and 8 percent, respectively, of the total Bound Total AMS amount of \$195 billion, where the EU28 by itself accounts for more than half (Brink, 2015).

²⁰ This applies to Argentina, Brazil, Colombia, Costa Rica, Israel, Jordan, Republic of Korea, Mexico, Morocco, Papua New Guinea, Saudi Arabia, South Africa, Tajikistan, Thailand, Tunisia, Venezuela and Viet Nam.

Table 5: Bound Total AMS by country

Developed	Developing	USD mill.		Developed	Developing	USD mill.
EU28 (a)		104 823		Australia		396
Japan		39 616			Colombia	345
USA		19 103			South Africa	244
	Mexico	8 332			Vietnam	243
Russian Federation (b)		4 400		Iceland		207
Canada		4 031			Tajikistan (c)	183
Switzerland		3 930		New Zealand		174
Norway		2 030			Morocco	88
	Republic of Korea	1 352			Argentina	75
	Venezuela	1 131			Tunisia	48
	Brazil	912			P. New Guinea	34
	Saudi Arabia	859		FYROM (d)		24
Ukraine		578		Moldova		20
	Thailand	571			Costa Rica	16
	Israel	569			Jordan	2
Taiwan						
Province of China		450		Montenegro (e)		0

Source: (Brink, 2015). Based on TN/AG/S/13/Add.3/Rev.1 23 November 2009 and updated to include countries which acceded to the WTO since 2008.

Notes: Figures refer to 2008 unless otherwise stated. (a) Includes Croatia. (b) Acceded in 2012. Bound Total AMS refers to final level in 2018. (c) Acceded in 2013. (d) Former Yugoslav Republic of Macedonia. (e) Acceded in 2012; Bound Total AMS of about USD 0.428 million shows as rounded to zero. Changes in currency values against the US dollar after 2008 have changed the USD equivalent of some countries' Bound Total AMS without significantly changing the rank ordering

The *de minimis* percentages, at 10 percent instead of 5 percent for developing countries, seemed to provide generous policy space for non-exempt support at the conclusion of the Uruguay Round. For example, product-specific AMSs have been notified as well below allowed levels in India, China, the Philippines and Brazil (Orden *et al.*, 2011). But the subsequent increases in certain kinds of domestic support in some of the more advanced developing countries now mean that a number of countries are likely to exhaust their policy space for that kind of distorting support in the near future, if indeed they have not already done so (Montemayor, 2014). At the same time, there remains no limit on measures which are consistent with the green box criteria or, in the case of developing countries, on certain kinds of investment and input subsidies.

In practice, the *de minimis* ceilings can be highly constraining on the use of market price support because of the way these ceilings are calculated for the purpose of determining a product's AMS. The formula is to take the difference between the administered support price and a Fixed External Reference Price (FERP), taken as the average of import prices in the 1986–88 period, and to multiply this by the amount of eligible production to receive support. This WTO measure of market price support needs to be distinguished from the economic concept of price support, which exists when

domestic prices are higher than *current* world market prices, involving administered prices and border measures or both. Trade distortion is better measured by the economic concept of price support.

The implication of the AoA formula is that, following periods of rising world market prices, a country without a Bound Total AMS (called here a *de minimis* country) can easily be prevented from operating an administered price system not only to provide price support but also even to provide a price safety net to its farmers. Ultimately, countries limited by a Bound Total AMS face a similar constraint if world market prices rise sufficiently, but the discipline is much stronger for *de minimis* countries. This is both because of the low absolute ceiling represented by the *de minimis* limit of 10 percent of the value of production (whereas, by definition, support under a Bound Total AMS will always be a greater proportion of the value of production) but also because the *de minimis* limit is separately binding for each individual commodity where this is not the case for countries limited by a Bound Total AMS.

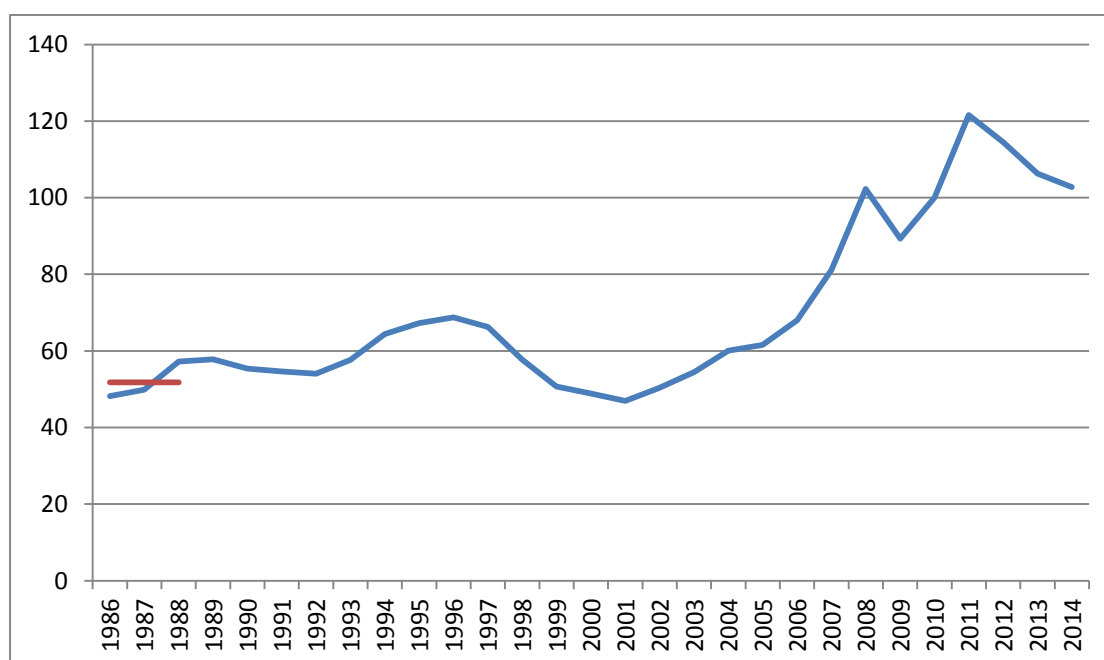
The operation of the AoA formula during a period of rising world market prices is further explored using a stylized model in Annex 1. Although the modelling is based on some simplifying assumptions, it demonstrates that the policy space for a *de minimis* country making use of administered prices during a period of rising world market prices can be quickly eroded under the AoA formula. Some key points from the analysis are:

- When the current world market price equals the FERP, the maximum percentage amount of economic price support that a *de minimis* developing country can give to a product through an administered price is 11.1 percent (9.3 percent for China with its lower *de minimis* limits). If it is an importing country, then it could provide higher economic price support by raising its tariff, provided there is scope within its bound tariff schedule to do this.
- This maximum possible rate of economic price support can be exceeded if the FERP is greater than the world price in any year, but must be reduced if the FERP is less than the world price. If world market prices increase significantly in nominal terms relative to the FERP, then the ability of a *de minimis* country to provide economic price support is significantly reduced and can even be eliminated (see Figure A1 in Annex 1).
- A *de minimis* country may find itself restricted in its use of administered prices even for 'safety net' purposes, that is, even if the administered price is set below current market prices, again depending on the evolution of world prices with respect to the FERP.

The impact of the market price formula used in the WTO rules was not an issue during the early years of the AoA nor when the Doha Round mandate was being negotiated in 2001, as there was little change in nominal average global agricultural prices between 1986 and 2003. After that date, however, the formula has become more constraining because of the steep rise in nominal world food prices (Figure 12).²¹ Whether world agricultural prices will continue to rise in nominal terms remains, of course, uncertain. But even if nominal prices remain at their current plateau *de minimis* limits act as a severe constraint on the use of administered prices by *de minimis* countries.

²¹ The trend in the World Bank agricultural commodity price index is fully relevant only if a country calculates its market price support in US dollars.

Figure 12: Trend in global agricultural commodities price index, USD, 2010=100



Source: World Bank Global Economic Monitor databank. The red line is the base period for the measurement of the market price support component of domestic support.

For some observers, this is an indication that the AoA is working as it should. From the point of view of the global trading system, market price support by any country reduces the value of world market opportunities for other countries and increases world market price volatility. Among the measures providing non-exempt support under WTO rules, price support is the most trade-distorting. From this perspective, the WTO rules, by effectively heavily restricting if not eliminating the possibility of economic price support to producers by *de minimis* countries, contribute to a more stable and robust international trade regime and one which is more conducive to facilitating global food security. This outcome is to be welcomed from a global perspective.

