Policy Space in Agriculture under the WTO Rules on Domestic Support

Lars Brink

Policy space in agriculture under the WTO rules on domestic support

Lars Brink

Associated Faculty at the Global Issues Initiative (GII) of
the Institute for Society, Culture and Environment (ISCE)
Virginia Polytechnic Institute and State University

Lars.Brink@hotmail.com

28 July 2015

Policy space in agriculture under the WTO rules on domestic support

Summary: A concept of policy space is formulated under the domestic support rules of the WTO Agreement on Agriculture. This policy space is dyadic, comprising two kinds of space: exemption space and limited space. The two kinds are available differently for different countries. Exemption space derives from the entitlement to exempt policies that meet given criteria from those policies under which support counts against the country's limit(s), i.e., exemption space allows limitless support. The criteria are those of Annex 2, Article 6.2 and Article 6.5 of the Agreement (green, development and blue boxes). Limited space derives from the entitlement to provide support under non-exempt policies up to the country's limit(s). For most countries the limits are the *de minimis* levels calculated from the value of production of each product and of agriculture as whole, using the country's *de minimis* percentage. For 32 countries (15 developed and 17 developing) the limit is the Bound Total Aggregate Measurement of Support (BTAMS) and the *de minimis* levels are thresholds above which support counts against the limit. Some acquisition of foodstuffs at administered prices is subject to special rules, now subject to negotiations with implications for both exemption space and limited space and the interaction between these two kinds of space.

The Agreement's criteria are reviewed to interpret the factors determining a country's exemption space. In determining limited space, the centrality of a country's values of production is illustrated by tracking limited space from 1995 to 2012 for the EU, the US, India and China under assumptions of perfect management of maximum support. China's rapidly rising values of production have generated limited space that now greatly exceeds that of the EU. The US limited space has been rising but India's limited space is growing faster and approaches the US level. In recent years these four countries have used only a small part of their limited space. As values of production rise in individual countries and in the world, the relative importance of BTAMS as a component of limited space declines since it stays fixed in nominal terms. The amount and the share of non-exempt support that can be accommodated within the *de minimis* provisions are thus increasing for individual countries and in total for the world. Some countries with declining values of production in agriculture are the exceptions, e.g., Japan. The different entitlement of different countries to limitless exemption space, in combination with limited space growing faster in some countries than in others, means that the picture of countries' policy space for

domestic support to agricultural producers is rapidly changing from the picture when the Doha negotiations started.

Keywords: policy space, WTO, agriculture, domestic support, exemptions, Aggregate Measurement of Support, *de minimis*, value of production, EU, United States, India, China

JEL code: F13, Q17, Q18

Contact author: Lars Brink, 4 Brink Road, Chelsea, Quebec, J9B 2C6 Canada

Email: Lars.Brink@hotmail.com

Phone: +1 819-827-0456

Policy space in agriculture under the WTO rules on domestic support

List of Tables

List of Figures

Policy space in agriculture under the WTO rules on domestic support

Introduction

This paper examines one type of policy space available under the Agreement on Agriculture ("Agreement") of the WTO (World Trade Organization), specifically under the provisions regarding domestic support as applicable for developing and developed countries (WTO 1995a). It is motivated by several developments in world agricultural trade and policy over the last few decades. They include the advent of the Agreement in 1994, the establishment of the WTO in 1995 and the subsequent implementation of numerous countries' reduction commitments, the accession to the WTO of many more countries, the start of the Doha Development Agenda ("Doha") negotiations in 2001 followed by an impasse from 2009, and the resuscitation of negotiations from 2013 on certain elements concerning agriculture. They also include the considerable change since 1995 in the size and nature of policy support to agricultural producers in many developing and developed countries, and the experience of great variability in agricultural market prices.

The paper reviews the provisions of the Agreement that define policy space for domestic support in agriculture, including the distinction between policy measures and policy support. It interprets the implications of these provisions and formulates a two-fold metric of policy space. This concept of policy space comprises exemption space and limited space. Limited space is used here in the sense of a space having a limit or a boundary: the space can be used below, within or at the limit but not beyond. The paper then lays out in detail the country characteristics that give rise to differences among countries in terms of exemption space and limited space. The implications of WTO decisions taken in 2013 and 2014 are examined in terms of exemption space and limited space. This is followed by a graphical illustration of the yearly amounts of support that could have been provided within the limited space of the European Union (EU), the United States (US), India and China from 1995 to 2012.[1] The calculations are based on and underscore the central role of values of production in determining the size of limited space and show how the four countries' limited space has evolved over time.

---

[1] The EU means the European Union with an evolving number of member states over time, and the EU28 means the EU comprising 28 member states.

The conclusions highlight the contrast between developed and developing countries (other than China) in terms of exemption space for certain input subsidies and investment subsidies. They also draw out the implications of the Agreement's distinction between expenditures and price support in the acquisition of public stocks of foodstuffs as they pertain to certain programs in developing countries. In reviewing the evolution of countries' limited space since 1995, the growing role of the Agreement's *de minimis* levels stands out. This value-of-production-based part of limited space tends to grow over time. On the other hand, the Agreement's ceiling on non-exempt support summed in a particular way stays fixed as a legally binding commitment level for each country in a group that includes more developing than developed countries. The value-of-production-based part therefore grows in relative size over time. Values of production in India and particularly China have grown much faster than in the EU and the US, resulting in China now having a larger amount of limited space than the EU and India having such space in an amount approaching that of the US. The worldwide picture of the size of each country's limited space has changed significantly since the Uruguay Round, since the beginning of the Doha negotiations in 2001 and even since the later Doha impasse.

The Agreement's provisions beyond those on domestic support, such as market access or export competition, are not addressed. While the paper reviews how much of their available space some countries have used, it does not explore whether it is feasible or desirable for any particular country, facing resource and political constraints, to implement the policies and provide the support that the space accommodates.

Policy space

Many writings on the implications of the choices countries make in international relations, including trade negotiations, introduce the notion of policy space. Page (2007) reports that policy space appeared in about 2002 in documents of the United Nations Conference on Trade and Development. The São Paulo Consensus of 2004 refers to space for national economic policy "as the scope for domestic policies, especially in the areas of trade, investment and industrial development, … often framed by international disciplines, commitments and global market considerations" and mentions the importance of all countries taking "into account the need for appropriate balance between national policy space and international disciplines and commitments" (UNCTAD 2004). Hoekman (2004), in the context of the Doha negotiations of

the WTO, refers to a principle of policy space that implies "flexibility for all developing countries … whether to implement a specific set of (new) rules, as long as this does not impose significant negative (pecuniary) spillovers". Das (2007) uses a similar concept of policy space, referring to leeway in the implementation of the WTO (*sic*) for developing economies, although without the worry about negative spillovers, views expressed also by several authors in the Gallagher (2005) volume. More narrowly, Sandrey (2013) interprets the concept based on the difference between a country's applied tariff and its tariff bound in the schedule at the WTO. In the WTO committee charged with the Doha negotiations in agriculture, the Chair conveyed that the proponents of a domestic support proposal felt that their policy space for operating administered price programs was increasingly constrained under the existing WTO rules (WTO 2013a, referring to the November 2012 proposal from the so-called G-33 group of countries). However, other members raised concerns about a lack of policy constraints and the potential for distortions. Such worries about negative spillovers affecting other countries would have motivated the reference in the Agreement's pre-amble to correcting and preventing restrictions and distortions in world agricultural markets.

A common theme is thus that policy space is larger if there are fewer constraints on the kinds of policies a country can choose to pursue or how it pursues them. Constraining the policy options reduces the policy space. Much of the interest in policy space has to do with concern that the policy options within the constraints are insufficient to foster development in developing countries. In a general sense the policies that countries can choose and how they implement them are constrained both by international rules and commitments and by the resources available to implement the desired policies. In a stricter sense the constraints are only those imposed by international rules and commitments.

Domestic support rules in the Agreement

The Agreement's domestic support provisions, found primarily in its Articles 1, 6 and 7 and Annexes 2, 3 and 4, use the terms measure, measurement and support (in French and Spanish the Agreement uses the same term for measure and measurement: *mesure* in French and *medida* in Spanish). Distinguishing among these terms is crucial in examining the policy space for domestic support in agriculture.

Measures, measurements and support

The domestic support reduction commitments resulting from the Uruguay Round of negotiations apply to all "domestic support measures in favour of agricultural producers" except those measures that are exempted. The Agreement does not define what a measure is, and there appears to be no definition of this term in the General Agreement on Tariffs and Trade (GATT). The General Agreement on Trade in Services may give a hint of what is meant by measures in trade policy: measure "means any measure by a Member, whether in the form of a law, regulation, rule, procedure, decision, administrative action, or any other form" (Art. XXVIII, WTO 1995b). This meaning does not necessarily carry over into agreements under the GATT, of which the Agreement is one. Still, if the same meaning of measures were to apply in the Agreement, measures could include also what are often called policies, schemes, plans, programs and the like. This paper uses measures and policies interchangeably.

Article 1 of the Agreement defines Aggregate Measurements of Support (AMSs). The Agreement also defines Equivalent Measurements of Support (EMSs), which are treated essentially like AMSs, but since very few countries report EMSs they are not discussed here. An AMS is the level of support, expressed in monetary terms, provided for an agricultural product in favour of the producers of the basic agricultural product. An AMS can also mean the support provided in favour of agricultural producers in general. The Agreement distinguishes between product-specific AMSs (the former) and the non-product-specific AMS (the latter) in Article 6.4. According to the Agreement's Annex 3, an AMS includes market price support, non-exempt direct payments, or any other subsidy not exempted from commitment. WTO market price support is measured in a particular way specified in Annex 3, which deviates from economic measurements, such as the Producer Support Estimates of the Organization for Economic Cooperation and Development. Subsidies include both budgetary outlays and revenue forgone by governments. Both national and sub-national support is included.

Article 1 also specifies that an AMS does not include support under measures that qualify under Annex 2, often called the green box. Green box measures are required to have no or at most minimal trade-distorting effects or effects on production. Because of the green box exemptions, AMSs are designed to measure only a part of all support provided in favour of agricultural producers. In practice countries exempt from their AMSs also support under certain

measures that do not qualify under the green box (green box and other exemptions are discussed below).

Bound Total AMS, Current Total AMS, and exemptions under Articles 6.2 and 6.5

The Agreement's Article 6.3 imposes for some countries a fixed upper limit on the sum of all AMSs when summed in a particular way to form the Current Total AMS. The limit, called the Bound Total AMS, is inscribed as a legally binding commitment in Part IV of the country's WTO Schedule of Concessions and Commitments. For other countries the Agreement's Article 7.2(b) imposes a variable upper limit on each individual AMS.

The Agreement's Article 6.2 allows and Article 6.5 requires support under certain measures to be excluded from the Current Total AMS. Article 6.2, in this paper called the development box, identifies certain investment subsidies and certain input subsidies as measures providing excludable support in developing countries.[2] It also allows the exemption of support to encourage diversification from growing illicit narcotic crops, without identifying this as a measure. Although in many respects treated as a developing country, China is not entitled to the Article 6.2 exemptions under the provisions of its accession to the WTO (WTO 2001).

