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HOW DOES THE WTO MEASURE A TRADE DISTORTING AGRICULTURAL SUPPORT?*

POMIAR WSPARCIA WEWNĘTRZNEGO ROLNICTWA ZNIEKSZTAŁCAJĄCEGO HANDEL W RAMACH WTO

Key words: AMS, WTO, agricultural support measures, amber box

Słowa kluczowe: AMS, WTO, mierniki wsparcia rolnictwa, skrzynka żółta

Abstract. This paper deals with the issue of measuring and reducing level of agricultural domestic support within the WTO provision. The emphasis is on the analysis of the implementation process of the Uruguay Round Agreement on Agriculture in the field of domestic support, as well as explaining its effects. Finally some improvements are proposed in the way the trade distorting programs are measured and which might increase the efficiency of future agricultural agreements within the Doha Round.

Introduction

Current agricultural negotiations at the World Trade Organization (WTO) within the Doha Round are focused on three main "pillars" defined during the Uruguay Round (UR), which are: domestic support, market access and export subsidies. Among these three fields of negotiation, domestic support issues seem to be the hard nut to crack. There is not only the question about how to reduce the level of agricultural support, but also how to measure it. The vast range of domestic support tools, their diversity and the dynamics of their evolution are facing agricultural negotiators during Doha Round with a really challenge. Implementation of the Uruguay Round Agreement on Agriculture (URAA) proved that commitments regarding domestic support appeared to be not binding for most of the countries and that the Aggregate Measurement of Support (AMS) used by WTO to define these commitments was not the most effective measure.

The aim of this paper is to present and evaluate the current rules of measuring and reducing domestic support defined by the URAA, particularly the "amber box" programs, as well as to suggest some potentially useful changes in the AMS definition. In the first part, one tries to analyze the implementation process of the URAA in the field of domestic support. The second part of this paper focuses on explaining the weak effectiveness of the URAA provision in reducing actual level of agricultural domestic support. In the conclusions, one tries to formulate some recommendations how the AMS might be improved.

Implementation of the URAA domestic support provision

The Uruguay Round Agreement on Agriculture changed fundamentally the way in which domestic support is regulated. On the one hand, these regulations seek to reduce the level of domestic support and impose greater discipline in the use of domestic support tool. On the other hand, countries are still able to use wide range of tools due to the specific conditions of agricultural production. Domestic support programs were divided into three categories named "boxes". A program is classified into "amber", "blue" or "green box" - depending on its impact on trade, agricultural sector and various reduction commitments. The URAA is quite specific about the programs that can be classified as "blue" or "green box" [Hart, Beghin 2004]. "Blue box" programs cause moderate distortions to trade and market mechanism. These are direct payments for farmers tied to production–limiting policies, e.g. EU compensatory payments or US deficiency payments before 1996. "Blue box" payments do not have to be limited, unless they exceeds their base level from the year 1992.

"Green box" programs have no or minimal trade impact. These kind of payments must derive from budget and cannot involve transfers from consumer or support prices. These can be [Agreement on Agriculture 1994]: general services, public stockholding for food security, domestic food aid, direct payments to producer, decoupled income support, government participation in income insurance and income

safety net programs, payments for relief from natural disasters, adjustments assistance provided through producer or resource retirement programs, adjustment assistance provided through investment aids, payments under environmental programs and payments under regional assistance programs.

The „amber box" contains programs which have a direct impact on production and distort trade. These are all the measures which cannot be classified as a "blue" or "green box" payments, e.g. intervention prices, input and output subsidies etc. Level of support provided by the "amber box"

Table 1. Domestic support reduction commitments in chosen developed countries measured by the AMS at the end of implementation period
Tabela 1. Zobowiązania redukcji wsparcia wewnętrznego mierzone wskaźnikiem AMS dla wybranych krajów rozwiniętych na koniec okresu implementacji

Country/*Kraj*	Currency/ *Waluta* [mln]	AMS in base period 1986-1988/ *AMS w okresie bazowym*	Reduction commitment – AMS in the 2000/ *Zobowiązanie do redukcji – AMS w 2000 r.*
US/*USA*	US $	23 875	19 103
EU/*UE*	Ecu	76 505	61 204
Japan/*Japonia*	Y	4 966	3 973
Australia/*Australia*	A $	590	472
New Zealand/*Nowa Zelandia*	NZ $	360	288

Source: own study Urugwaj Round...1995
Źródło: opracowanie własne na podstawie Urugwaj Round...1995

programs measured with the AMS was supposed to be reduced by 20% from the 1986-1988 base level during the first six years of implementation period[1]. Value of support from base period and the reduction commitments were defined in the countries' concession lists (see table 1 for chosen countries).