However, there are two objections to the status quo. The first is that current rules not only severely limit the ability of *de minimis* countries to provide economic price support to producers, but also limit the use of administered prices at safety net levels even if well under current world price levels. While administered prices even at levels below undistorted world market prices still provide a production incentive to producers (by removing the risk of a catastrophic fall in domestic producer prices), the effect is likely to be only marginally trade-distorting. Such administered safety-net prices are still used in several developed countries, despite the much greater ability of farmers in these countries to manage price volatility risks. A reasonable argument can be made that, as a risk management instrument, countries should not be prevented from using safety-net intervention arrangements where administered prices are kept below world market levels and no economic price support is provided.

The second objection to maintaining the status quo is that *de facto* it leads to highly inequitable treatment of developed and developing countries. From a legal perspective, the distinction is between countries whose use of AMS support is restricted by *de minimis* limits, and those where it is limited by the Bound Total AMS. In practice, however, the great majority of developed countries are limited by Bound Total AMS and the great majority of developing countries by *de minimis* limits. Thus, if there is an inequity associated with *de minimis* limits, this is borne predominantly by developing countries.

Countries with a Bound Total AMS are able to provide more price support to their producers and have greater flexibility in providing this support than countries whose AMSs are bound by their *de minimis* limits, and often significantly more. This is not because these countries have objectively a greater need to be allowed to use market price support, but solely because they were larger users of AMS support in the past. Developing countries with Bound Total AMS limits can argue that they only use a fraction of their AMS entitlement (see Figure 10) but, as is well known, WTO rules are about setting the boundaries on what countries can do, and there is no guarantee that developed countries might not increase their domestic support up to these limits in the future.

This inequity can be addressed by diminishing the scope of those countries with Bound Total AMS to provide such support. Indeed, the proposals contained in the Rev.4 draft modalities would curtail the ability of the Bound Total AMS countries to offer price support to their farmers, and would contribute significantly to a more level playing field in this pillar of the Agriculture Agreement. Nonetheless, the question remains whether some adjustment of the rules regarding market price support might not be warranted for *de minimis* countries and, if this were to be agreed, how best one should minimize the potential adverse impacts on other trading partners.

4.4. Doha Round proposals on domestic support

The most important provision in the Rev.4 draft modalities concerning domestic support is that countries with no Bound Total AMS commitments will not have to undertake reduction commitments in *de minimis* and overall trade-distorting support (OTDS). The latter would be a new discipline, defined as the sum of Total AMS, *de minimis* and Blue Box support. As trade-distorting support in the great majority of developing countries is subject to *de minimis* limits rather than a Bound Total AMS, they will continue to be able to provide up to 10 percent product-specific and 10 percent non-product-specific AMS support in addition to exempting certain investment and input subsidies from the AMS calculation (special rules for China). Thus, developing countries with no Bound Total AMS commitments would not see any reduction in their policy space regarding domestic support as a result of the Rev. 4 draft modalities.

For countries with Bound Total AMS commitments, only countries making virtually full use of these entitlements would be affected by cuts in the AMS – only three developing countries (Argentina, Republic of Korea and Thailand) were in this category in the mid-2000s, according to Jales (2006). However, these countries will also be required to cut their base level of OTDS by 36.67 percent. NFIDCs plus a number of recently-acceded members with Bound Total AMS commitments would be exempted from this requirement. Countries with Bound Total AMS commitments would also be required to reduce their *de minimis* levels by one-third. Even if this would have no immediate effect on their current levels of support, it could limit their policy space in the future. Again, NFIDCs would be exempt from this requirement, as would other countries with AMS commitments provided that they allocate almost all that support to subsistence or resource-poor producers.

The Rev.4 draft modalities also proposed changes to the general services measures covered in the green box and thus automatically exempted from reduction commitments. These changes were reflected in the Ministerial Decision on General Services agreed at the Bali WTO Ministerial Conference (WT/MIN(13)/37) which clarified that general services programmes related to land reform and rural livelihood security were covered by the general services exemptions in Annex 2.

The Bali Ministerial Council also agreed a Decision on public stock-holding for food security purposes which was subsequently updated by a General Council Decision in 2014 (WTO, 2014a). This states that, until a permanent solution is agreed and adopted, WTO members shall not challenge through the WTO dispute settlement mechanism compliance of a developing member with its domestic support obligations under the AoA in relation to support provided for traditional staple food crops in

pursuance of public stockholding programmes for food security purposes existing as of the date of the Bali Decision, provided that the criteria set out in the Bali Decision are met. The revised Decision also set a deadline to agree and adopt a permanent solution by the end of 2015. Until a permanent solution is agreed, the interim mechanism remains in place. The permanent solution will only apply to developing countries.

Various options for a permanent solution have been proposed (Díaz-Bonilla, 2014b; Häberli, 2014; Konandreas, 2014; Matthews, 2014a; Montemayor, 2014) including adjusting notifications for inflation and permitting purchases at administered prices for public stockholding for food security purposes to be exempt from inclusion in a country's AMS provided administered prices were less than world market prices. In the longer term, replacing the WTO definition of market price support by an economic definition of price support by defining the price gap created by administered prices relative to current or recent world market prices could be considered. As previously argued, with a *de minimis* limit of 10 percent, moving to an economic definition for market support would still limit the maximum amount of price support that could be offered through administered prices to 11.1 percent (additional economic support could be provided through higher tariff protection in the market access pillar provided a country had the scope under its bound tariff schedule). This is comparable to the actual level of economic protection provided in OECD countries today. For example, the Nominal Protection Coefficient (NPC) for OECD countries in 2011–13 stood at 1.10 (weighted average), indicating that farmers in OECD countries, overall, received prices that were 10 percent above international market levels in those years (OECD, 2014).

There would be broader implications for the distribution of support if such a change to the way market price support were calculated were also extended to countries with Bound Total AMS. In turn, this would be a major issue to introduce at this late stage in the Doha Round which would considerably complicate the exchange of concessions. On the other hand, with negotiations at an impasse fresh thinking could allow the logjam to be broken.

5. Multilateral trade rules and price volatility

The third area where developing countries fear a limitation on their policy space to address their food security concerns due to international trade rules relates to the issue of imported price and volume instability. In the first decade of the life of the AoA, when world food prices were relatively low, attention focused mostly on problems arising from periods of unexpectedly low world market prices and periods with rapid import growth ('import surges'). Developing countries made the ending of export subsidies (seen as contributing to both price and volume instability in importing countries) and the availability of a special safeguard mechanism to protect against both price and volume instability key demands in the Doha Round negotiations. Following the spikes in food prices in 2008 and again in 2011, attention focused more on the continued availability of supplies from major exporters during periods of high prices as well as the response of countries using export restrictions to try to limit the extent of price increases for their domestic populations.

Despite liberalized agricultural trade and the growing responsiveness of global agricultural production to world market prices (at least in developed countries), agricultural commodity price volatility has not decreased (Sarris, 2009). Commodity price volatility reflects fluctuations in either global supply and/or demand in the first instance. With production pushing into riskier and more marginal lands, with the return of macroeconomic cycles and with the greater frequency of extreme weather events, such as droughts and floods, due to climate change, supply and/or demand fluctuations may even intensify in the future. However, trade shocks arising from supply and/or demand fluctuations are not the only contributors to volatility, as witnessed by the explanations for

the price fluctuations in the 2008–11 period. Levels of global stocks, currency fluctuations (especially relative to the value of the US dollar or other currencies in which commodity trade occurs), spillovers from energy market volatility (intensified by the growing importance of biofuels in agricultural production), a possible role for commodity speculation, as well as policy actions by national governments in response to world market price volatility, can all play a role (Sarris, 2009; Clapp, 2011).

Given this range of factors which affect price volatility, what is the role for WTO rules? We know that encouraging all countries to absorb the effect of a supply and/or demand shock to a commodity market helps to reduce the amplitude of the price response to the shock. Nonetheless, the capacity to deal with food price shocks varies greatly across different levels of development. On the demand side, this is because of the much greater importance of food consumption in total expenditure in low-income countries, as well as the much larger share of population dependent on agriculture and with limited access to risk management and risk-shifting instruments on the supply side. There is thus a case for allowing some groups of countries greater leeway to make use of trade policy to protect against imported price and volume volatility, provided that disciplines are maintained to ensure that the adverse spillovers on other trading countries are limited. With this set of principles in mind, this section examines in turn the situation for export subsidies, import safeguards and export restrictions.

5.1. Export subsidies and measures with equivalent effect

The export competition pillar of the AoA addresses both direct export subsidies applied to agricultural trade, but also arrangements under which implicit export subsidies may arise: food aid, officially supported export credit and exporting state trading enterprises.