The development box criteria recognize that measures of assistance to encourage agricultural and rural development are an integral part of the development programs of developing countries. For developing countries, investment subsidies generally available to agriculture and agricultural input subsidies generally available to low-income or resource-poor producers are therefore measures that are exempt from commitment, and the support can be exempted from the Current Total AMS. Many countries, when claiming their measures as exempt under the development box, make no distinction between the two legally different beneficiary targets of the general availability, *viz.* agriculture vs. low-income or resource-poor producers (see Brink (2014)).

Article 6.5, often called the blue box, identifies direct payments under production-limiting programs that meet certain criteria as measures providing excluded support. The blue box criteria for these direct payments are that they be based on fixed area and yields, or be made on no more

---

[2] The literature uses development box with several different meanings, including special and differential treatment for developing countries in general, not only in agriculture or in domestic support.

than 85 percent of the base level of production, or, for livestock payments, be made on a fixed number of head. These criteria were chosen to accommodate some of the large payment programs applied in the EU and the US at the time of finishing the Uruguay Round negotiations in the early 1990s. The ability to exempt blue box payments was an element of the 1992 EU-US deal that allowed the negotiations in agriculture to proceed to completion (see, e.g., Josling et al. 1996).

In practice, although Articles 6.2 and 6.5 exempt certain support only from Current Total AMS, most countries exempt it also from individual AMSs. The formats decided by the Committee on Agriculture for notifying support to the Committee may play a role in this practice – they can be interpreted as leaving support under Articles 6.2 and 6.5 measures out of the individual AMSs, in the same way as green box support is left out of individual AMSs. In any case, the practice has not been challenged in the Committee. The consequence is that many countries measure AMSs that are smaller than they would be under a strict interpretation of the Agreement's definition of an AMS and Articles 6.2 and 6.5.

Exemptions of support from AMSs under Annex 2: green box

The Agreement's Annex 2, or green box, allows the exemption of support from AMSs if the support is provided under a measure that meets a fundamental requirement and certain criteria and conditions. The fundamental requirement is that the measure must have no, or at most minimal, trade-distorting effects or effects on production. Accordingly, a green-box measure must meet two basic criteria and the relevant policy-specific criteria and conditions.[3] The basic criteria require the support to be provided through a publicly-funded government program, and it must not have the effect of providing price support to producers. The policy-specific criteria summarize as follows. For general services that do not involve direct payments to producers, more or less detailed criteria apply to each kind of service in a non-exhaustive list. Other criteria are laid down for each of several types of direct payments and for public

---

[3] Legal scholars may debate the role of "Accordingly" in paragraph 1 of Annex 2. It could mean that because of the fundamental requirement, the basic and policy-specific criteria are needed, i.e., the requirement is the rationale for using criteria. Alternatively it could mean that if a measure meets the basic and the relevant policy-specific criteria, it also satisfies the fundamental requirement.

stockholding and domestic food aid.[4] Eligibility for exemption is determined by a program's conformance with the criteria, not its similarity with the paragraph heading

Under the green box headings Public stockholding for food security purposes (para. 3) and Domestic food aid (para. 4), expenditures can be exempted from AMSs if some criteria are met, such as food purchases by the government being made at current market prices and there being financial transparency. Countries therefore face constraints on the kind of measures under which they can exempt expenditures under the headings of Public stockholding for food security purposes and Domestic food aid: a government that buys at administered prices could in some situations contravene the basic green box criterion that the support must not have the effect of providing price support to producers.

However, developing countries are, under footnote 5 to the headline of paragraph 3 in the green box, entitled to exempt the expenditures on accumulating and holding stocks even if the program falls short of meeting the criteria in the paragraph itself (see sections below). Footnote 5 thus expands the set of green box policies for developing countries but makes the expansion subject to qualifications concerning, e.g., transparency. The footnote even expands the qualifying policies to include expenditures on stock acquisition at administered prices instead of market prices, although this expansion is subject to a condition. If the stocks are acquired and released at administered prices, the expenditure on accumulating and holding the stocks can be exempted on condition that the difference between the acquisition price and the external reference price is accounted for in the AMS.

De minimis levels: AMS thresholds and AMS limits

---

[4] The policy-specific criteria are organized under the following headings: general services, public stockholding for food security purposes, domestic food aid, direct payments to producers, decoupled income support, government financial participation in income insurance and income safety-net programs, payments (made either directly or by way of government financial participation in crop insurance schemes) for relief from natural disasters, structural adjustment assistance provided through producer retirement programs, structural adjustment assistance provided through resource retirement programs, structural adjustment assistance provided through investment aids, payments under environmental programs, and payments under regional assistance programs.

When a country with a Bound Total AMS sums AMSs into its Current Total AMS, any AMS that is no larger than a threshold level can be left out of the summation. It is the whole AMS that qualifies for the exemption, not the support under the individual measures accounted for in an AMS, such as a payment program. The threshold level, or *de minimis* level, for each product-specific AMS is a given percentage (5 and 10 percent for developed and developing countries, respectively; 8.5 percent for China) applied to the product's value of production in the year for which support is measured. The *de minimis* level for the non-product-specific AMS is the given percentage applied to the value of total agricultural production. A country without a Bound Total AMS must ensure that each individual AMS is no larger than the AMS's *de minimis* level for the relevant year.

The *de minimis* levels are thus thresholds for a country with a Bound Total AMS, which is the country's one and only limit and which applies to the sum of AMSs that exceed their thresholds. The *de minimis* levels are limits on individual AMSs for a country without a Bound Total AMS.

Strictly speaking, the definition of Current Total AMS in Article 1(h) requires all countries to sum non-*de minimis* AMSs into Current Total AMS, whether they have a Bound Total AMS or not. In practice, as notified to the WTO Committee on Agriculture, only countries with a Bound Total AMS make this summation. A Current Total AMS larger than nil indicates that at least one AMS is larger than its *de minimis* level. This imposes a dual constraint on any AMS in a country without a Bound Total AMS: no individual AMS may exceed its *de minimis* level and, if it were to do so, the resulting Current Total AMS is not allowed to exceed nil anyway.

The Agreement's provisions on policies, requirements, criteria and conditions and the potential for exempting support from AMSs or Current Total AMS are summarized in **Table 1**. Later sections of this paper discuss the table's details on paragraphs 3 and 4 of the green box. The Agreement's rules that limit the space for AMS support are summarized in **Table 2**. Brink (2011) reviews the rules in more detail and Orden et al. (2011) analyzes the application of the rules to the domestic support of several countries.

A two-fold metric of policy space for support in agriculture

The Agreement's rules define domestic support that is exemptible and domestic support that faces quantitative limits. This distinction leads to a two-fold metric of policy space. Because the two kinds of policy space may in some cases interact, the combined space is dyadic. As discussed below, one possible outcome of the Doha negotiations on agriculture would in some situations invalidate the Agreement's limit(s) on support, effectively creating a third kind of policy space.

Table 1. Policies, criteria and potential exemption of support

	Developing countries	China	Developed countries
Green box (Annex 2): General services, expenditures, direct payments			
▪ *If policy conforms with criteria paragraphs 2-13, other than fn 5 and fn 5&6*			
o Can expenditures or payments be exempted from AMSs?	Yes	Yes	Yes
Green box (Annex 2): Accumulation and holding of stocks without administered prices, but policy does not conform with paragraph 3			
If policy conforms with fn 5 up to second comma only, of Annex 2 and with fn 5&6 of Annex 2, and with requirement and criteria in paragraph 1			
o Can expenditures be exempted from AMSs?	Yes	Yes	No
Green box (Annex 2): Accumulation and holding of stocks; stocks acquired and released at administered prices, and policy does not conform with paragraph 3			
▪ *If policy conforms with all of fn 5, and with fn 5&6, of Annex 2*			
o Can expenditures be exempted from AMSs?	Yes, if price gap in AMS	Yes, if price gap in AMS	No
Green box (Annex 2): Provision of food stuffs at subsidized prices, but policy does not conform with paragraph 4			
▪ *If policy conforms with fn 5&6 of Annex 2*			
o Can expenditures be exempted from AMSs?	Yes	Yes	No
Development box (Article 6.2): Certain investment subsidies and input subsidies; support to encourage diversification			
▪ *If policy conforms with criteria in Article 6.2*			
o Can subsidies and support be exempted from Current Total AMS?	Yes	No	No
Blue box (Article 6.5): Direct payments under production-limiting programs			
▪ *If policy conforms with criteria in Article 6.5*			
o Can expenditures be exempted from Current Total AMS?	Yes	Yes	Yes

Notes: fn means footnote. Source: Author's interpretation of the Agreement.

Table 2. Rules for AMS support

Agreement on Agriculture		Developing countries		China	Developed countries	
Article	What it says	Without Bound TAMS 94 countries	With Bound TAMS 17 countries	Without Bound TAMS 1 country	Without Bound TAMS 4 countries	With Bound TAMS 15 countries
6.4	*De minimis* percentage[a]	10%	10%	8.5%	5%	5%
7.2(b)	Any AMS may be as large as its *de minimis* level but no larger	Applies	-	Applies	Applies	-
7.2(a) & 6.4	Any AMS exceeding its *de minimis* level must be summed into Current TAMS	Applies[b]	Applies	Applies[b]	Applies[b]	Applies
6.3	Current TAMS must not exceed Bound TAMS	-	Applies	-	-	Applies

Notes: TAMS stands for Total Aggregate Measurement of Support.
[a] *De minimis* percentage is applied to values of production of each product and value of production in all of agriculture to generate the country's *de minimis* levels for each year.
[b] But without a Bound TAMS, Current TAMS is limited to nil and Art. 7.2(b) applies.
Source: Author's interpretation of the Agreement on Agriculture.

Rationale for a two-fold metric

One feature of the rules is that the limits do not apply to all support, for one of two slightly different reasons. One reason is that the measure providing the support is exempt from the AMS calculation because of conforming with the green box. The other reason is that support itself is exempt from limits because the measure conforms with the development box or the blue box. The two exemptions mean that support under the "box-conforming" policies faces no limits. The exemptions apply differently to developing and developed countries, allowing limitless support under a larger set of policies for developing than for developed countries. This is one manifestation of the "special and differential treatment" the Agreement accords all developing countries (special rules for China). A country's entitlement to exempt support under some

policies may be called its exemption space. The exemption space is one part of the country's policy space.

A second feature of the rules concerns support under measures that do not conform with any of the boxes (green, development or blue): such support is allowed but it faces quantitative limits. For many countries – those without a Bound Total AMS - the limits are simply the year's *de minimis* level of each of the AMSs. For countries with a Bound Total AMS, the amount of support that otherwise would count towards that limit is reduced by the *de minimis* exemption of some AMSs from Current Total AMS. The space available within a country's AMS limits or its Bound Total AMS limit, accounting for *de minimis* thresholds, is a second part of its policy space. While it might be called AMS space, this is easily misunderstood. This paper therefore calls it limited space, in contrast to exemption space which allows limitless amounts of support.