The AMS is a measure of the annual level of support provided to agricultural producers in monetary terms. The accounting method is either government expenditures or price gaps between a fixed eternal reference price and the applied administered price [de Gorter, Ingco 2002]. It is calculated as a sum of commodity specific and non-commodity specific support. To the "amber box" programs applies so called *de minimis* rule. It means, that a product specific support is excluded from reduction, if it is not higher than 5% of commodities' value of production. A non-product specific support is excluded from reduction, if it is not higher than 5% of the total value of agricultural production. Table 2 presents a simple example of the AMS calculation.

Table 2. Example of the AMS calculation
Tabela 2. Przykład kalkulacji wskaźnika AMS

Product/ *Produkt*		Wheat/ *Pszenica*	Barley/ *Jęczmień*	Rape/ *Rzepak*	Non-specific/ *Wsparcie nie przypisane do produktu*
Form of intervention/ *Rodzaj interwencji*	intervention price/world price/ *cena interwencyjna/cena światowa*	225 $/t/ 110 $/t	-	-	-
	direct payments-not excluded from reduction/*płatności bezpośrednie nie wyłączone ze zobowiązań redukcji*	-	$3,000,000	$14,000,000	-
	other subsidies/ *pozostałe płatności*	-	-	-	$4,000,000
Level of production/*Wielkość produkcji*		2,000,000 t	-	-	-
Value of production/*Wartość produkcji)*		$510,000,000	$100,000,000	$ 250,000,000	$ 860,000,000
De minimis value/*Wartość de minimis*		0.05 x 510,000,000 = $2,5000,000	0.05 x 100,000,000 = $5,000,000	0.05 x 250,000,000 = $12,500,000	0.05 x 860,000,000 = $43,000,000
AMS		($225 – $110) x 2,000,000 = $290,000,000	$3,000,000 (AMS < *de minimis*)	$14 ,000,000	$4,000,000 (AMS<*de minimis*)
Total AMS/*Całkowity AMS*		$ 290,000,000 + $ 14,000,000 = $ 304,000,000			

Source: own styudy based on [www.wto.org/english/tratop_e/agric_e/ag_intro03_domestic_e.htm#reduction]
Źródło: opracowanie własne na podstawie [www.wto.org/english/tratop_e/agric_e/ag_intro03_domestic_e.htm#reduction]

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[1]   Developing countries had to reduce "amber box" payments by 13% in 10 years.

In order to assess the effectiveness of the URAA in the field of domestic support, one has to analyze the evolution of the level and the structure of this support. Firstly, it is worth noticing that from the beginning of the implementation period most of the developed countries had no problems with fulfilling the WTO "amber box" commitment and the AMS limits were not binding. It means that there was a gap which theoretically provided the possibility to rise again the level of support classified in the "amber box". Two biggest suppliers of domestic support, namely the US and the EU, also reduced the current AMS level stronger than the commitments (compare table 1 and 3). The end of the implementation process did not stop this trend and according to the countries' recent WTO notifications, the EU's current total AMS in 2009 amounted to 11.8 billion euro (with the commitment at the level of 72.2 billion) and the US's current total AMS dropped to 4.3 billion of US$ (with the commitment at the level of 19.1 billion). It is worth noticing that the total level of agricultural support is still relatively high and is even rising, mainly due to the "green box" measures, particularly in the US.

One can observe an important shift in the domestic support structure. "Amber" and "blue box" support has been declining in favour of "green box". In case of the EU this was mainly due to the 2003 Reform in Luxemburg when the new decoupled direct payments system called Single Payment Scheme (SPS) was introduced. In the US the total level of support classified to "green box" was rising because more emphasis was put on national food aid (almost 79 billion of USD in the year 2009).

Effectiveness of the AMS in reducing agricultural domestic support

Most of the developed countries had no problems with fulfilling the URAA domestic support provisions and had reduced the „amber box" support below the year 2000 commitments before the implementation period (1995-2000) even started. The reason of this situation is believed to be both, the construction of the AMS as well as the selection of the base period. In order to define the limits of the domestic support and the reduction commitments, the WTO decided to exploit the AMS [Silvis, van der Hamsvoort 1996]. This measure consists of two components, the first is the product specific support and second - general non-product support. The reduction commitment applies to the total AMS which is a sum of these two components. In such situation, a country has to reduce an average total support, however it still may increase support on the single strategic market.