The AoA limited the use of explicit export subsidies by putting ceilings both on expenditures and on the volume of agricultural exports subsidized. Expenditures were to be reduced by 36 percent from 1986–90 base year levels, and quantities subsidized were to be reduced by 21 percent over a six-year implementation period ending in 2000. Developing countries were given 10 years to meet their reduction commitments, and all countries agreed not to introduce any new export subsidies.

Article 9.4 of the AoA allows developing countries, under certain conditions, to provide subsidies to reduce the costs of marketing exports of agricultural products and internal transport and freight charges to export shipments. This article has been available to any developing country, whether it has export subsidy commitments or not. Article 9.4 treatment applies only in the “implementation period”, which the AoA defines as “the six-year period commencing in the year 1995”, i.e. ending in 2000. In the Ministerial Declaration following the Hong Kong Ministerial Council in 1995, it was agreed that developing countries would continue to benefit from the provisions of Article 9.4 for five years after the end-date for elimination of all forms of export subsidies. Note that a Ministerial Declaration, while constituting ‘guidance’ to the WTO, does not formally add to or diminish the legal obligations of WTO members.

The AoA also recognized that officially supported export credit programs can provide a subsidy element, so WTO members were instructed to work toward disciplines in the Organization for Economic Cooperation and Development (OECD). The OECD negotiations failed to resolve this issue, and so export credits are now on the agenda of the Doha Round agricultural negotiations on export competition.

The Rev.4 draft modalities foresee the gradual elimination of export subsidy commitments and other entitlements to provide export subsidies in agriculture. The phased elimination would have seen developed countries’ commitments go to zero by 2013, with the phasing rules differing somewhat

between those applying to outlay commitments and those applying to quantity commitments. Agreement on 2013 as the end-date for export subsidies was included in the declaration of the WTO Ministerial Conference in Hong Kong in 2005. Developing countries would phase out their outlay and quantity commitments by 2016. The Article 9.4 provisions for developing countries would have faced an end date of 2021. The inability to reach an agreement in the Doha Round has meant that these dates are no longer relevant and would presumably be revised were an agreement reached in the coming years.

The Bali Ministerial Council adopted a declaration on export competition which committed “to enhance transparency and to improve monitoring in relation to all forms of export subsidies and all export measures with equivalent effect, in order to support the reform process” (WT/MIN(13)/40). This established annual dedicated discussions in the Committee on Agriculture in support of the reform process. Ministers also committed to maintaining the level of export subsidies significantly below members’ export subsidy commitments, and reaffirmed their commitment towards the parallel elimination of all forms of export subsidies and disciplines on all export measures with equivalent effect.

In practice, export subsidy use by the 18 countries with scheduled export subsidy reduction commitments has dramatically decreased, and in many cases has been discontinued, in the period since 1995. Nine have notified zero use of export subsidies since the Doha Round of WTO negotiations started in 2001: Australia, Brazil, Colombia, Iceland, Indonesia, Mexico, New Zealand, South Africa and Uruguay. Those countries which notified more recent use have done so on a small proportion of their scheduled product lines and using a low percentage of their available export subsidy budgetary allowance.²² While the decline in use may be a result of high world commodity prices, it is also the case that some countries have taken positive steps to reduce their export subsidy use. For example, in the 2014 Farm Act the US repealed the Dairy Export Incentive Program (DEIP). In addition, Norway has discontinued the use of export subsidies for several products and the reform of the EU’s Common Agricultural Policy, adopted in December 2013, stated that export subsidies may only be used as an “exceptional measure”. All of this is very positive from a food security point of view. Nonetheless, it remains open to these countries to return to using export subsidies up to their scheduled commitments in the absence of a successful outcome to the Doha Round.

5.2. Import safeguards

5.2.1. Special agricultural safeguards

The AoA contains a special safeguards provision allowing the use of a special agricultural safeguard (SSG) in certain circumstances. The SSGs take the form of an additional duty which can be triggered automatically when import volumes rise above a certain level, or if prices fall below a certain level. Unlike normal safeguards, it is not necessary to demonstrate that serious injury is being caused to the domestic industry. The SSG can only be used on products that were tariffed – which amount to less than 20 percent of all agricultural products (as defined by “tariff lines”). But they cannot be used on imports within tariff quotas, and they can only be used if the government reserved the right to do so in its schedule of commitments on agriculture. In order to ensure transparency, the use of SSGs should be notified to the WTO before the action is implemented or, in any event, not later than 10 days after the action is taken. It is possible that the additional duty imposed brings the total tariff applied above the base tariff used in making the AoA reduction commitments.

²² Recent use of export subsidies has been tabulated by the WTO Secretariat as part of the annual monitoring exercise mandated by the Bali Ministerial, see (WTO, 2014b).

Originally, 39 WTO members reserved the right to use a combined total of 6 156 special safeguards on agricultural products: four of these subsequently joined the EU and adopted the EU schedule of safeguards. The most recent data compiled by the WTO Secretariat on the use of SSGs indicated that a total of twelve members notified that, in one or several of the years 1995 to 2004 inclusive, they have taken action under, or, in the case of the European Communities, made operational, the SSG (WTO, 2004). According to Hallaert (2005), around 1 477 SSGs had been notified as of end-May 2005, although he noted that WTO members often ignore the notification requirements. He noted that over 90 percent of the SSGs implemented in the early years of the AoA were introduced by the EU, Japan and the US, but the share of SSGs implemented by transition and developing countries had increased to about one-third by 2000.

Although it appears that the SSG has been used in relatively few cases, Hallaert (2005) notes that SSGs have not necessarily been used as a tool of temporary protection. He documents cases where SSGs have been in place continuously over a period of years. He also notes that they tend to protect a few sensitive commodities which already benefit from high levels of tariff protection, and in some cases were applied to commodities for which there were no imports (and thus where the requirements to demonstrate an import surge or a fall in import prices patently cannot be met).

The Rev.4 draft modalities envisage the elimination of the SSG over a period of years. Developed countries would be required to reduce to 1 percent of scheduled tariff lines the number of lines eligible for the SSG on the first day of implementation, and it should be eliminated no later than the end of the seventh year of implementation. The draft modalities also specified that at no time during this seven year period could the total duty applicable on a tariff line exceed the pre-Doha round tariff binding.

For developing country members the SSG coverage would be reduced to no more than 2.5 percent of tariff lines on the first day of implementation (and to no more than 5 percent of lines over 12 years for Small and Vulnerable Economies). Otherwise the terms and conditions of the SSG would not be changed from the terms and conditions in the AoA apart from updating the tariff rates concerned to reflect the outcome of the Doha Round negotiations. However, for developing countries, the draft modalities would make available an alternative special safeguard mechanism modelled on the SSG but different from it in some ways.

5.2.2. Special safeguard mechanism

The July 2004 Framework Agreement noted that “A special safeguard mechanism will be established for use by developing country members.” Safeguards are designed to protect against the adverse consequences of domestic market disruption caused either by unduly low-priced imports or import surges. However, it appears there was never a broad agreement on the purpose of the SSM, which complicated and eventually poisoned discussion on the design of the instrument, to the point where divisions over the SSM were blamed for the breakdown in the Doha Round talks in 2008 (Wolfe ,). The principal difference underlying the debate about the SSM was whether it was intended to deal with market disruption resulting from Doha Round liberalization, or whether it was intended to address market disruption more broadly. Differences over the design of the mechanism, including its product coverage, triggers, remedies and duration, all flowed from differences over its fundamental objective.

Proponents of the SSM argued that developing countries needed access to a SSM because of the vulnerability of their producers, and especially low-income and resource-poor producers, to a sharp drop in market prices caused either by unexpectedly low world market prices or a surge in imports. They argued that they do not have and cannot afford the alternative risk management and safety net instruments that support farmers in developed countries, and therefore need access to a general stabilization mechanism.

The alternative view, put forward by the United States but also by developing country exporters (see the communication from Argentina, Paraguay and Uruguay (WTO, 2006)) insisted that the SSM should be a trade policy instrument, an exceptional measure, to be used under exceptional circumstances resulting from the liberalization process. It should not imply 'a unilateral modification of schedules without any due compensation'. In this view, the purpose of a new safeguard measure should be to support a more ambitious market opening by providing for the possibility of a temporary withdrawal of tariff reduction offers in strictly defined circumstances. Supporters of this narrower view of the SSM wanted to confine it to staple food products, to products necessary for food security, or to products that already had low tariffs in order to facilitate the overall liberalization process.