Exemption space and limited space

The metric for a country's policy space accounts separately for exemption space and limited space. The entitlement to exempt support under some measures varies among countries, and the size of the limit or limits on AMS support varies greatly among countries. The complete metric of policy space, consisting of both parts together, differs from the partial metric that accounts only for a country's monetary limits on AMSs or Current Total AMS, i.e., the limited space.

The metric for policy space recognizes that a developing country, because of the Annex 2 footnotes and Article 6.2, is entitled to provide limitless support under a larger set of policies than a developed country. However, in certain situations where foodstuffs are acquired at administered prices, a developing country invoking part of one of the Annex 2 footnotes as its exemption space can face a limited-space limit. This follows from the footnote's conditional trade-off between access to exemption space and use of limited space (see section *Policy space and acquisition at administered prices* below).

The limited space part of the policy space metric recognizes that a country with a Bound Total AMS has a larger limited space than a country without a Bound Total AMS, c*eteris paribus.* The *ceteris paribus* condition implies that the two countries in this stylized comparison have the same *de minimis* percentage, and it is therefore a developing-developing or a developed-developed country comparison, not a developing-developed comparison. Also, a

developing country with a given Bound Total AMS has a larger limited space than a developed country with the same Bound Total AMS, *ceteris paribus*. This follows from the larger *de minimis* percentages of developing countries, which allow a larger number of AMSs, and thus more AMS support, to be exempted from the Current Total AMS calculation. However, a developing country with any Bound Total AMS does not necessarily have a larger limited space than a developed country with any Bound Total AMS. In such a comparison the relative sizes of each country's Bound Total AMS and sum of *de minimis* AMS thresholds matter.

A few developed countries have a very large Bound Total AMS: the three largest are those of the EU, the US and Japan. It is not always the case, however, that the Bound Total AMS of a developed country is larger than the Bound Total AMS of a developing country. Mexico, a developing country, has the fourth largest Bound Total AMS. The *de minimis* levels, whether limits or thresholds, are directly proportional to the values of production of individual basic agricultural products and of the agriculture sector. Some countries without a Bound Total AMS have very large values of production, along with the larger *de minimis* percentages of 8.5 or 10 percent, which generates correspondingly larger *de minimis* levels.

Acquisition at administered prices and policy space

The complexity of the Agreement's rules for developing countries under the green box headings of Public stockholding for food security purposes (paragraph 3) and Domestic food aid (paragraph 4) warrants a more detailed discussion in terms of policy space.

Rules of the Agreement's Annex 2

Under the heading Domestic food aid the general rule is that expenditures (or revenue forgone) on providing food aid to sections of the population in need can be excluded from AMSs if the measure conforms to the paragraph's provisions. Such food aid can take the form of aid recipients buying food at market prices or subsidized prices. Food purchases by the government needed to provide food to those concerned must be made at market prices, and the financing and administration of the aid shall be transparent. A footnote to paragraph 4 stipulates essentially that the provision of foodstuffs at subsidized prices to urban and rural poor in developing countries on a regular basis is considered to conform with paragraph 4. The effect of conforming with

paragraph 4 and with the fundamental requirement and basic criteria of the green box is that the Agreement accommodates limitless expenditures under a conforming program.

Paragraph 3, headed by Public stockholding for food security purposes, makes itself no difference between developed and developing countries. It allows expenditures or revenue forgone in relation to the accumulation and holding of certain stocks under conforming policies to be excluded from AMSs. Conformity requires the volume and accumulation of stocks to correspond to predetermined food security targets. Food purchases by the government must be made at current market prices. Sales from food security stocks must be made at no less than the current domestic market price. The process of stock accumulation and disposal must be financially transparent.

The heading of paragraph 3 refers to footnote 5. This effectively refers to two footnotes: footnote 5&6, which Domestic food aid also references, and footnote 5, which Domestic food aid does not reference. Both footnotes to paragraph 3 stipulate a certain flexibility for developing countries. Footnote 5 reads:

> *For the purposes of paragraph 3 of this Annex,* [first comma] *governmental stockholding programmes for food security purposes in developing countries whose operation is transparent and conducted in accordance with officially published objective criteria or guidelines shall be considered to be in conformity with the provisions of this paragraph,* [second comma] *including programmes under which stocks of foodstuffs for food security purposes are acquired and released at administered prices,* [third comma] *provided that the difference between the acquisition price and the external reference price is accounted for in the AMS. (footnote 5, Annex 2, WTO 1995a;* identification of commas inserted for purposes of discussion below).

Interpreting the rules of the Agreement

The expenditures on accumulating and holding stocks at market prices can be exempted from the product's AMS under paragraph 3 of Annex 2. However, when the government acquires foodstuffs at an administered price, the unconditional rules of Annex 3 require WTO market price support to be calculated and included in the product's AMS. This effectively penalizes the use of an administered acquisition price: the product's AMS is automatically larger than if the stocks had been acquired at market prices.

Footnote 5 of Annex 2 expands in two ways the set of developing country programs under which expenditures can be exempted from AMS. These are expansions compared to the exemption space of developed countries and are thus part of the special and differential treatment for developing countries. It must be noted that expenditures and WTO market price support are two different variables.

- The first half of the footnote (up to second comma) specifies some general features, such as operational transparency, of certain developing country stockholding programs considered to conform with the provisions of the body of paragraph 3 itself. Expenditures on accumulating and holding stocks under such programs are thus exemptible from the product's AMS.

- The clause between the second and third commas describes certain programs provisionally included among those contemplated in the first half of the footnote. These programs acquire and release certain stocks at administered prices. Such programs could contravene the basic criterion that support under green box measures must not have the effect of providing price support to producers, and they are also subject to the WTO market price support calculation of Annex 3.

- The last part of the footnote (after third comma) lays down the "provided that" condition under which the programs described between the second and third commas can be included among those before the second comma. The condition is that the difference between the acquisition price and the external reference price is accounted for in the AMS. If the condition is not met, the expenditures on acquisition at administered prices cannot be excluded from AMSs.[5]

Footnote 5 thus generates two elements of exemption space to which developing countries have access. One element allows that "governmental stockholding programs for food security

---

[5] Footnote 5 could possibly be read to say that the condition after the third comma applies also to programs meeting the criteria in the clause before the second comma. The programs captured in that clause would thus be programs that, in order to satisfy the basic criterion in paragraph 1(b), do not use administered prices. Therefore there is no need to calculate market price support as per Annex 3, the external reference price would not have to be the 1986-88 price of Annex 3, and the difference between the acquisition price and the external reference price, whatever it is, could be very small.

purposes … whose operation is transparent and conducted in accordance with officially published objective criteria or guidelines shall be considered to be in conformity with the provisions of" paragraph 3. This fairly wide-ranging element effectively replaces the more stringent criteria of paragraph 3 itself with the fewer and much less stringent criteria of the first part of footnote 5.

The second element introduces into the set of exemptible policies also expenditures on programs where the acquisition and release are made at administered prices. This element is conditional on accounting for the difference between the administered acquisition price and the external reference price in the AMS. The accounting yields WTO market price support, which enters the product's AMS. This establishes a rules-based connection or trade-off between the use of exemption space and the use of limited space: exempting the acquisition expenditure from the product's AMS requires including another component in that AMS, a component that can be smaller or larger than the exempted expenditure on acquiring and holding stocks.

The expenditure derives mainly from the administered price multiplied by the quantity acquired. WTO market price support uses a price gap (administered price less reference price), which is smaller than the administered price. The gap is multiplied by the production eligible to receive the administered price, which can be larger than the quantity acquired. The WTO market price support included in the product's AMS is therefore smaller or larger than the exempted expenditures, depending on how high is the reference price and how close are the quantities by which the gap and the price are multiplied.

The calculated WTO market price support must use a constant reference price based on 1986-88 prices. These have usually been much below the current international market prices used to calculate economic market price support in recent years. The WTO market price support is therefore in most cases larger or even much larger than the economic market price support. This way of calculating an AMS component, which applies to all countries whether they invoke footnote 5 or not, effectively provides an incentive to use market prices when acquiring certain stocks of foodstuffs.[6]

---

[6] Matthews (2015) provides a rigorous analysis of the contrast between economic market price support and WTO market price support and the role of the constant reference price in making it impossible in some situations to raise an administered price. More intuitively, this can occur when raising

The WTO market price support calculation uses the quantity eligible to receive the applied administered price, which in economic terms usually is the whole quantity of production. However, Annex 3 may be open to the possibility that the eligible quantity is less than total production. In the WTO dispute *Korea-Beef* the Panel reasoned on economic grounds that the total marketable production was eligible for the applied administered price even if the quantity actually purchased was less (para. 827, WTO 2000a). The Appellate Body held that, since the government in that case had announced the quantity eligible to be purchased at the applied administered price, this was the quantity to use for WTO market price support, even when the quantity actually purchased was less (para. 122, WTO 2000b).

Acquisition at administered prices in Doha negotiations

The element of exemption space under which expenditures on acquiring food stocks can conditionally be excluded from AMS has been and is one of the subjects of the Doha negotiations. The issue is often presented as an issue of stockholding, although in fact it is not about the holding of stocks but about the consequences in AMS terms of acquiring stocks at administered prices instead of market prices. The issue gets the stockholding-related name because that is the heading of paragraph 3 in the green box, but the issue relates only to the last clause of one of its footnotes. "The concern is only on the purchasing side because there are no limits on supplying cheap or free food specifically to the poor or malnourished." (WTO 2014b).

The African Group proposed in November 2002 to remove the reference to AMS calculations in footnote 5 (WTO 2014b). Hepburn and Bellman (2009) report that the G-20 Group proposed to eliminate the need to account for acquisitions in the AMS if the objective was to support low-income or resource-poor producers. They refer, as does Oduro (2009), to an African Group proposal to delete the part of footnote 5 after the third comma, i.e., excluding acquisition expenditures from AMS would not be subject to any condition even when stock acquisition and release take place at administered prices (WTO 2006).

---

the administered price increases the value-of-production-based *de minimis* level by a smaller amount than it increases the price-gap-based WTO market price support to be included in the product's AMS. It is consistent with the Agreement's fundamental idea of establishing a fair and market–oriented agricultural trading system and consequent favouring of the use of market prices rather than administered prices.

Several revisions of what became the December 2008 draft modalities incorporated various attempts to address the concern about some exemption space being conditional on accounting for a price gap in AMS. The draft modalities of December 2008 (WTO 2008) would add a sentence to footnote 5, saying that "However, acquisition of stocks of foodstuffs by developing country members with the objective of supporting low-income or resource-poor producers shall not be required to be accounted for in the AMS." Wording with similar effects would be introduced in the footnote that is joint for the paragraphs on Domestic food aid and Public stockholding for food security purposes.