Another problem with the AMS definition are the prices used for calculating this measurement.. Price support in the AMS is calculated as a difference between a fixed external (world) price and a domestic administered price.[2] This difference is later multiplied by the volume of production which the administered price refers to. As the reference external price is fixed, calculation of the AMS usually does not correspond to the real AMS and as a result does not measure real support. Even if the assumption is made that the domestic prices are close to the administered ones (which is not always truth), real world prices often deviate from a fixed reference average level based on years 1986-1988. Figure 1 presents the consequences of the world price volatility for the real value of the AMS.

In the A situation, when the real external price is higher than the fixed external price from the base period, the difference between an administered price and real external price is going to be lower and

Table 3. Domestic support categories in the US and EU during the URAA implementation period (in US$ billion) and the latest available notification
Tabela 3. Wsparcie wewnętrzne według poszczególnych kategorii w USA i UE w okresie implementacji Porozumienia w sprawie rolnictwa oraz ostatnia dostępna notyfikacja

Country/ *Kraj*	Year/ *Rok*	"Amber box" –AMS/ *Skrzynka żółta*	de minimis	"Blue box"/*Skrzynka niebieska*	"Green box"/ *Skrzynka zielona*	Total/ *Łącznie*
USA	1995	6.2	1.49	7.0	46.0	60.7
	1999	16.9	7.43	0.0	49.7	74.0
	2000	16.8	7.34	0.0	50.1	74.2
	2001	14.4	7.05	0.0	50.7	72.2
	2009	4.3	7.26	0.0	103.2	114.8
EU	1995	64.4	1.06	26.9	24.2	116.6
	1999	47.6	0.31	19.7	19.8	87.4
	2000	38.9	0.50	19.8	19.5	78.7
	2001	35.2	0.77	21.2	18.5	75.7
	2009	11.8	1.09	5.3	62.8	81.0

Source: own study based on Koo, Kennedy 2006 and countries notification from WTO available at [www.wto.org/english/tratop_e/agric_e/ag_work_e.htm]
Źródło: opracowanie własne na podstawie Koo, Kennedy 2006 i notyfikacji krajów dostępnych na stronie internetowej WTO [www.wto.org/english/tratop_e/agric_e/ag_work_e.htm]

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2   An example of administered price might be an intervention price in the EU and LDP loan rates in the US.

Figure 1. Consequences of the world price volatility for the real value of the AMS
Rysunek 1. Konsekwencje wahań cen na rynkach światowych dla wartości wskaźnika AMS
Source: own study based on Roberts et al. 2001
Źródło: opracowanie własne na podstawie Roberts et al. 2001
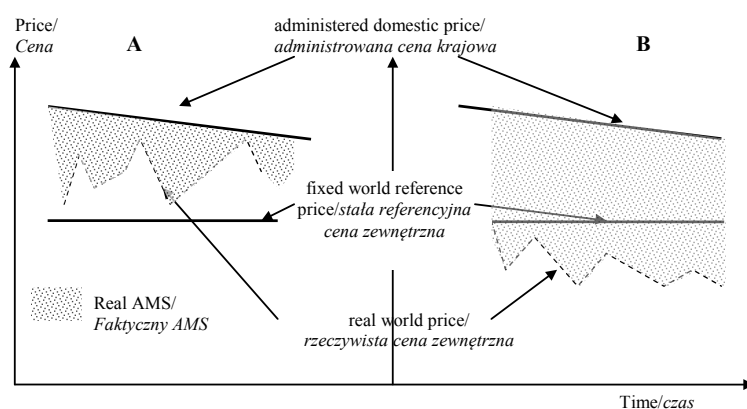
consequently the real AMS is going to be lower than the one calculated based on the WTO methodology. However countries will have to reduce its support level according to the WTO calculation which in overall may be harmful to some of them. It looks quite the opposite in the B case, where the actual world price is at a level lower than the fixed external reference price. In this situation, the actual level of support will therefore be higher than the one calculated by the official AMS which will favor the country.[3] So in both cases, the AMS rate will not reflect the real level of price support [Czyżewski, Poczta-Wajda 2011]. Another thing is that the difference between domestic and world price may not only result from the domestic support policy, but also from the border and trade policy. In that case the AMS is misleading, because it double counts support already provided by import barriers or export subsidies [de Gorter, Ingco 2002].