The debate on the SSM revolved around three main issues: the eligible products, the conditions to be met to invoke the mechanism, and the remedies once the mechanism was invoked. The SSM under discussion is broadly based on the SSG described in the previous section which includes two triggers – one based on the price of imports and one on the volume of imports. There are a number of published accounts of the SSM negotiations (Montemayor, 2010; Wolfe, 2009; WTO, 2011). Here we summarize the state of play as incorporated in the December 2008 Rev.4 draft modalities (WTO, 2008b), together with a separate document which the Chair circulated at the same time which put forward his interpretation of where discussions had reached on the contentious issue whether remedies could breach existing pre-Doha tariff bindings (WTO, 2008a). Neither document was endorsed by the WTO membership and subsequent interventions made clear there was no agreement on either text. The Agriculture Chair's report in April 2011 confirmed that, despite extensive technical and analytical discussions, no compromise text had yet been presented to the negotiating group (WTO, 2011).

The Rev.4 draft modalities would allow countries to impose specified additional duties when the total volume of imports of an agricultural product exceeds a specified trigger level, or when import prices from a particular supplier fall below a trigger price. The price-based SSM uses a reference price based on a three-year moving average of import prices from all sources. When the price of an individual shipment falls below 85 percent of the reference price, a duty can be used to remove 85 percent of the shortfall. There is a market test or cross-check that developing countries should not normally take recourse to the price-based SSM where the volume of imports of the products concerned in the current year is manifestly declining, or is at a manifestly negligible level incapable of undermining the domestic price level.

The volume-based SSM can be used when imports in a year exceed 'base imports' – a rolling average of imports in the preceding three year period. The additional duty that can be applied increases as imports exceed this base (the triggers and remedies are discussed in the following paragraphs). The volume-based safeguard can only be imposed for two years, and, if it is used twice in succession, cannot be used for another two years. If a safeguard duty is imposed, and imports are lower than in the period before imposition, the trigger level is not reduced - thus avoiding a potential outcome where use of the duty itself causes the trigger to decline. Countries are allowed to use just one of the price-based and volume-based measures per tariff line in any given year.

The Rev.4 modalities set out the trigger points and remedies for the volume trigger as follows:

- where the volume of imports during any year exceeds 110 percent but does not exceed 115 percent of base imports, the maximum additional duty that may be imposed on applied tariffs shall not exceed 25 percent of the current bound tariff or 25 percentage points, whichever is higher;

- where the volume of imports during any year exceeds 115 percent but does not exceed 135 percent of base imports, the maximum additional duty that may be imposed on applied tariffs shall not exceed 40 percent of the current bound tariff or 40 percentage points, whichever is higher;
- where the volume of imports during any year exceeds 135 percent of base imports, the maximum additional duty that may be imposed on applied tariffs shall not exceed 50 percent of the current bound tariff or 50 percentage points, whichever is higher.

Unlike in previous versions of the draft modalities, there is no limit on the number of tariff lines for which the normal SSM might be invoked in the Rev.4 draft. The major flexibility of the SSM is that it would allow developing countries to raise applied tariffs (including the SSM remedy) above their post-Doha bound rate if the trigger conditions are met. It could also give comfort to countries that continue to have a significant gap between bound and applied tariffs even after the Doha Round modalities were applied, and which might not otherwise be expected to need the SSM given their ability to raise applied tariffs up to the bound ceiling.

However, the major sticking point in the discussions on the SSM has been whether countries should be allowed to raise tariffs above their pre-Doha level using the volume trigger and, if so, under what conditions. The draft modalities stated that the applied duty plus the safeguard remedy should not exceed the pre-Doha tariff binding, but in the case of the volume-based SSM they provided for exceptions for three country groups – least developed countries, SVEs, and for all other developing countries under particular conditions. For the least developed countries, the maximum remedy allowed for could be applied provided that the maximum increase over a pre-Doha bound tariff does not exceed 40 *ad valorem* percentage points or 40 percent of the current bound tariff, whichever is higher. In the case of SVEs, the text (in square brackets, indicating no agreement) limited the maximum increase over a pre-Doha binding to 20 *ad valorem* percentage points or 20 percent of the current bound tariff, whichever is the higher, but for a maximum of 10–15 (in square brackets) of tariff lines in a given period. For all other developing countries, the maximum pre-Doha tariff could be exceeded by up to 15 percentage points or 15 percent of the initial tariff binding for 2–6 six-digit tariff lines.

The Chair's proposal in December 2008 for triggers in the case of remedies which would bring tariffs above the pre-Doha bound rate in the case of the volume-based SSM was significantly different (WTO 2008b).²³

- where the volume of imports during any period exceeds 120 percent but does not exceed 140 percent, the maximum additional duty that may be imposed shall not exceed one-third of the current bound tariff or eight percentage points, whichever is the higher.
- where the volume of imports during any period exceeds 140 percent, the maximum additional duty that may be imposed shall not exceed one-half of the current bound tariff or 12 percentage points, whichever is higher.

SSM remedies above the pre-Doha bound tariff should not be applied to more than 2.5 percent of tariff lines in any 12 month period.

²³ These proposals built on the Lamy package proposed on 25 July 2008 and the G-33 response on 27 July 2008. The Lamy package allowed for a volume-based remedy that exceeded pre-Doha bound rates when import volumes were 40% above a three-year rolling average. Developing countries could then impose remedies that were 15 percentage points or 15% of the current bound tariff, whichever was higher, on up to 2.5% of tariff lines. The G-33 proposal would allow safeguard duties to exceed bound rates when import volumes were 10% greater than the three-year rolling average. With this proviso, safeguard duties could be up to 30 percentage points or 30% of the bound tariff, for up to 7% of tariff lines. See WTO (2011) for discussion of these proposals.

Compared with the draft modalities, for developing countries not in the LDC or SVE categories, the allowed excess over the pre-Doha bound rate is calculated differently (for countries with higher bound tariffs, there is greater flexibility but for countries with low bound tariffs, the flexibility is slightly reduced), an additional trigger threshold is introduced, but the number of products for which the pre-Doha cap could be exceeded in any period is increased (from 2-6 to 2.5 percent of total tariff lines).

The SSM is intended to protect developing countries against the possibility that sudden sharp increases in import volumes can disrupt their domestic markets. There has been extensive investigation of the importance of such import surges in recent years (Sharma, 2005). While definitions of what constitutes an import surge differ, it is clear that, as a statistical phenomenon, import surges are very frequent (Matthews, 2012). However, while the incidence of surges may have risen, and surges appear to be a fairly common phenomenon in developing countries, these figures tell us nothing about their impact. There is nothing either inherently 'good' or 'bad' about an import surge. Rising imports are not necessarily a negative thing for developing countries, as they add to food availability and to the reduction of hunger. It is often presumed that an import surge of a particular commodity disrupts local markets and pushes down prices, negatively affecting the livelihoods of people relying on the production of that commodity. De Nigris (2005) examined correlations between import surges (measured in per caput terms) and production per caput. He found many examples of negative correlations indicating an inverse relationship between imports and domestic production, suggesting that imports were needed to compensate for domestic shortfalls. He also found positive correlations for other products where imports increased at the same time as domestic production and which probably reflected increasing demand for these products generated by economic growth. Sharma (2005) also found many cases where an import surge occurred even while domestic prices continued to rise, leading him to conclude that imports have been 'pulled in' through prior shortfalls in domestic production rather than higher imports causing domestic production to fall. Thus, the consequences of increased imports for food security need to be carefully evaluated before deciding on the appropriate response. In fact, international trade plays an important role in reducing price risk through enabling countries to make use of world markets in the face of domestic production volatility.

Model simulations confirm that an SSM could have some potentially perverse impacts. (Finger, 2010) believes that the proposed SSM formulas would provide a poor guide for policy because they would frequently prescribe action when it is not needed and frequently fail to prescribe action when it is appropriate. (Hertel *et al.*, 2010) use a stochastic model of the world wheat market to investigate the stabilizing effect of the SSM on domestic prices. They find that both the quantity-based and price-based safeguards would destabilize domestic producer prices (by restricting imports when domestic output is low and prices are high). Both of these studies assume that countries will always use safeguards when the rules allow it. This is disputed by SSM proponents who argue that the limited use made of existing safeguards by those developing countries which in principle had access to them shows that recourse to safeguard duties is likely to be much more limited than these figures suggest.²⁴ (Grant and Meilke, 2006), using a net trade stochastic model of the world wheat market, also conclude that the welfare costs of allowing developing countries to use the SSM are small relative to the gains from tariff liberalization as a whole. However, the difficulty is that the SSM proposal as drafted leaves huge uncertainty about when and how often it might be used, leaving exporters to imagine their worst fears.