WTO Members did not reach agreement on the 2008 draft modalities and the Doha negotiations faltered until the pace started to pick up in 2012, in preparation for the December 2013 meeting of WTO Ministers in Bali. In that process the G-33 group of about 46 developing countries proposed in 2012 to amend the footnotes in the Agreement's Annex 2 with regard to the acquisition of foodstuffs to read almost exactly the same as in the 2008 draft modalities.[7] A further G-33 proposal is reported to have included three options, applicable for some time: altering the AMS calculation by recalibrating the external reference price, alternative methods for taking inflation into account, or a "peace clause" that would shelter against disputes in case a limit was exceeded (WTO 2014b). Such a clause would be different from the Agreement's Article 13, also known as the peace clause, which included for a few years shelter against action under the Agreement on Subsidies and Countervailing Measures but expired in 2003.

The outcome of the Bali meeting was a decision that did not change the wording in the footnotes in question or anywhere else in the Agreement (WTO 2013b). It did, however, provide shelter against legal challenge under the WTO dispute settlement rules of a country's non-compliance with its limits on AMS support if the non-compliance results from stock acquisition at administered prices of traditional staple food crops (it is not entirely clear what is the authority of a Ministerial decision compared to that of the Agreement). The shelter applies in certain situations to programs existing at the time of the 2013 Bali meeting and is conditional on the

---

[7] Indonesia chaired the G-33 and India championed the issue of acquisition at administered prices. The G-33 proposal changes a reference in the draft modalities from paragraph 4 of Annex 2, which is headed Domestic food aid, to paragraph 3, which is headed Public stockholding for food security purposes.

country providing particular sets of information and taking several actions to reduce the risk of distorting trade. The shelter is available on an interim basis until a permanent solution is found, which would apply to all developing countries. In later developments, a WTO decision in November 2014 clarified some of the Bali decision and firmed up the next steps (WTO 2014a). It did not introduce any change in the footnotes in question. It set a target of 31 December 2015 for not just finding but agreeing and adopting a permanent solution on what it calls the issue of public stockholding for food security purposes.

Consequences for policy space

The eventual outcome of the stock acquisition issue in the form of a permanent solution could take one of several forms. It could (1) embrace the Bali idea of sheltering an excessive AMS or Current Total AMS against legal challenge, (2) remove the need to include WTO market price support in the AMS as a condition for exempting expenditures, or (3) change the calculation of WTO market price support such that it becomes nil or much smaller than under present rules.

A country that gains immunity along Bali lines against legal action in some situations when an AMS or Current Total AMS exceeds the country's limit(s) does not increase its exemption space under the Agreement's criteria in paragraph 3 and footnote 5, since the immunity does not change the criteria. Nor does it increase limited space under the Agreement's rules, since the country's other AMS support continues to face the same unchanged limits, be they *de minimis* levels or the Bound Total AMS. A new immunity along the lines of the 2014 decision would go beyond an adjustment of the Agreement's criteria and measurement rules and in a significant way introduce a third kind of policy space: the immunity would in certain situations invalidate the limit(s) that would otherwise apply to AMS support. This could put in question the *raison d'être* of the Agreement's rules on support.

Developing countries that use administered prices in combination with certain kinds of stock acquisition and release programs would become able to exceed their limit(s) on AMS support without facing the threat of legal challenge. The country would be free to set administered prices at any level and exclude the acquisition expenditures of any size from AMS. By invoking a food security purpose, it could operate a producer price support scheme at these administered prices, and include a WTO market price support component in the product's AMS

24

large enough to exceed the AMS limit without fear of a dispute challenge. The entitlement to provide producer price support could therefore be large or perhaps even limitless.[8] Producers in other countries, whether developing or developed, would understandably be concerned about the potential of such policy action to distort trade and would seek effective means to stave off trade distortions and reduce them if they do occur.

Interpreting the Agreement's rules in terms of policy space

Exemption space and thus the entitlement to provide limitless support or expenditures varies according to developing or developed country status. Limited space varies according to the country having developing or developed country status, having or not having a Bound Total AMS and its size, and the country's *de minimis* percentage and values of production.

Limitless and limited space for support

Expressing the exemption space outlined in **Table 1** as limitless and limited space for support results in the tabular exposition in Annex A. Summarizing Annex A in the context of some of the country characteristics leads to the following general statements.
  Limitless space for support
- All countries have the same limitless space for support under measures that
  - o meet the blue box criteria, or
  - o meet the requirements, criteria and conditions of <u>most</u> of the green box

---

[8] It may be argued that the entitlement is limited, since paragraph 3 of Annex 2 requires the volume and accumulation of stocks to "correspond to predetermined targets related solely to food security". Footnote 5 of Annex 2 does not have any such requirement that could act to limit the purchases. In the Committee on Agriculture, at least one country (India) contends that its policy is covered under footnote 5 and it appears no targets are therefore predetermined. Footnote 5, with its absence of a predetermined target requirement, would in this view override the predetermined target requirement of paragraph 3 (ID 75085 and ID 75118, WTO 2015).

- All developing countries have limitless space for expenditures under measures that
  - fail the criteria of paragraph 3 of the green box but meet the criteria in the first part (up to the second comma) of footnotes 5 and in footnote 5&6, or
  - fail the criteria of paragraph 4 of the green box but meet the criteria in footnote 5&6
- All developing countries except China have limitless space for support under measures that meet the criteria of Article 6.2 (development box)

Conditionally limitless space for support

- All developing countries have limitless space for expenditures under measures that
  - fail the criteria of paragraph 3 of the green box but meet the criteria in the whole of footnote 5 and in footnote 5&6, on condition that a price gap is accounted for in AMS, which itself is subject to a limit or a threshold[9]

Limited space

- Many developing countries (94) have space for support measured by individual AMSs; limits set at 10 percent of values of production (8.5 percent for China)
- A few developed (4) countries have space for support measured by individual AMSs; limits set at 5 percent of values of production
- Numerous developing countries (17) have space for AMS support; limit set by Bound Total AMS, against which *de minimis* AMSs up to 10 percent of value of production do not count
- Numerous developed countries (15) have space for AMS support; limit set by Bound Total AMS, against which *de minimis* AMSs up to 5 percent of value of production do not count

Alternative representations of policy space

Many writings on the topic of the Agreement's rules on domestic support present flowchart-like graphics of Current Total AMS, "the" AMS, the blue box, the green box, the "amber" box (the definition of which varies from writer to writer) and sometimes the

---

[9] The November 2014 WTO decision removes the ability of other countries to enforce in this case the limit on AMS or Bound Total AMS through dispute challenge.

development box, etc. Such expositions obscure the nature of exemption space. The limitless nature of the space for support under measures qualifying for the Agreement's green, development and blue boxes cannot truly be represented as a bounded shape. Such graphics, while instructive in terms of distinguishing exemption space from limited space, more closely represent measurements of some applied levels of support than space under the rules of the Agreement. Interestingly, if the rules of the 2008 Doha negotiating document were to become part of a new agreement, the exemption space under the blue box and perhaps the development box would be replaced by limited space of various kinds. The graphical representation of these new kinds of limited space could take the form of bounded areas (see, for example, Figures 2.1 and 2.2 in Brink (2011)).

Bound Total AMS and value-of-production-based *de minimis* levels

Bound Total AMS

In mid-2015 there are 132 countries applying individual Schedules in agriculture.[10] Among them are 32 countries with a Bound Total AMS (15 developed countries and 17 developing countries)[11] and 100 countries without (4 developed and 96 developing). The distribution among countries is thus almost one-quarter with a Bound Total AMS and more than three-quarters without. Among developed countries, 79 percent have a Bound Total AMS, and among developing countries 15 percent have a Bound Total AMS. Other countries may show a zero, nil or blank in the place for this commitment level.

---

[10] Counting as one the EU Schedule and those of its 28 member states; counting as one the joint Schedule of the two Members Switzerland and Liechtenstein. The number 132 does not include Kazakhstan, whose accession, which awaits ratification, would raise the number of Schedules to 133. Its domestic support would, it appears from partial information made public in the accession process, be governed by rules similar to China's. This paper refers to WTO Members as countries, contrary to WTO practice.

[11] *Developed*: Australia, Canada, Chinese Taipei, EU28, Former Yugoslav Republic of Macedonia, Iceland, Japan, Moldova, Montenegro, New Zealand, Norway, Russia, Switzerland, Ukraine, United States. *Developing*: Argentina, Brazil, Colombia, Costa Rica, Israel, Jordan, Korea, Mexico, Morocco, Papua New Guinea, Saudi Arabia, South Africa, Tajikistan, Thailand, Tunisia, Venezuela, Viet Nam.

The range of the 32 Bound Total AMS levels is enormous (**Table 3**). The smallest one corresponds to about USD 0.4 million (Montenegro, in euros) and the largest one to about USD 100 billion (EU28, in euros). The EU28 Bound Total AMS is larger than the sum of all the other 31 Bound Total AMS levels (USD 90 billion). The Bound Total AMS of several developed countries is smaller than that of some developing countries. Nonetheless, because of the large Bound Total AMS of Japan and the US, which are significantly larger than the largest developing country Bound Total AMS (Mexico), developed countries account for 83 percent of the sum of all non-EU Bound Total AMS levels and developing countries for 17 percent. When including the EU28 Bound Total AMS, the developed and developing country shares are 92 percent and 8 percent, respectively, of the 32-country total of USD 195 billion.

Table 3. Bound Total AMS by country

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

Notes: (a) Final 2018 level shown. (b) Former Yugoslav Republic of Macedonia. (c) USD 0.428 million rounded to 0.

Source: TN/AG/S/13/Add.3/Rev.1 23 November 2009 (col. 2008) and accession documents. 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.

Some countries express the Bound Total AMS in their Schedule in the country's own currency and some countries use US dollars, euros or Special Drawing Rights. For most countries it is a fixed nominal amount. A Bound Total AMS expressed in the country's own currency shrinks in real terms as the country's currency loses value, which often coincides with domestic inflation. A Bound Total AMS in another country's currency, such as the US dollar, is to some extent protected against inflation coinciding with a loss in value of the country's currency against the US dollar. Two countries have their Bound Total AMS expressed as an amount fixed in real terms: Argentina (pesos of 1992) and Mexico (pesos of 1991).

Nominal AMSs are determined by the country's policy settings in each year while Bound Total AMS is a fixed nominal level. When there is inflation, policy makers may raise nominal support more or less in line with inflation such that nominal AMSs rise. Over time there is thus less and less unused nominal space within the Bound Total AMS, until it actually limits the growth in nominal AMSs. The very large Bound Total AMS of a few countries means that they have a large margin between the Current Total AMS they calculate for any particular year and the Bound Total AMS, while other countries have much less margin. In either case, the real size of this margin for non-*de minimis* AMSs is shrinking over time. This is in line with the Agreement's long term objective of substantial progressive reductions in support and protection.