One should not also forget about the influence of inflation and exchange rate, which might reduce the AMS ability to measure real support value. The high inflation rate may provoke government to rise administered prices in nominal terms which in a country with a high rate of inflation rate could cause problems with the fulfillment of WTO commitments measured with the AMS. A similar problem could arise as a result of exchange rate volatility. Administered prices were usually expressed in national currency and the fixed world reference price was converted in domestic currency at the constant exchange rate.[4]

Definition of the AMS was however not the only problem. One considers that the second major factor limiting the effectiveness of the URAA implementation was the choice of base period (the years 1986-1988). At that time, world market prices were at bottom level, hence the difference between world prices and domestic prices in the developed countries was exceptionally high. Therefore, the level of domestic support was also very high. Due to the re-growth of prices on world agricultural markets in the early 90's, the level of domestic support collapsed in many countries without any authorities interference.

De minimis rule is believed to be another factor reducing effectiveness of the URAA domestic support provisions. The use of this instrument proved to be greater than expected. Hungary and Canada were the undisputed leaders in this area. It is also worth noticing, that the calculation of the AMS in the base period 1986-1988 included compensation payments. In the beginning of implementation period, some countries modified these payments in a way which enabled them to qualify compensation payments into "blue" or "green box" and thus they were not taken into account when calculating the current AMS level.[5]

Conclusions

Summarizing the above considerations on the implementation of the URAA effectiveness, particularly the AMS effectiveness, the following conclusions can be drawn:
– aggregated character of the AMS commitment reduces its effectiveness, because it allows to maintain or even rise support level on the chosen market,
– the AMS calculation method based on the official administered domestic price and fixed reference world price, over or underestimate real level of support,

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[3] Japan is an example of a country in which the real level of price support had been increased and in the same time the AMS had been reduced in accordance with the Agreement on Agriculture rules. Such situation might have happened, because the real external prices in the late 90's expressed in yen felt far below the external fixed reference prices.

[4] In order to avoid similar problems, some countries have expressed their AMS commitment in SDR (Iceland) or US $ dollars (Poland).

[5] For example this was the case with compensatory payments to grains and oilseeds producers introduced within Mac-Sharry's reform [Burfisher et al. 2002].

– choosing the year 1986-1988 for a base period, when the agricultural prices were very low, resulted in overstated level of support which was the basis for determining the reduction commitments,

– exemption of the *de minimis* and the "blue box" payments from reduction commitments, while they were included in the baseline, resulted in an automatic decline of support without even reforming agricultural policy.

Although negotiations under Doha Round are slowly progressing towards new agreement and there are already some new and accepted proposals[6], there are still many details to be agreed. In order to overcome weaknesses in the existing definition of the AMS and the domestic support provision, the author suggests:

– setting the reduction commitments to individual products and not as it was previously to the total level of support which in practice allowed countries to maintain a high level of support on the strategic markets,

– revision or even total withdrawal of *de minimis* and "blue box" payments or putting limits on the sum of the *de minimis,* "blue" and "amber box" support,

– revision of "green box" policies is also required, because empirical evidence proves that not all of them are non-trade distorting trade and does not affect farmers decisions [Goodwin, Mishra 2006, Sckokai, Anton 2005],

– calculating the real AMS level based on current world price and domestic prices,

– choosing a longer base period (e.g. 10 years), which might eliminate short-term decrease or increase in prices.

Another thing to discuss are the reduction formulas proposed during the Doha Round, which are not going to by analyzed, because this issue requires another paper. The basic question is however, whether in the face of rapidly rising demand for food and food prices ever higher, it is reasonable to reduce the domestic agricultural support at all and whether the domestic support pillar is worth such a fuss in the WTO negotiations.

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Streszczenie

W artykule omówiono kwestie związane z pomiarem i redukcją poziomu wsparcia wewnętrznego rolnictwa w ramach WTO. Skoncentrowano się na analizie procesu implementacji Porozumienia w sprawie rolnictwa w zakresie wsparcia wewnętrznego oraz na wyjaśnieniu jego efektów. Zaproponowano również możliwe zmiany w sposobie pomiaru tego wsparcia, które mogłyby zwiększyć efektywność kolejnego porozumienia w ramach Rundy z Doha.

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6 Hong Kong Ministerial Declaration and latest Modalities from 2008 assume that the total AMS will be reduced substantially, using a tiered approach and product-specific AMS will be capped.