De Gorter *et al.* (2009) investigated the frequency of use of both the price-based and volume-based triggers as set out in the December 2008 draft modalities for four developing countries (India, China,

²⁴ Hertel *et al.* (2010) discuss some of the reasons why developing countries do not use agricultural safeguards to which they are otherwise entitled.

Republic of Korea and Indonesia) based on trade data for 1998–2003. They proxied the shipment-by-shipment basis for the price-based trigger by using bilateral unit values. The price-based safeguard would have been triggered on between 25–33 percent of all bilateral trade tariff lines. In total 8.6 percent of trade by value would have been affected. The average remedy would have been equivalent to an additional tariff of around 13 percent for India and Indonesia (15–17 percent if the pre-Doha tariff cap were lifted on a limited number of tariff lines). The equivalent figures for China and the Republic of Korea would have been an average remedy of an additional 2–6 percent with a cap or 6–10 percent without a cap. The volume-based safeguard would have been triggered on a far greater value of trade (more than four times as much or more than 40 percent of total imports), and the additional tariff remedy would have averaged 11–19 percent allowing for the exceptions to the cap.²⁵

They found that both the volume- and price-based triggers would hit developing country imports to these markets much more than developed countries. This is because the shipment-by-shipment price-based SSM would impose higher duties on exports of relatively lower-priced products, which typically originate in developing countries. Based on the same insight, Finger (2010) calculates that, in a given year, unit values from specific countries are sufficiently below aggregate monthly unit values to trigger restrictions on 59 percent of agricultural tariff lines regardless of the trend in domestic prices.

Although the SSM is justified by the need to stabilize domestic markets for poor and vulnerable producers, it does nothing to assist producers of agricultural exports who are widely exposed to price shocks and may have little ability to cope with them. Indeed, it could even make their position worse. If a significant number of developing countries make use of the SSM to protect against depressed world market prices, the volatility of world prices will be greater than would otherwise be the case, making exporters dependent on these world prices worse off (Hertel *et al.*, 2010). This suggests that eligibility to use the SSM should be carefully limited. This is not only for the standard argument about special and differential treatment (SDT) measures that significant exemptions from the normal WTO rules are only likely to be acceptable to the WTO membership when the trade-distorting effects are not large. All countries are concerned about price instability, but by definition not all can insulate themselves simultaneously against this. The efficacy of a widely-applicable measure will be eroded if a large number of countries resort to it when international prices are low.

5.2.3. Policy space and import safeguards

The debate over the extent of policy space available to developing countries to use import safeguards has been one of the major dossiers in the Doha Round negotiations. The SSG mechanism in the AoA was of limited use to developing countries because it was only available for products whose border protection was ‘tariffed’ and where countries had reserved the right to use it in their schedules of commitments. Only 23 developing countries have the right to impose SSGs; most developing countries did not make use of ‘tariffication’ and therefore have no access to an automatic safeguard mechanism under current AoA rules.²⁶

²⁵ The average remedies quoted in this paragraph are simple averages. The weighted average remedies would be slightly lower under the price-based trigger but considerably higher under the volume-based trigger. Hertel *et al.* (2010) in their simulation of the use of the SSM in the world wheat market also conclude that the quantity-based safeguard is an order of magnitude more damaging to world trade than the price-based safeguard.

²⁶ The developing countries which have access to the SSG (with the numbers of products shown in brackets) are Barbados (37), Botswana (161), Colombia (56), Costa Rica (87), Ecuador (7), El Salvador (84), Guatemala (107), Indonesia (13), Israel (41)*, Republic of Korea (111)*, Malaysia (72), Morocco (374), Namibia (166), Nicaragua (21), Panama (6), Philippines (118), South Africa (166), Swaziland (166), Taiwan Province of China (84)*, Thailand (52), Tunisia (32), Uruguay (2), Venezuela (76). Note: Countries with an asterisk are considered

Access to an automatic safeguard mechanism has thus been a key demand of developing countries in the Doha Round negotiations. This point was conceded in the 2004 Framework Agreement and much work was done to flesh out the bones of a new special safeguard mechanism, but in the end the negotiations foundered on this issue.²⁷

The debate over the SSM underlines the tension between preserving policy space for some countries while protecting other countries from arbitrary disruptions to trade flows. The design of the price-based safeguard, which would be applied on a shipment basis, suggests that developing country exporters with exports of lower unit value would be disproportionately affected. Model simulations highlight the potential scope for trade disruption if the SSM were fully and consistently applied whenever the threshold conditions were met. The response of developing countries has been that they would most likely make use of the SSM in only a proportion of the instances where potentially it could be used. Examination of the incidence of import surges shows that, in the majority of cases, these make up for domestic production shortfalls or otherwise complement domestic production in meeting growth in domestic demand, and thus are not a cause of market disruption. If access to the SSM were made widely available, its simultaneous application by many developing countries would exacerbate the initial world market price volatility and would offset much of the intended stabilizing effect of the safeguard mechanism. For these reasons, it would be desirable to limit the possible use of the SSM. One possible approach would be a graduated mechanism which would permit relatively generous access at the outset but gradually limit access to the SSM and its scope over time.

The period of relatively high world market prices since the breakdown of the Doha Round negotiations in 2008 has reduced the need for import safeguards, but a reversion to lower world market prices would highlight again the limited scope for safeguard action that many developing countries have.²⁸ This is another area where a speedy conclusion of the Doha Round would be welcomed. On the other hand, most developing countries have considerable unused policy space under the market access pillar (see Section 3.3.1); their applied tariffs are frequently well below their bound tariff rates. This does provide a lot of scope for many developing countries to act to protect a domestic commodity sector by raising applied tariffs if this was deemed an appropriate way to address a food security problem.

5.3. Export restrictions

During the price spikes in the 2007–12 period, more attention has been paid to the consequences of world price instability for food security in developing countries than to the consequences of import surges. During this period, many countries pursued trade and domestic policy responses intended to stabilize domestic markets and protect urban consumers (Abbott 2009). A number of key grain exporting countries, primarily developing economies, adopted export bans, or at least partial export

developed countries on socio-economic criteria, see Section 1. Source:

https://www.wto.org/english/tratop_e/agric_e/negs_bkgrnd11_ssg_e.htm, accessed June 21, 2015.

²⁷ Indeed, the WTO Secretariat's unofficial guide to the agricultural negotiations points out that the breakdown was not about the SSM itself but about the specific issue whether additional duties could bring the applied tariff above pre-Doha rates, see https://www.wto.org/english/tratop_e/agric_e/guide_agric_safeg_e.htm, accessed 21 June 2015.

²⁸ Developing countries continue to have access to Article XIX of the GATT 1994 and the Agreement on Safeguards, which set forth the rules for application of safeguard measures, and which allow resort to quantitative import restrictions or duty increases to higher than bound rates if an increase in imports of particular products has caused or threatens to cause serious injury to the importing member's domestic industry. Unlike the SSGs or the proposed SSM, a fall in prices is not considered. The administrative burden involved in demonstrating injury means that there is very limited recourse by developing countries of this provision.

restrictions, in an attempt to lower domestic prices for local consumption. At the same time, some major grain importing nations reacted by tendering larger-than-anticipated import bids, reducing pre-existing import restrictions such as tariffs and relaxing tariff rate quotas.

As discussed in the context of the SSM, the use of trade measures to insulate economies from shocks to world prices can, at best, transfer the risks associated with commodity production and trade. If many countries seek to transfer price risk to others, the outcome is likely to be ineffective (Martin and Anderson 2012). In the case of a large exporter, or if a number of exporting countries that are collectively large in the market impose export restrictions, the effect is to increase the world price of the staple food. This increase offsets some of the impact of the reduction in the domestic price. If, in addition, importing countries reduce tariffs on food imports in an attempt to avoid adverse impacts on consumers, the increases in world prices resulting from the initial price shock and the restrictions imposed by exporters will be further compounded. Thus, the attempts by exporters and importers to offset the impacts of a price increase on themselves may be self-defeating. If all countries follow this type of policy, the stabilizing impact on domestic prices is, on average, eliminated, although countries that insulate more than others may experience reductions in price volatility, while those which insulate less may experience increases in price volatility.

Anderson and Nelgen (2012) compare the variability of domestic prices relative to border prices for various developing country regions and for high-income countries for the periods 1955–84 and 1985–2004 (that is, before and following the major economic policy reforms that began for many countries in the mid-1980s). Among developing country regions, the ratios are between two-thirds and four-fifths for Asia, quite close to one for Latin America, and close to or slightly above one for Africa. Interventions in developing Asia are thus shown to be somewhat effective in providing some insulation against world market volatility. Asian rice producing and consuming countries have a long history of successfully using border measures to stabilize domestic prices (Timmer 2010). In contrast, interventions in Africa were such as to possibly even destabilize domestic markets. Taken together, they argue that market interventions by governments had little impact in preventing domestic market prices from gyrating less than prices in international markets (Anderson and Nelgen, 2012).