Values of production and de minimis *levels in the EU, the US, India and China*

The value-of-production-based *de minimis* levels are crucial in determining the space for AMS support, whether they operate as limits on or thresholds for individual AMSs. The *de minimis* percentage is fixed by the Agreement but the values of production vary over time. The *de minimis* levels increase in nominal terms when nominal values of production increase as prices or production quantities rise. Values of production can also decline from one year to the next. Among the major agricultural producers Japan is unique in seeing its value of production in agriculture usually decline. The following illustrates the changes over time in values of production in agriculture for four other major producers.

The increasing nominal values of production in agriculture in the four largest agricultural producers are highlighted in **Figure 1** and **Figure 2**. The EU, the US, India and China together accounted for 58 percent of the world's value of agricultural production in 2012. The Agreement took effect in 1995, and the Doha round began in 2001, a year of relatively low prices for major

commodities. The percentage increase in value of production is shown for two periods: from 1995 to 2001 and from 2001 to 2012. China acceded to the WTO only in 2001, so its values of production in relation to WTO rules on support in prior years are illustrative. As the second period is almost twice as long (eleven years) as the first period (six years), a constant growth rate would almost double the increase in value of production from the first to the second period.

The increase in values of production is measured in the country's own currency (EUR, USD, INR and CNY) and in US dollars converted at annual nominal exchange rates. Values of production for **Figure** 1 are countries' own data as submitted to the WTO and projected for a few years in some cases. Since the WTO data is not complete, **Figure 2** makes comparisons also on the basis of complete 1995-2012 series of values of production in agriculture as reported by the Food and Agriculture Organization of the United Nations (FAO). The FAO values of production are not necessarily relevant in the WTO context and are used here only to confirm the plausibility of the results obtained from countries' own data, as developed for this illustration. **Annex B** documents the data sources and methods.

Figure 1. Change in value of production 1995-2001 and 2001-2012: WTO and national data
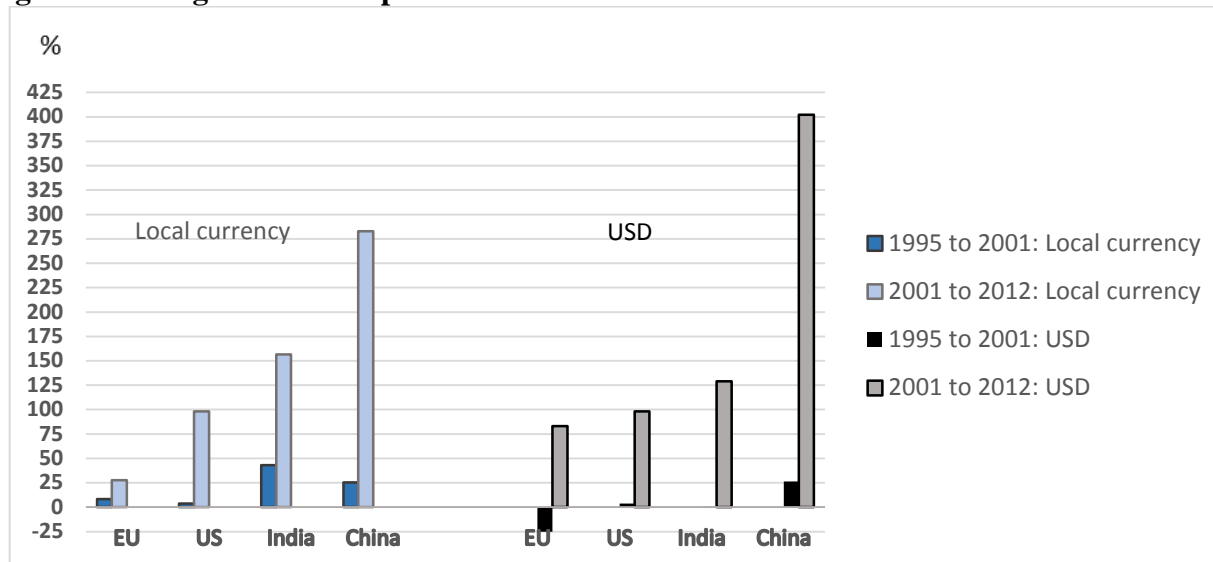
Note: Underlying values of production are in current nominal values. Percentage change is the total change between the first and last year in the respective period.
Source: Author's calculations (see Annex B).

Between 1995 and 2001 the value of production in agriculture in the US increased by 4 percent, while India's and China's values of production in their own currencies increased by 43

and 25 percent, respectively (**Figure** 1, left panel). The effects of changes in currency values are also seen: the drop in the value of the euro against the US dollar turned the EU's euro-denominated increase of 8 percent (left panel) between 1995 and 2001 into a 25 percent decline in the US-dollar-denominated value of production (right panel). Likewise, the drop in value of the rupee made India's 2001 value of production in US dollars the same as in 1995 (right panel).

The changes in values of production are substantially different for 2001-2012 than for 1995-2001. The increases are much larger, even when considering the greater length of the second period. They would be driven by gains in countries' production quantities and by the considerable increase in nominal US dollar prices in agriculture worldwide since 2001. While the EU and the US values of production in local currencies increased by 28 and 98 percent (**Figure 1,** left panel), respectively, from 2001 to 2012, the corresponding increases for India and China were 157 and 283 percent (left panel), respectively. Because the euro and the yuan gained value in that period, the increases in US dollar terms amounted to 83 and 402 percent for the EU and China (right panel), respectively. The drop in value of the rupee made for a smaller percentage rise in India's value of production in terms of US dollars at 129 percent between 2001 and 2012 (right panel).

The picture in **Figure 2** of increases in the four countries' values of production in agriculture between 1995 and 2001 and between 2001 and 2012, based on FAO data, is very similar to using countries' own and WTO-sourced data. It underscores how little values of production changed between 1995 and 2001 and how much they have changed since 2001.

Figure 2. Change in value of production 1995-2001 and 2001-2012: FAO data
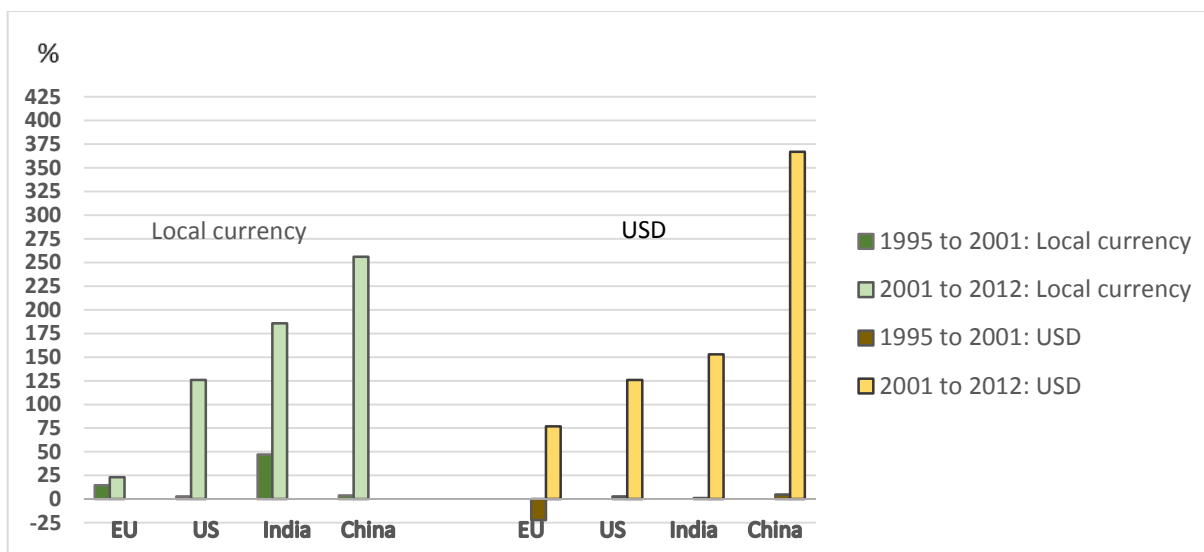
Note: Underlying values of production are in current nominal values. Percentage change is the total change between the first and last year in the respective period.
Source: Author's calculations (see Annex B).

The AMS support that could be accommodated below the *de minimis* thresholds and thus be exemptible from Current Total AMS has risen considerably for the EU and the US since 1995. Almost all of the increase resulted from larger values of production in the later years from 2001 to 2012. The *de minimis* thresholds have generally increased, although some minor products' values of production may have declined between 2001 and 2012, resulting in lower *de minimis* thresholds.

For India, the increase in the *de minimis* limits (157 percent) is half again as large as the rise in the US thresholds (98 percent). Any declines in the values of production of some of India's products between 2001 and 2012 were not enough to offset the general increase. The 283 percent growth in China's *de minimis* limits is larger than India's - in US dollar terms they expanded fourfold between 2001 and 2012. These value-of-production-based increases in the *de minimis* limits accommodate correspondingly larger amounts of AMS support.

Issues in summing de minimis *thresholds and Bound Total AMS*

For a country without a Bound Total AMS the limited space is bounded by the sum of all the value-of-production-based *de minimis* limits for all potential AMSs. The values of production of all individual products sum to the value of production of the whole agriculture sector, which is

also the value underlying the *de minimis* limit on the potential non-product-specific AMS. The sum of all the limits can therefore be calculated as twice the *de minimis* percentage applied once to the total value of production in agriculture. This limited space is fully usable only under two assumptions. First, using it fully assumes that AMS support is provided for each and every product in agriculture, which is unlikely to occur in practice. Second, using it fully assumes that policy is managed such that AMS support is provided for each product and for agriculture just up to every *de minimis* limit, i.e., perfect management of support.

For a country with a Bound Total AMS, calculating the limited space is more complicated. Adding the sum of all *de minimis* thresholds and the Bound Total AMS double-counts the space for some AMSs and therefore does not even in theory define the limited space. This is explained as follows. Assume that Product A's AMS is at its *de minimis* threshold, and this threshold is counted as limited space for AMS support in the sum of all *de minimis* thresholds. Alternatively, assume that product A's AMS is larger than its *de minimis* threshold and is included in the Current Total AMS, which counts towards the Bound Total AMS. These two assumptions are mutually exclusive: product A's AMS cannot at the same time be at the *de minimis* threshold and above it. The AMS is either *de minimis* or it is not. Counting the threshold for product A's AMS as space while also saying that the Bound Total AMS has space for a Current Total AMS that includes product A's AMS double-counts available space for product A's AMS. Such double-counting results from the all-or-nothing nature of the *de minimis* exemption (Brink (2006)).

A complete calculation of the limited space for a country with a Bound Total AMS would require designating which AMSs would exceed their *de minimis* thresholds and be included in the Current Total AMS, so as to make it equal the Bound Total AMS under perfect management. The *de minimis* thresholds for those AMSs would thus not be included when summing the *de minimis* thresholds. At one extreme, one product with a very low value of production could be designated as enjoying AMS support in an amount equal to the Bound Total AMS. The calculated limited space would equal the sum of all the other *de minimis* thresholds and the Bound Total AMS. At the other extreme, all products (and agriculture in the non-product-specific sense) could be designated as enjoying AMS support in amounts exceeding each AMS's *de minimis* threshold, even by ever so little. This means that no AMS thresholds would count as

limited space. The calculated limited space would therefore equal only the Bound Total AMS. The choice of either designation or anything in between would be arbitrary.

The calculation of limited space for the EU and the US, both with a Bound Total AMS, is explored here under two different approaches. Approach A adopts the double-counting method (two times the *de minimis* percentage times value of production in agriculture, plus Bound Total AMS). This exaggerates the limited space available to the EU and the US, even under perfect management, but nevertheless shows how this indicator has evolved over time.

Approach B identifies the AMSs actually notified as exceeding their *de minimis* thresholds in a year and leaves out the corresponding values of production when calculating the *de minimis* part of limited space. Approach B helps to judge the extent to which the limited space is overstated in Approach A. Both the EU and the US have for all years notified the non-product-specific AMS as *de minimis*, which means that this *de minimis* threshold enters the summation into limited space. The EU and US non-*de minimis* AMSs apply to products that make up only a small share of the value of production in agriculture. Therefore most of the product-specific *de minimis* thresholds also enter the summation into limited space. The fact that the sum of the notified non-*de minimis* AMSs (i.e., Current Total AMS) falls short of the Bound Total AMS is irrelevant in this calculation, since the Bound Total AMS itself also enters the summation into limited space. Limited space is thus the sum of the non-product-specific *de minimis* threshold, the thresholds for the *de minimis* product-specific AMSs, and the Bound Total AMS.

In the sum of the *de minimis* thresholds and the Bound Total AMS under either approach, the thresholds rise with increases in values of production, while the Bound Total AMS stays constant in nominal terms. Because the Bound Total AMS stays constant, the sum grows more slowly than the nominal values of production. Over time this makes the Bound Total AMS account for a smaller and smaller share of the sum, and the value-of-production-based *de minimis* thresholds over time become relatively more important in determining the space for AMS support than the Bound Total AMS itself.

Limited space of the EU, the US, India and China

The following calculations of space for AMS support illustrate how the magnitudes of this space have changed over time as a result of changing values of production. The illustration is presented in US dollars only so as to facilitate comparisons across countries. The EU Bound

Total AMS and its base data are in European Currency Units, later replaced by euros. India's base data are in Indian rupees, although its notifications have been presented in US dollars. China's base data and notifications are in Chinese yuan. Some of the analysis uses data countries have submitted to the WTO for most of the 1995-2012 period, complemented by estimates for the missing years, and some of the analysis uses FAO data.[12]

For the EU (i.e., EU28), with *de minimis* at 5 percent, the space under Approach A consists of 10 percent of the value of production plus the Bound Total AMS of some USD 100 billion (EUR 72.2 billion in recent years). For the US it consists of 10 percent of the value of production plus the Bound Total AMS of USD 19.1 billion from the year 2000. For India, with *de minimis* at 10 percent, the space for AMS support is 20 percent of the value of production. For China, with *de minimis* at 8.5 percent, the space is 17 percent of the value of production.

Evolution of limited space 1995-2012

The space for AMS support in the EU under Approach A amounted to USD 139 billion in 1995, of which USD 35 billion consisted of *de minimis* thresholds and the Bound Total AMS was USD 104 billion (**Figure 3.a**). Over the implementation period of the Agreement (1995 to 2000) the EU Bound Total AMS was reduced to about USD 62 billion under its reduction commitments. It has then been fixed from 2001 in euros but fluctuating in US dollar terms because of changes in currency values (adding the Bound Total AMS of the new member states joining the EU in 2004, 2007 and 2013 increased the EU Bound Total AMS). The early reduction in Bound Total AMS was later offset by increases in values of production, such that the EU space for AMS support, as the sum of all *de minimis* thresholds and the Bound Total AMS, was USD 141 billion in 2012.

The US in 1995 had space for AMS support of USD 42 billion under Approach A, mostly a Bound Total AMS of USD 23 billion (**Figure 3.b**). The Bound Total AMS was then reduced to USD 19 billion by 2000 and stayed constant thereafter. By 2012 the values of production had increased so as to create *de minimis* thresholds of USD 40 billion, with space for AMS support thus reaching USD 59 billion.

---

[12] Brink (2013) presented similar analysis using values of production from the FAO. Analysis using countries' own data was reported for several countries in Orden et al. (2011).
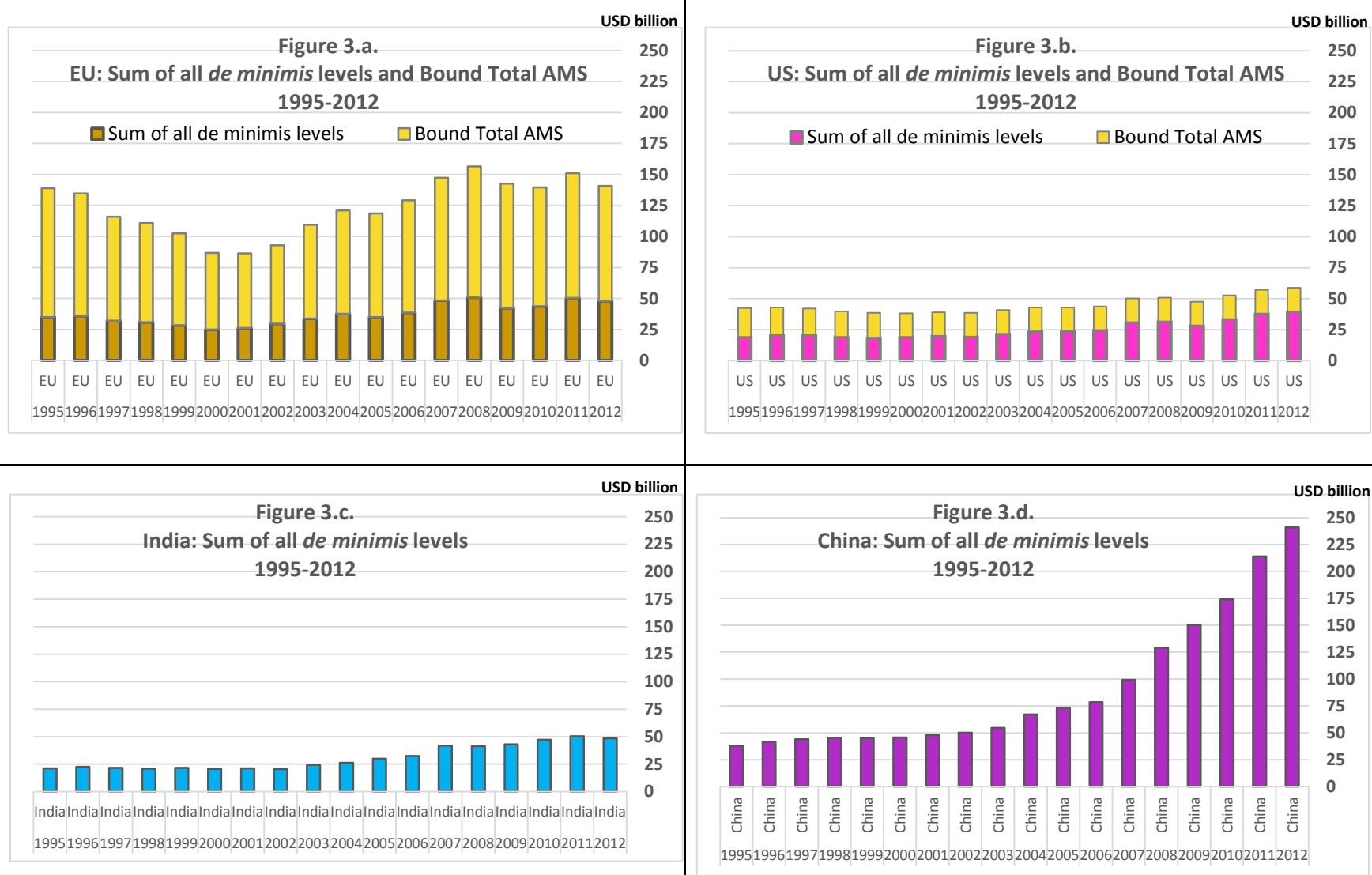
The sum of India's *de minimis* limits in 1995 was USD 21 billion, which hardly grew until the early 2000s (**Figure 3.c**). By 2012 this space for AMS support was USD 49 billion. The growth rate was larger in terms of Indian rupees.

The sum of China's *de minimis* limits grew in almost every year from its 1995 level of USD 38 billion. From about 2001 it grew rapidly with rising values of production (**Figure 3.d**). The space for AMS support reached USD 241 billion by 2012, a more than six-fold increase from 1995.

The evolution of limited space in each of the four countries, which is shown separately in the panels of Figure 3, is presented in one single chart in **Figure 4** so as to facilitate comparisons over time and among countries. The large space for AMS support in the EU under Approach A, including the very large Bound Total AMS, had by 2009 been exceeded by China's space for AMS support, defined by *de minimis* limits only. China's limited space for AMS support (USD 241 billion) was 71 percent larger than that of the EU (USD 141 billion) and more than four times larger than the US space of USD 59 billion under Approach A.

While the limited space for India's AMSs did not grow as fast as China's, it grew fast enough to reach USD 49 billion in 2011, i.e., it was rising towards the US space. The drop in value of the rupee offsets much of the increase in India's rupee-denominated values of production. However, the 2012 situation has changed considerably from that of 1995 when the sum of India's *de minimis* limits (USD 21 billion) was half of the sum of *de minimis* thresholds and Bound Total AMS of the US (USD 42 billion).

Figure 3. Sum of all *de minimis* levels and Bound Total AMS

Figure 3.a.
EU: Sum of all *de minimis* levels and Bound Total AMS
1995-2012

■ Sum of all de minimis levels   ■ Bound Total AMS

USD billion

Figure 3.b.
US: Sum of all *de minimis* levels and Bound Total AMS
1995-2012

■ Sum of all de minimis levels   ■ Bound Total AMS

USD billion

Figure 3.c.
India: Sum of all *de minimis* levels
1995-2012

USD billion

Figure 3.d.
China: Sum of all *de minimis* levels
1995-2012

USD billion

Note: A *de minimis* level is the *de minimis* percentage applied to yearly nominal value of production of every product and all of agriculture.
Source: Author's calculations (see Annex B).