Export restrictions played a significant role in the 2008–09 food price spike. Over the 2008–2010 period, 9 percent of total food trade (measured using monthly data across 125 countries at the 4-digit level) was covered by export restrictions. If just staple foods are considered, the share increases to 22 percent on average during this period (Giordani *et al.*, 2012). They estimate that, on average, a 1 percent increase in the share of trade covered by export restrictions is associated to a 1.1 percent increase in international food prices. IFPRI research found that restrictions explain as much as 30 percent of the increase in prices in the first six months of 2008 (Von Grebmer 2011). (Yu *et al.*, 2011) find that the trade policy responses in various countries had differential impacts on the prices of agricultural commodities. Their simulation results show that the overall world price impact of trade policy distortions is most significant for rice, at 24 percent, followed by wheat (14 percent) and barley (9 percent). Poorer food-deficit countries/regions, with limited power to manipulate their trade policies, experienced higher price increases compared to those major trading countries that adopted policy interventions. They show that the developing countries that are net importers but did not implement trade policy interventions experienced significant welfare losses resulting from interventions implemented by other major trading countries. Anderson and Martin (2011) initially calculated that 45 percent of the increase in rice prices and 30 percent of the increase in wheat prices in the 2008 price spike was due to trade measures. A later more careful analysis using a similar simplified model yielded estimates of 40 percent for rice, 19 percent for wheat and 10 percent for maize (Anderson and Nelgen 2012). Most recently, using a computable general equilibrium model which allows feedback effects to be taken into account, the contribution of trade

restrictions to the increase in the price of rice was found to be 30 percent, for wheat 7 percent and for maize 11 percent (Jensen and Anderson 2014).

Recent studies have tried to estimate the change in the total numbers in poverty (which can be taken as a proxy for food security) as a result of export restrictions. In the short-run, restrictions in an exporting country may have the effect of reducing poverty in that country if the majority of the poor are net food consumers. However, the impact on the numbers in poverty in other countries as a result of the higher world market prices due to the export restrictions should also be factored into the analysis. One study suggested that export restrictions might have reduced global poverty by 81 million if no implications for global prices are assumed. However, taking into account the impact on global prices and their implications for poor people in other countries, it concluded that overall numbers in poverty world-wide may have increased by around 8 million (Anderson *et al.*, 2014). These are short-run effects in that they do not allow for quantity adjustments by farmers or changes in rural wages.

Higher food prices may encourage some producers who are currently net food consumers to expand production, so that they become net food producers and benefit from the higher prices. Also, higher food prices over time may increase the demand for rural labour and thus rural wage rates, offsetting the poverty impact of higher food prices for those participating in rural labour markets. This has led some analysts to argue that higher food prices, while raising poverty in the short-run in all but a few countries with broadly-distributed agricultural resources, can actually lower poverty in the longer-run (Ivanic and Martin, 2014). However, these longer-term dynamics are not necessarily relevant to the short-lived price spikes which export restrictions are intended to address.

There is evidence that export restrictions have a contagion or multiplier effect, in that the probability that a country will introduce a restriction is increased if other countries have made use of this trade measure (Giordani, Rocha and Ruta, 2012). Greater discipline on using export restrictions might thus not only directly strengthen importing countries' confidence in the reliability of world markets but also indirectly help to control the frequency of their use. Quantitative restrictions on exports, including agricultural goods, are banned in the GATT, but exceptions in the agreement make the rules difficult to interpret and enforce; there are no prohibitions on export taxes. It has been relatively easy, therefore, for countries to justify export restrictions as a means of relieving critical food shortages (Mitra and Josling, 2009).

In the Rev.4 draft modalities disciplines on export restrictions are further tightened. Existing export prohibitions and restrictions in foodstuffs and feeds must be eliminated by the end of the first year of implementation of a potential Doha Round agreement. New export prohibitions or restrictions should not normally be longer than 12 months, and can exceed 18 months only with the agreement of the affected importing members. Exporters resorting to restrictions would have greater obligations to consult with affected importers and to provide justification, and the surveillance role of the Committee on Agriculture would be strengthened. The additional obligations to consult would not apply to least-developed and net food-importing developing countries.

Some observers have questioned the utility of trying to introduce binding disciplines on export restrictions in WTO rules, arguing that the procedures would be too slow to be effective during a price spike. The alternative view is that transparency and consultations may act as a constraint; and that it is important to have disciplines on export bans and restrictions to avoid the doubts about the trading system that encourage a retreat to self-sufficiency strategies. Mitra and Josling (2009) examine various options in this respect (see also Anania, 2013). Tariffication of quantitative export restrictions and the binding of export taxes have the attraction of symmetry with the rules on import tariffs, but could have the paradoxical effect of legitimizing the use of these measures and

encourage their more frequent use. They note another difference that export restrictions for price stabilization purposes tend to be only used irregularly during price spikes, and thus share some characteristics of contingent protection against price slumps. Building on the rules to discipline use of import safeguards could be another direction to pursue. And because the more countries that resort to trade stabilization measures, the more self-defeating they become, it would be important that developed countries and the more competitive developing country exporters lead the way in forging appropriate disciplines.

6. Conclusions

The WTO Agreement on Agriculture is frequently criticized for not taking sufficient account of the needs of developing countries to pursue policies necessary to promote their food security. This paper assesses the extent to which existing and proposed rules limit the policy space that developing countries have to pursue this goal. Its aim is to assess the validity of the criticism that AoA rules prevent developing countries from adopting food security policy measures that they deem necessary. It explores the way in which AoA rules enable trade to make a positive contribution to food security, while also highlighting areas where the absence of rules, incomplete rules or inappropriate rules hinder this role that trade can play.

Policy space refers to the room for manoeuvre available to countries to implement policies or commit budget expenditures which are not limited or constrained by AoA rules. However, the point is emphasized throughout the paper that trade rules are intended to discipline the trade-distorting policies of any country that might adversely affect the trade and production of developing countries, thus undermining their food security. AoA rules are thus intended to impose limits on some of the policy space of developing countries, as part of a collective agreement to ensure a well-functioning and reliable world market from which all countries benefit. This paper documents the extent of these limits and draws attention to areas where some change to these disciplines might be justified. It highlights that the progress made in reducing the trade-distorting support provided to farmers in developed countries also supports the efforts of developing countries to improve their food security, while warning that providing greater policy space to developing countries could reverse these gains by leading to an increase in trade-distorting support in developing countries themselves.

The paper takes an agnostic view about whether additional policy space is either necessary or would be beneficial in helping developing countries ensure their food security. The debate over how best to guarantee and improve a population's food security is an important one, but is not addressed here. The policy space available to developing countries is assessed in this paper by reference to the policy space available to developed countries, taking into account the special and differential treatment principle that developing countries and LDCs should have less onerous obligations, and thus greater policy space, than developed countries.

The paper reviews the food security impacts of AoA rules and the policy space available to developing countries under the headings of import protection, domestic support and the ability to respond to volatile world market prices.

With respect to import protection, a key objective of developing countries in the Uruguay Round was reduced agricultural protection in developed countries. Average applied agricultural tariffs have fallen in developed countries since the introduction of the AoA, making an important contribution to food security in developing countries, even if a faster pace of reduction and greater ambition would have helped even more.

Policy space in the market access pillar is defined as the bound tariffs which WTO members commit not to exceed. The average bound tariff commitments of developing countries for agricultural products are very heterogeneous, reflecting the level of their bound tariffs in the base period, the decisions they took when they set their ceiling tariffs for products with unbound tariffs as part of their AoA schedules of commitments, and the timing of their accession to the WTO. Most, but not all, developing countries have high bound tariffs. If average bound tariffs are compared to the average tariffs applied, most but not all developing countries have considerable unused policy space. Even at the tariff line level, a study which looked at the tariff bindings and tariff overhang for selected potential special products also found relatively few with negative, zero or minimal (<20%) tariff overhang (Bernabe, 2008). The converse of high tariff bindings and high applied tariffs is that exporting countries, including developing country exporters, find it more difficult to use agricultural exports as a way of enhancing their food security, livelihood and rural development objectives.