Figure 4. Sum of all *de minimis* levels and Bound Total AMS: the EU, the US, India, and China
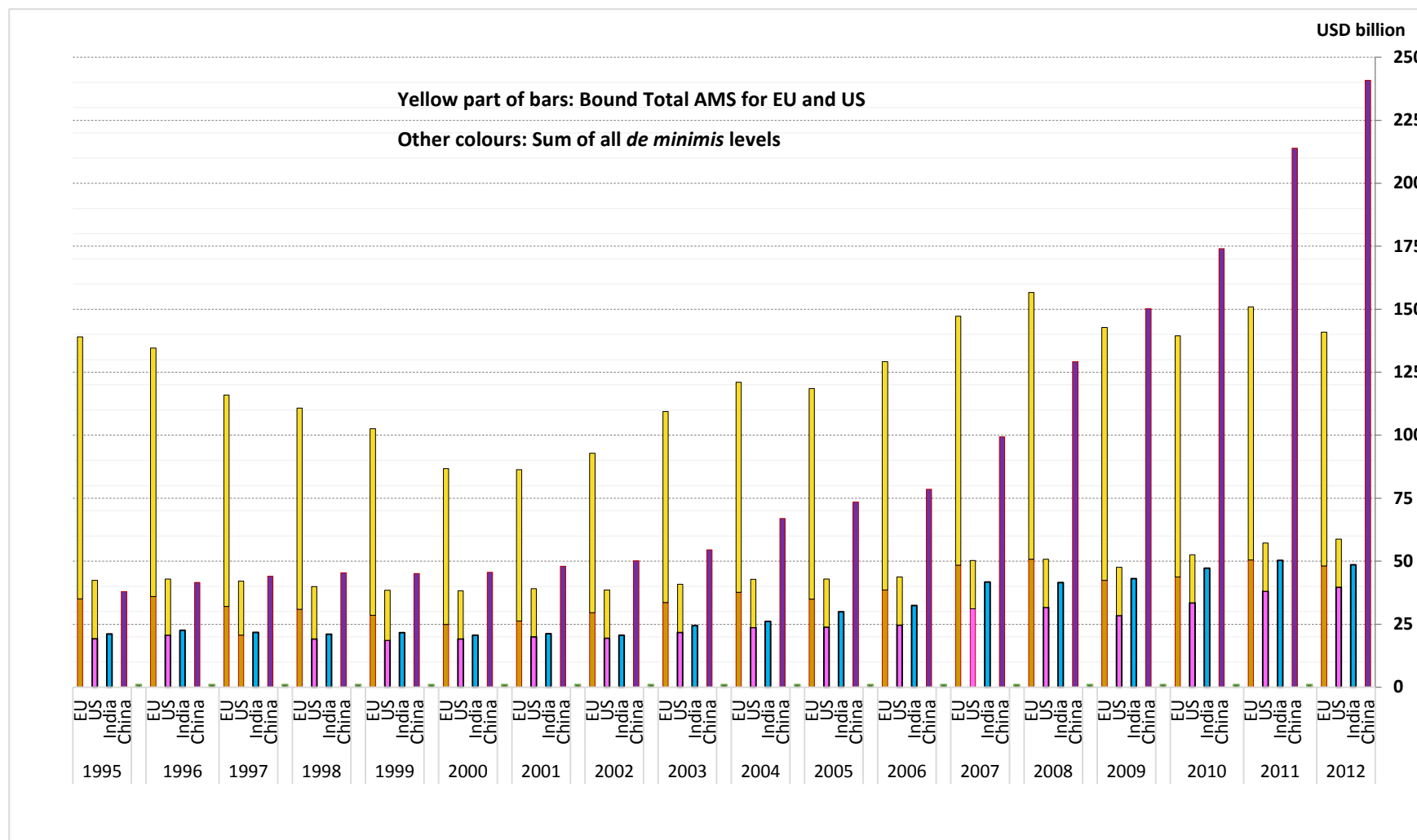
Source: Consolidation of data shown in Figure 3.

The extent of overestimation of the *de minimis* part of limited space for the EU and the US under Approach A in Figures 3 and 4 can be gauged by considering Approach B for a few years: 2001 and 2012 for the EU and 1995, 2001 and 2012 for the US (EU notifications show no values of production in 1995 and only for a subset of products in 2012; US notifications show values of production in all years). For the EU the products with AMSs above their *de minimis* thresholds accounted for values of production that generated a sum of *de minimis* thresholds of about USD 6 billion in 2001 and also in 2012. The *de minimis* part of the EU columns, and hence the whole columns, in Figures 3.a and 4 would therefore be about USD 6 billion shorter under Approach B in 2001 and 2012. The whole EU column would be 7 and 5 percent shorter in 2001 and 2012, respectively. The overestimation of limited space under Approach A for the EU is thus a matter only of a few percentage points. For the US the products with AMSs above their *de minimis* thresholds accounted for values of production that generated a sum of *de minimis* thresholds of about USD 1, 3 and 4 billion in 1995, 2001, and 2012, respectively. The *de minimis* part of the US columns, and hence the whole columns, in Figures 3.b and 4 would be between USD 1 and 4 billion shorter under Approach B. The whole US column would be 3, 8 and 6 percent shorter in 1995, 2001 and 2012, respectively. The overestimation of limited space under Approach A for the US is thus also a matter only of a few percentage points.

This pattern for both the EU and the US obtains because the products with AMSs above their *de minimis* thresholds account for only a moderate share of the value of production in all of agriculture. In other words, many of the products that make up the agriculture sector receive no or relatively little AMS support. While the above-*de minimis* AMS products accounted for 57 percent the value of production of all products in the EU and 32 percent in the US in 2001, the share was much lower in 2012: 27 and 18 percent, respectively. This also highlights the artificiality of the present estimates of limited space, which assume that all products receive AMS support up to their *de minimis* thresholds or limits.

Recent use of limited space

The illustration above focuses on the limited space for AMS support. It is also of interest to see how much of the limited space the four countries have used. The year of these countries' latest notification to the WTO Committee on Agriculture varies. **Table 4** presents each country's sum of notified *de minimis* AMSs as a percentage of the sum of all its *de minimis* levels (the

denominator is 10 percent of the value of production in agriculture for the EU and the US, 20 for India and 17 for China). It also presents notified Current Total AMS of the EU and the US as a percentage of Bound Total AMS. Each country's sum of *de minimis* AMSs is much below the potential levels it could have reached in the relevant year. The US reports *de minimis* AMSs summing to 13 percent of the sum of all its *de minimis* levels in 2012, and China's percentage is 12 percent. These are the largest percentages among the four countries: the EU and India report 3 and 5 percent, respectively. The US reports a Current Total AMS of 36 percent of its Bound Total AMS in 2012, which is larger than the 9 percent reported by the EU.

Table 4. AMS support in latest notified year

Country	Year	Sum of all *de minimis* levels (A)	Sum of all *de minimis* AMSs (B)	B/A		Bound Total AMS	Current Total AMS
		USD billion	USD billion	%		USD billion	
EU	2011/12	51.6	1.4	3		100.4	9.5
US	2012	39.7	5.3	13		19.1	6.9
India	2010/11	47.2	2.3	5		Not applicable	
China	2010	157.9	18.2	12		Not applicable	

Note: *De minimis* levels are thresholds for the EU and the US, limits for India and China. Source: Author's calculations, based on notifications G/AG/N/EU/20; USA/100; IND/10; CHN/28 (value of production for India extrapolated from 2007 level in S/21/Rev.5). EU and China exchange rates from the IMF through database of Economic Research Service, US Department of Agriculture.

Since countries' AMS support has been so much below their limits on space, it is unlikely that they will soon reach those limits for recently supported products, let alone for all products. The sum of all *de minimis* levels accounts for the values of production of all individual products in the country's agriculture as well as the value of production in agriculture as a whole, but it is improbable that all products and agriculture as a whole would be supported up to their *de minimis* levels. Moreover, these levels increase with nominal increases in values of production. That part of the four countries' policy space that is limited therefore will continue to accommodate increasing amounts of AMS support, in some cases up to much larger amounts than have been provided in recent years. However, while the Current Total AMS of the EU and

the US could rise and get closer to their Bound Total AMS, this limit is fixed in nominal terms and will at some point make further increases impossible.

Summary and conclusions

This paper formulates a concept of policy space under the rules on domestic support of the WTO Agreement on Agriculture. Policy space comprises two parts: exemption space and limited space. The two parts can in some circumstances interact, such that a country's use of its exemption space is conditional on it using also some of its limited space.

The Agreement's rules and criteria that give rise to the two parts of policy space summarize as follows. Annex 2 (green box) lays down a fundamental requirement and basic and policy-specific criteria, and policies that meet this requirement and the criteria are not subject to rules that otherwise limit domestic support in favour agricultural producers. Article 6.2 (development box) and Article 6.5 (blue box) lay down criteria for other policies, and support under policies conforming to those criteria are in practice exempted from the AMSs defined in the Agreement. Certain support is aggregated across policies into an AMS for each product and one for agriculture as a whole. Some countries' AMSs are subject to value-of-production-based individual limits. Other countries' AMSs are subject to a single limit, the Bound Total AMS, which applies to the sum of those AMSs that exceed value-of-production-based thresholds. Values of production are thus central in applying the rules of the Agreement.

Exemption space derives from a country's entitlement to exempt some policies from the rules that limit AMS support, i.e., support under the exempted policies is limitless. Developing countries are entitled to exempt a larger set of policies from the rules that limit AMSs or Current Total AMS than are developed countries. Developing countries are entitled to exempt expenditures under a larger set of green box policies, *viz.* policies meeting the less strict criteria in two footnotes instead of the criteria in the green box paragraphs themselves. The usability of this larger set of policies is curtailed by a green box condition that applies in certain cases where foodstuffs are acquired at administered prices. WTO decisions in 2013 and 2014 eliminated on an interim basis the role of that condition in governing the use of administered prices in certain situations. Article 6.2 also allows developing countries to provide limitless support under policies conforming to that article.

Limited space allows the provision of support under non-exempt measures, i.e., AMS support, up to a country's limit(s). If the country has no Bound Total AMS, each AMS is allowed to go up to its *de minimis* limit, set by multiplying the year's value of production by the *de minimis* percentage. If the country has a Bound Total AMS, it limits the space for the Current Total AMS. The larger the *de minimis* percentage and the larger the values of production, the larger the *de minimis* limits or *de minimis* thresholds.

The limited space for AMS support has increased since 2001. The increase for China in US dollar terms has been massive because of the rapidly increasing values of production combined with an increase in the US-dollar value of the Chinese currency. As values of production have increased, and the Bound Total AMS of the EU and the US have stayed constant from 2000, the share of Bound Total AMS in the growing space for AMS support in these countries has declined.

Two more general implications flow from these observations. First, an increasing nominal *amount* of AMS support in the world will be accommodated within *de minimis* limits and *de minimis* thresholds. This is simply because these limits and thresholds increase with nominal values of production. Second, an increasing *share* of AMS support in the world will be accommodated within *de minimis* limits and *de minimis* thresholds. This follows from the *de minimis* levels increasing automatically with values of production while the Bound Total AMS entitlements stay constant.

Both of these phenomena represent a major shift among countries with regard to the limited space they can use, compared to the conventional picture at the time when the WTO was established in 1995 or the Doha negotiations were initiated in 2001. The limited space part of policy space is growing fast for those countries with fast-growing values of production, and a growing share of all AMS space in the world is accruing to countries without a Bound Total AMS. Some countries may perceive that, because the Agreement is designed to favour the use of market prices, their ability to use administered prices is impeded. They may, however, provide support within their growing limited space through a wide variety of other measures. They can also provide support through measures that qualify for the exemption space, with its larger set of qualifying measures for developing than developed countries.

India and China, as studied in this paper, are only two examples of countries with rapidly increasing values of production in agriculture, many of which are developing countries in the

WTO context. Many such countries are increasing their domestic support in favour of agricultural producers, much of it through measures that do not qualify for the green box. The growing limited space combined with the ability to exempt policies from AMS calculations on green box and Article 6.2 grounds – part of exemption space – makes the worldwide picture of policy space and individual countries' share of that space change rapidly.

The future choices countries make in providing support through exemptible policies - free of support limits - and in providing support within their limited space remains unknown. This unfolding picture nevertheless bears watching both by those wishing to compete on more level playing fields and those wishing to compete with others in the amount and nature of support they provide to agriculture. The choices countries make within this changing landscape of policy support will also reveal how effective are the incentives built into the Agreement to establish a fair and market-oriented agricultural trading system.

References

Brink, L. 2006. WTO constraints on U.S. and E.U. domestic support in agriculture: the October 2005 proposals. *The Estey Centre Journal of International Law and Trade Policy* 7(1) pp. 96-115.

Brink, L. 2011. The WTO disciplines on domestic support. In D. Orden, D. Blandford, and T. Josling (eds.) *WTO Disciplines on Agricultural Support- Seeking a Fair Basis for Trade.* Cambridge, UK: Cambridge University Press.

Brink, L. 2013. Policy space in agriculture under the WTO rules on domestic support. Presentation at annual meeting, International Agricultural Trade Research Consortium, 15-17 December 2013. http://ageconsearch.umn.edu/handle/182477 (viewed 18 July 2015)

Brink, L. 2014. Support to agriculture in India in 1995-2013 and the rules of the WTO. Working Paper #14-01, International Agricultural Trade Research Consortium (IATRC). April. http://ageconsearch.umn.edu/bitstream/166343/2/WP%2014-01%20Brink.pdf (viewed 18 July 2015)

Das, D. 2007. Special treatment and policy space for the developing economies in the multilateral trade regime. *The Estey Centre Journal of International Law and Trade Policy* 8(1) pp. 37-56.

Gallagher, K. (ed.) 2005. *Putting Development First – The Importance of Policy Space in the WTO and IFIs.* London and New York: Zed Books.

Hepburn, J. and C. Bellman. 2009. Doha Round negotiations on the green box and beyond. In R. Meléndez-Ortiz, C. Bellman and J. Hepburn (eds.) *Agricultural Subsidies in the WTO Green Box - Ensuring Coherence with Sustainable Development Goals*. Cambridge, UK: Cambridge University Press.

Hoekman, B. 2004. Operationalizing the concept of policy space in the WTO: beyond special and differential treatment. Paper presented at the third annual conference on Preparing the Doha Round – WTO Negotiators Meet the Academics, European University Institute, 2-3 July.

Josling, T., S. Tangermann and T.K. Warley. 1996. *Agriculture in the GATT*. New York: St. Martin's Press, Inc.

Matthews, A. 2015 (forthcoming). Articulating trade related concerns related to food security in multilateral trade rules. Background paper prepared for the FAO State of Commodity Markets 2015 report 'Trade and food security'.

Oduro, A. 2009. African countries and the green box. In R. Meléndez-Ortiz, C. Bellman and J. Hepburn (eds.) *Agricultural Subsidies in the WTO Green Box - Ensuring Coherence with Sustainable Development Goals*. Cambridge, UK: Cambridge University Press.

Orden, D., D. Blandford, and T. Josling (eds.) 2011. *WTO Disciplines on Agricultural Support-Seeking a Fair Basis for Trade.* Cambridge, UK: Cambridge University Press.

Page, S. 2007. Policy space: Are WTO rules preventing development? Briefing paper 14, Overseas Development Institute, January.

Sandrey, R. 2013. South African agricultural imports and policy space. In R. Sandrey, T. Fundira, N. Vink, H. Jensen, W. Viljoen and B. Nyhodo: *BRICS: South Africa's Way Ahead?* Stellenbosch, South Africa: Trade Law Centre (tralac).

UNCTAD. 2004. São Paulo Consensus. TD/410, 25 June.

WTO. 1995a. Agreement on Agriculture. In *The Results of the Uruguay Round of Multilateral Trade Negotiations.* Cambridge, UK: Cambridge University Press.

WTO. 1995b. General Agreement on Trade in Services. In *The Results of the Uruguay Round of Multilateral Trade Negotiations.* Cambridge, UK: Cambridge University Press.

WTO. 2000a. Korea – Measures affecting imports of fresh, chilled and frozen beef. WT/DS161/R and WT/DS169/R, Report of the Panel, 31 July.

WTO. 2000b. Korea – Measures affecting imports of fresh, chilled and frozen beef. WT/DS161/AB/R and WT/DS169/AB/R, AB-2000-8, Report of the Appellate Body, 11 December.

WTO. 2001. Report of the Working Party on the Accession of China. WT/ACC/CHN/49, 1 October.

WTO. 2006. Review and clarification of the green box. TN/AG/GEN/15, Communication by the African Group, Committee on Agriculture, Special Session, 6 April.

WTO. 2013a. Opening remarks by the Chair. JOB/AG/23, Committee on Agriculture, Special Session, 28 March 2013. In Public Stockholding for Food Security Purposes, TN/AG/W/8, Note from the Secretariat, 21 January 2015.

WTO. 2013b. Public stockholding for food security purposes. WT/MIN(13)/38 and WT/L/93, Ministerial Conference, Ninth Session, Bali, 3-6 December.

WTO. 2014a. Public stockholding for food security purposes. WT/L/939, General Council, Decision of 27 November 2014.

WTO. 2014b. The Bali decision on stockholding for food security in developing countries. Agriculture Negotiations: Fact Sheet. Updated 27 November 2014. http://www.wto.org/english/tratop_e/agric_e/factsheet_agng_e.htm

WTO. 2015. Agriculture Information Management System. https://agims-qna.wto.org/public/Pages/en/Search.aspx (viewed 10 March 2015)

Annex A. Space for support: limitless, conditionally limitless, and subject to limit(s)

Country has	Country is	
	Developing country	**Developed country**
Bound Total AMS	<u>Limitless space</u> •Support under all green box policies **except those subject to last clause of footnote 5** •Support under blue box policies •Support under Article 6.2 policies <u>Conditionally limitless space</u> •Support under green box policies defined in footnote 5 and meeting the condition in last clause of footnote 5 <u>Space subject to limit(s)</u> •Bound Total AMS limits Current Total AMS 　o Current Total AMS exempts AMSs below *de minimis* thresholds	<u>Limitless space</u> •Support under all green box policies **except those defined in footnotes 5 and 5&6** •Support under blue box policies • (not applicable) (not applicable) •<u>Space subject to limit(s)</u> •Bound Total AMS limits Current Total AMS 　o Current Total AMS exempts AMSs below *de minimis* thresholds
No Bound Total AMS	<u>Limitless space</u> •Support under all green box policies **except those subject to last clause of footnote 5** •Support under blue box policies •Support under Article 6.2 policies <u>Conditionally limitless space</u> •Support under green box policies defined in footnote 5 and meeting the condition in last clause of footnote 5 <u>Space subject to limit(s)</u> •*De minimi*s limits on AMSs	<u>Limitless space</u> •Support under all green box policies **except those defined in footnotes 5 and 5&6** •Support under blue box policies • (not applicable) (not applicable) <u>Space subject to limit(s)</u> •*De minimi*s limits on AMSs
	Source: Author's interpretation of the Agreement.	

Annex B. Data sources for values of production

Data on the values of production is needed to calculate *de minimis* limits and thresholds. For this paper only the value of total agricultural production, in the words of the Agreement, is needed. That value can be called the value of production in agriculture, value of production in the agriculture sector, or value of production in agriculture as a whole. Values of production for individual products are not needed for the calculations in this paper. Value of production in agriculture is a different variable than value added in agriculture.

There are several potential sources of data on values of production in agriculture. Although some nationally sourced data can be close to what countries submit to the WTO, it is in general difficult to find exact matches of the values in the different sources (Brink, L. 2012. Value of production in agriculture: meaning, measurement, and implications in a WTO context. Presentation at annual meeting, International Agricultural Trade Research Consortium (IATRC), http://ageconsearch.umn.edu/bitstream/143176/2/Sess10_Brink_12-2012.pdf).

Selected sources of value of production data in agriculture:

- Most national statistical agencies publish data that can be interpreted as the value of production in the country's agriculture, usually only in the country's national currency.

- The WTO circulated values of production in agriculture for many countries in domestic currency and US dollars in 2010 as part of the documentation for the Doha negotiations (WTO 2010, or TN/AG/S/21/Rev.5). This series covers most of the years between 1995 and 2008, although for some countries several years are missing (e.g., India for 1995-97).

- Many countries' notifications to the WTO Committee on Agriculture include values of production to support claims for *de minimis* exemptions, but some countries do not submit such data (e.g., India). In any case, not all countries' notifications include as recent a year as 2012.

- The FAO database includes yearly data on gross production value in domestic currency and US dollars for many countries for relatively recent years.

- The OECD database includes yearly data on value of production in domestic currency for many countries (not India) for relatively recent years.

Given the WTO context of this paper, WTO-related data was preferred, complemented with data from national sources. FAO data was used to confirm patterns seen in the chosen series.

The following sources were used.

European Union

1995-2004: EU27: *Eurostat 14000 Agricultural goods output Prod__PP Production value at producer price http://appsso.eurostat.ec.europa.eu/nui/show.do* (Note: these values are very close to those of TN/AG/S/21/Rev.5 Total value of agricultural production)

1995-2004: Croatia: TN/AG/S/21/Rev.5 Total value of agricultural production

1995-2004: EU28: sum of above values for EU27 and Croatia

2005-2012: EU28: *Eurostat 14000 Agricultural goods output Prod__PP Production value at producer price http://appsso.eurostat.ec.europa.eu/nui/show.do* (2008-2012 EUR/USD exchange rates from the International Monetary fund through database of the Economic Research Service, US Department of Agriculture)

United States

1995-2007: TN/AG/S/21/Rev.5 Total value of agricultural production

2008-2012: US notifications G/AG/USA/77R1, USA/80R1, USA/89R1, USA/93, USA/100

China

1995-2008: TN/AG/S/21/Rev.5 Total value of agricultural production

2009-2012: Table 12-3, China Statistical Yearbook 2014

http://www.stats.gov.cn/tjsj/ndsj/2014/indexeh.htm Gross output value: Total minus Fishery (note: this includes Forestry but coincides with earlier years' values in TN/AG/S/21/Rev.5) (2009-2012 CNY/USD exchange rates from the International Monetary fund through database of the Economic Research Service, US Department of Agriculture)

India

1995-97: extrapolated backwards from 1998 values, using percentage change year over year in FAO gross production value

1998-2007: TN/AG/S/21/Rev.5 Total value of agricultural production

2007-2012: extrapolated from 2007 values, using percentage change year over year in FAO gross
production value