Developed countries have also reduced the amount of trade-distorting domestic support they provide since the AoA was introduced which has further benefited food security in developing countries. Some of this apparent reduction in domestic support has been of a cosmetic nature (for example, the abolition of administered prices with any real reduction in economic support to farmers because tariff protection remains in place) while, in other cases, trade-distorting support has been replaced by budget support under measures categorized as green box policies (a phenomenon known as 'box-shifting'). While box-shifting has occurred and some policies categorized as green box may have more than minimal production and thus trade effects, their overall impact is still much less trade-distorting than the market support policies which they replaced. The potential under the 2014 US Farm Act for large trade-distorting payments if farm prices decline is nonetheless a worrying development.

For developing countries, the most important element of the AoA domestic support provisions are the exemptions from any discipline or limitation of a broad range of policies which can play an important role in enhancing their food security. These policies include green box policies, policies in the 'development box', as well as other trade-distorting policies up to the limit of their AMS ceiling(s). For most developing countries, some of their trade-distorting support is limited to *de minimis* amounts under their AoA commitments. Most developing countries report no or minimal use of such support. However, a number of emerging economies have been increasing their trade-distorting support particularly through the use of administered support prices. The interaction between the AoA formula for calculating market price support due to the use of administered prices and the much increased level of world market prices now compared to the AoA base period in the mid-1980s has clearly restricted the policy space of developing countries. Many developing countries may breach their domestic support commitment even where their use of administered prices provides no economic support to their farmers because these prices are set at levels lower than current world market prices. While the current AoA rules help to limit the negative spillover effects of domestic policies likely to distort trade including for other developing countries, the paper argues that there is a case on both economic and equity grounds for revisiting WTO rules in this area.

The third area examined is the impact of AoA rules on price volatility and the ability of developing countries to respond to this. In the past, the use of export subsidies by some developed countries was an important factor exacerbating world price volatility. The significant reduction in the use of export subsidies since the introduction of the AoA, while facilitated by the higher level of world market prices, has been a very positive factor in contributing to greater food security in developing countries. Only a minority of developing countries have access to an automatic safeguard mechanism. Developing countries have thus sought greater flexibilities in the Doha Round negotiations to use safeguards when faced with import volume surges or low world market prices. While the principle of a special safeguard mechanism for developing countries has been agreed,

there has been controversy over the products which would be eligible, the conditions to be met to invoke the mechanism, and the remedies once the mechanism was invoked. As stabilizing prices in one country destabilizes prices for all others, the use of this mechanism needs to have careful limits if its efficacy is not to be eroded. It is also the case that the large unused policy space which many developing countries have in the form of tariff overhangs means that they do have the possibility to vary their applied tariffs in situations where they deem safeguarding their domestic production capacity is justified on food security grounds.

Similar considerations apply to the control of export restrictions. Currently, there are very soft disciplines on the use of export prohibitions on staple foods and none on the use of export taxes. Effectively, developing country exporters are not restricted by AoA rules in this area. However, for developing country importers, this leaves them at the mercy of arbitrary export restrictions by their trading partners and, as shown in the 2008 and 2011 price spikes, the lack of protection against such arbitrary interventions can be a severe threat to their food security. In this case, there is a strong developing country interest in limiting policy space. The lack of disciplines on export restrictions on foodstuffs is part of the unfinished business of the Uruguay Round, and strengthened disciplines should be an important objective for WTO members.

The emphasis given to the limits on developing countries' policy space in these three areas has shifted over time. When the Doha Round negotiations began in 2001, the focus was on the need to maintain tariff protection particularly for products important for food security, livelihood security and rural development, and also as a means of responding to import surges and periods of unusually low world market prices. In the years since 2006 world market prices have significantly increased, and volatility has taken the form of periods of particularly high world market prices. This change in the world market price context has had very important consequences for the way in which food security concerns are framed in the WTO negotiations. Two of these consequences are highlighted in this paper.

The first is that, with higher world market prices, there is less emphasis on the need for high tariff protection to support domestic production. On the other hand, domestic support commitments, which received limited attention when the mandate for the Doha Round was being negotiated, have turned out to be more onerous than expected because of the doubling of world food prices (in nominal terms) in the years since 2006 (Figure 12). When WTO members made the effort to agree a 'mini-package' at the Bali Ministerial Council in 2001, it was domestic support issues (in the guise of the G-33 proposal to exempt purchases at administered prices for public stock-holding for food security purposes from any discipline) which took centre-stage.

Second, the price spikes since 2006/07, which were exacerbated by widespread resort to export restrictions by exporting countries, highlighted the vulnerability of net food-importing countries and the weakness of current AoA disciplines in this area. A number of WTO members have since argued that there is a need to strengthen disciplines on export restrictions beyond the proposals contained in the Rev.4 draft modalities which had been negotiated before the recent price spikes were experienced.

A final observation is that the restrictions on policy space are only effective when they are enforced, and enforcement begins with notifications. In this respect, the poor performance of WTO members in submitting timely notifications undermines the ability of other members to monitor compliance. Every three months the Secretariat compiles a document for the Committee on Agriculture indicating the status of agricultural notifications (under the document symbol G/AG/GEN/86). In its September 2015 status update covering the period 1995–2013, there were 1 586 outstanding notifications, or 26 percent of the total notifications due in that period. In the absence of notifications, it is impossible to judge just how binding, and useful, the AoA disciplines are for developing countries.

Annex 1. *De minimis* limits when world market prices are rising

The disciplines set out in the WTO Agreement on Agriculture provide substantial scope for developing countries to use budgetary expenditures to promote their agricultural, rural development and food security goals. As Brink (2015) explains, this policy space consists both of exempted support and *de minimis* AMS support, i.e. non-exempted support which does not count towards a country's Current Total AMS because it is below *de minimis* limits or thresholds.

However, the situation is different with respect to market price support provided through the use of administered prices. The logic of the Agreement rules, spelled out below, implies that, when world market prices are rising, a country without a Bound Total AMS (called here a *de minimis* country) can quickly find itself unable to operate an administered price system that provides economic price support to its farmers. Economic price support is defined as the use of administered prices higher than current equivalent world market prices. It could also find itself unable to operate a 'safety net' floor price scheme even if the administered price were well below the market price. The reason for this is the use of an external reference price fixed in nominal terms at the 1986–88 level in the calculation of market price support when calculating a country's AMS under the AoA.

The operation of *de minimis* limits: an example

To illustrate this, we use a small numerical example of a product-specific AMS. Recall that a *de minimis* country has to respect its *de minimis* limits for each product-specific AMS and for its non-product-specific AMS. By definition, measures which contribute to the latter can only take the form of budgetary expenditures; all price support must be counted towards a product-specific AMS. So we confine this example to a product-specific AMS and assume, without loss of generality, that only market price support contributes to the product-specific AMS.

We describe a situation where a developing country uses an administered price to support its farmers. We assume that, in the base year, the world market price equals that country's Fixed External Reference Price (FERP) set equal to the import price in the 1986–88 period.

We also assume that the administered price is set at a level which just exhausts the *de minimis* limit for that product, i.e. there is perfect management of the policy space. We abstract from transaction costs and market imperfections and assume that, in this situation, the domestic market price reflects the administered price (another possible scenario is that the government also pursues an active tariff policy and sets the tariff such that the domestic market price is determined by the (higher) tariff rather than the administered price). Given that the *de minimis* limit is determined by the value of production which includes the impact of support, the 10 percent *de minimis* limit allows the administered price to be set at a level 11.11 percent higher than the world market price. This is also the maximum percentage amount of economic support that this *de minimis* country can provide through its administered prices to its producers of this product under the AoA.

However, when world market prices rise above the FERP, it is no longer feasible for this *de minimis* country to provide this amount of economic price support. This is the case even if higher world market prices permit an increase in domestic prices and thus contribute to an increase in the *de minimis* limit for this product (this is because the 10 percent limit applies to the total value of production, which is price x quantity). To further simplify the example, we assume no increase in domestic production of the commodity.

We now examine what happens to this country's ability to continue to provide this level of economic price support via administered prices if the world price increases by 5 percent per annum (Table A1).

If the government were to try to maintain the same *ad valorem* (percentage) rate of economic support by increasing the administered support price by 5 percent, then it would need to increase its administered price to USD 93.3/t. This would increase the value of domestic production (assuming no increase in the quantity of production) to USD 93 324 with a corresponding increase in the 10 percent *de minimis* limit to USD 9 332 (see Row 2a in Table A1). However, under the AoA formula this country's product AMS under this scenario would increase to USD 13 324, so the country would be in breach of its WTO obligations. To avoid this breach, it would have to forego the increase in its administered price and thus its ability to maintain a constant level of economic price support.

In fact, it can be shown that, once a country reaches its *de minimis* limit (i.e. perfect management of its policy space), any increase in world market prices must lead to an equal *decrease* in the percentage rate of economic price support such that the administered price (and thus domestic market price) has to be held constant (see Rows 2 and 3 of Table A1). With a rising world market price, this implies that the maximum possible rate of economic price support this country can provide is reduced. In the example, in Year 2 the rate of economic support has to be reduced to 5.8 percent, and in year 3 it has to be reduced to 0.8 percent. This drastic reduction in the policy space available to the country is due to the use of a FERP to measure the product AMS for this country, combined with the assumption that world prices increase above the FERP.

It is sometimes argued that the *de minimis* limit is not so constraining because it increases along with the value of production over time. However, in this example, this does not occur. The requirement to hold the administered price (and thus, in this example, the market price) constant eliminates any possible lift to the *de minimis* limit arising from an increase in the unit value (price) of domestic production.

Table A1: Illustrative example of perfect management of product-specific AMS policy space under a *de minimis* limit

Year	World market price	External reference price ERP	Applied administered price AAP	Eligible = Actual production	Product AMS	Per cent economic support	Domestic Market price	Value of production	<i>De minimis</i> limit @ 10% VoP
	USD/t	USD/t	USD/t	t	USD	%	USD/t	USD	USD
1	80	80	88.9	1 000	8 889	11.1	88.9	88 889	8 889
2a	84	80	93.3	1 000	13 324	11.1	93.3	93 324	9 332
2	84	80	88.9	1 000	8 889	5.8	88.9	88 889	8 889
3	88.2	80	88.9	1 000	8 889	0.8	88.9	88 889	8 889

Source: Own calculations.

Mathematical exposition

We now show mathematically how, in a rising market, a country's policy space to offer administered price support can diminish very rapidly when it is constrained by a *de minimis* limit and the AoA AMS formula for market price support.

Use the following notation:

w = product's world market price

s = the percentage rate of price support

$\bar{x}$ = the Fixed External Reference Price (FERP)

p = the domestic producer price

y = production

We assume that

$$p = w \cdot (1 + s) \quad (1)$$

Market price support, MPS, is defined as the difference between the administered price and the FERP, multiplied by the eligible quantity which is assumed to be equal to total production. If this difference is negative, then MPS by definition is zero and there is no AMS.

$$MPS = y \cdot (p - \bar{x}) \quad (2)$$

The *de minimis* limit, DM, is defined as 10% of the value of production (for a developing country).

$$DM = y \cdot p \cdot (0.1) = y \cdot w \cdot (1 + s) \cdot (0.1) \quad (3)$$

We assume that the government manages its policy space perfectly such that market price support equals the *de minimis* limit. So we can set MPS equal to DM

$$y \cdot (p - \bar{x}) = y \cdot p \cdot (0.1) \quad (4)$$

Solving for p,

$$p = \frac{\bar{x}}{0.9} \quad (5)$$

This is a remarkable result. It means that, regardless of world price developments, the evolution of domestic market prices or the trend in domestic production quantities, a government which is perfectly managing its domestic support policy space (i.e. fully exploiting its *de minimis* limit) using only market price support can only implement a single, unique administered price which is determined solely by the value of its FERP.

The implication of this result for the level of economic support the government can provide to its farmers in the face of changing world market prices can be shown by solving equation (3) for s.

$$s = \frac{\bar{x} - 0.9w}{0.9w} \quad (6)$$

Equation (6) tells us that the level of support which exactly exhausts the policy space available to the government is positively related to (i) the level of the FERP, and (ii) inversely related to the world market price. As the world market price increases, the government must reduce the level of economic support it provides to stay within its *de minimis* limit.

The allowed level of economic price support is very sensitive to the level of world market prices. Assume in the base year that the FERP is 100 and the world price is 80. Because the FERP is well above the world price, this allows considerable room for economic price support through administered prices. In fact, the government could provide price support up to 39 percent of the undistorted domestic producer price (assumed equal to the world price) (see chart).

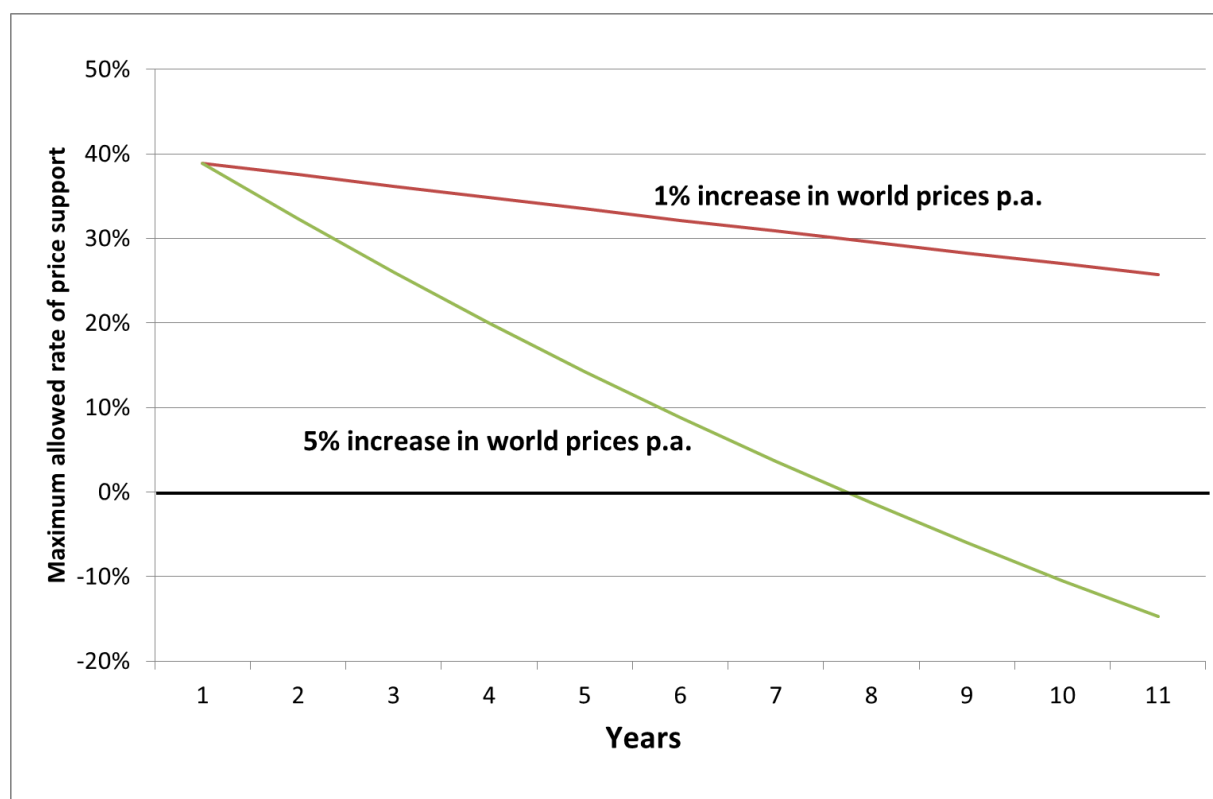
With a rate of increase in world market prices averaging 1 percent per annum, then after ten years the maximum allowed rate of price support would have fallen to 26 percent. If, however, the rate of increase in world market prices were 5 percent per annum, then the government's capacity to provide economic price support would be exhausted after 7 years (where the line begins to show

negative rates of support, meaning that the administered price level would have to be below the world market price).

Although this modelling is based on very stylized assumptions, it demonstrates that, if a *de minimis* country uses administered prices, it can very quickly find its room for manoeuvre very heavily constrained by the AoA discipline and particularly the formula used to calculate market price support using a Fixed External Reference Price. Some key points from the analysis are:

- When the current world market price equals the FERP, the maximum percentage amount of economic price support that a *de minimis* developing country can give to a product through an administered price is 11.1 percent (9.3 percent for China with its lower *de minimis* limits). If it is an importing country, then it could provide higher economic price support by raising its tariff, provided there is scope within its bound tariff schedule to do this.
- This maximum possible rate of economic price support can be exceeded if the FERP is greater than the world price in any year, but must be reduced if the FERP is less than the world price. If world market prices increase significantly in nominal terms relative to the FERP, then the ability of a *de minimis* country to provide economic price support is significantly reduced and can even be eliminated as shown in Figure A1.
- A *de minimis* country may find itself restricted in its use of administered prices even for 'safety net' purposes, that is, even if the administered price is set below current market prices, again depending on the evolution of world prices with respect to the FERP.

Figure A1: Impact of world price increases on maximum allowed rate of economic price support for *de minimis* country making maximum use of its policy space, FERP = 100 and world price = 80 in base year



Source: Own calculations.

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