SUBSIDIES AS A FACTOR IN THE COMPETITIVENESS OF DOMESTIC AGRICULTURAL PRODUCTION

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Abstract

There are often claims that one of the main causes of poor competitiveness of agricultural production of Bosnia and Herzegovina (BaH) is lower level of subsidies in relation to other countries. In addition, the problem stated is too big and too rapid liberalization of imports of agricultural and food products. Subsidies and custom duties increase competitiveness of domestic producers, which ultimately depends on the level of indirect subsidies and tariff protection enjoyed by their competitors in the domestic and international market.

Budgetary constraints in developing countries do not allow payment of the same subsidies to farmers as in developed countries. Because of the different systems of distribution of subsidies it is difficult to make direct comparison of the levels of Bosnia and Herzegovina (BaH)/The Republic of Srpska (RS) with other countries. Therefore, the level of subsidies in agriculture is measured by a single indicator, and one of the most common is the OECD's PSE (Producer Support Estimate) indicator. It expresses the average level of subsidies to agricultural producers at the level of the EU and amounted to 19.8% in 2010.

In the Republic of Srpska (RS), the level of agricultural subsidies (including incentives for long-term investment and rural development) in 2010 was 12.2% of its agriculture gross value added (GVA). In the last five years, livestock production is more subsidized (in average with 7.6% of agriculture GVA) with a tendency to increase subsidies to that group. Crop production is subsidized in average with 5.3% of agriculture GVA, with the tendency to decrease support to this group. The above suggests that the domestic producers are handicapped in free market competition because they are receiving lower level of subsidies, which combined with lower productivity, reduced their competitive position in relation to imported products, i.e. the imports are not charged by any or by very low customs.

The paper further elaborates on policies of subsidizing agriculture in RS and BaH and makes some comparison with the EU Common Agricultural Policy and the level of subsidies in the EU.

Key words: *Republic of Srpska, agricultural production, competitiveness, subsidies.*

Introduction

The term subsidy can be defined in very different ways, from any state support to accomplish certain goals, to only financial support. The World Trade Organization in The Agreement on Subsidies and Countervailing Measures defines subsidies. The definition contains three basic elements: (i) a financial contribution (ii) by a government or any public body within the territory of a Member (iii) which confers a benefit) (WTO, 2010). According to the IMF definition subsidies are current transfers that government units pay to enterprises either on the basis of the levels of their production activates or on the basis of the quantities or values of the goods or services that they produce, sell, or import (Paukovic, 2002). Therefore,

it can be said that subsidies are the refund of the money, paid out of funds to certain categories of beneficiaries, provided they meet the requirements for it.

Subsidies are particularly widespread in agriculture as a particular kind of assistance or rewards to those who are engaged in agriculture. Previously, grants were paid for achieved volume of production or sales of specific agricultural products, and it is now generally paid mainly calculated per unit area (Single Area Payment Scheme) or farm (Single Payment Scheme), without their direct link to the achieved type and volume of production, with a greater emphasis on their environmental and social, rather than economic impact. The changed distribution method is a compromise between incentives objections that the subsidies to agricultural production place it in a privileged position in comparison to other productions as well as necessity for producers to deal with agricultural production, even when they do not have an economic interest. Subsidies are the cause of more or less (un)competitiveness because they directly affect the cost and the selling price of a product.

If the level of analysis focuses only on the domestic market, the question is how subsidies affect the competitiveness of domestic agricultural producers? Regardless of the numerous complaints of subsidizing agriculture (e.g., the World Bank has funded research on the subject with a series of working papers, among which it was interesting to read the views of Anderson (2009) or Anderson and Swinnen (2009), it is still prevalent in the world. One of the most subtle systems of agricultural subsidies that the European Union has for this purpose consumes 52 billion (OECD, 2011). Although figures are not comparable because of different sizes (e.g., the average arable land in the EU-27 in the period 2007-09 was 180 million hectares, with an annual value of agricultural production for the same period of 326 billion EUR) (OECDa, 2011) and the degree of development. BaH subsidized agriculture in 2011 with a total of 142 million BAM, a year earlier it allocated to agricultural subsidies 165 million BAM (Ministry of Foreign Trade and Economical Relations, 2011). By signing the Stabilization and Association Agreement, each candidate country is committed to adapt its system of incentives in agriculture to the EU *acquis* in this field, thus BaH will soon face with it. Subsidies that encourage higher production are limited by the World Trade Organization, whose rules are followed by 157 countries (Bosnia and Herzegovina is still not a member of this organization, but it will soon become), to a maximum of 5-10% of the value of production of subsidized products (so-called "de minimis" ceiling). The system of agricultural subsidies in BaH is anachronistic and is close to the one applied by the EU at the beginning of the eighties of the last century.

Materials and Methods

The starting point of the author is that there are no serious restrictions on international trade in agricultural products (which was a stronghold merchantilism's approach to international trade) and therefore a major component of a country competitive advantage in agricultural production is its relative price advantage. At the present level of agricultural development in BaH, a primary goal is to be competitive in the domestic market. In order to sell his product, a local farmer must offer it at the same price at which such imported product is sold, although those producers generally earn higher subsidies. This is only possible if the domestic producer has lower production costs (PC_1) which will compensate his lack of subsidies (s'), or if the profit (P_1) is reduced by as much as a foreign producer subsidy exceeds its subsidies.

$$PC_1 + s_1 + P_1 = PC_2 + s_2 + P_2$$
$$(PC_1 + P_1) + s_1 = (PC_2 + p_2) + s_2$$
$$s_2 > s_1 \rightarrow s_2 = s_1 + s'$$
$$P = const. \rightarrow PC_1 - s' = PC_2$$

$$PC = \text{const.} \rightarrow P_1 - s' = P_2$$

(Note: the suffix$_1$ denotes the conditions of the domestic producer and suffix$_2$ foreign producers).

The model is simplified because it did not include the transportation and other depending costs which are condition that of foreign products coming into the domestic market (which influences the reduction of the differences in subsidies). This model explains some of the causes of dissatisfaction of local farmers with the conditions in which they operate (there are more, but the problem of insufficient subsidies is mentioned very often). Conditions for agricultural production in BaH are such that they do not allow the high level of productivity per unit on the basis of which it would be possible to achieve lower production costs. Operating profit (profit) is something that motivates any producer, not just agricultural producer, to engage in some production, and if there is no profit or even if it is minimal, the motivation for such production is very low. In a situation where the productivity of agricultural production cannot significantly be changed in the short (or even medium) term, when the goal is to engage a part of the rural population in agricultural production and processing of as much agricultural land as possible, the source for improving the competitiveness of domestic agricultural production is inevitably required at the side of subsidies (which is applied by many other countries that have more favourable conditions for agricultural production than BaH). Due to the lack of such additional financial incentives, the number of those seeking work outside agriculture and the percentage of uncultivated areas is increasing (as it is evident in BaH). Of course, the solution to increase the competitiveness should be continuously looking on the side of reducing production costs through increased productivity and other measures.

Another way of dealing with the lack of competitiveness of domestic agricultural production is the protective custom tariff. It could be concluded that it is relatively late for the application of this solution in the case of BaH, given that Free Trade Agreements with CEFTA group and the Stabilisation and Association Agreement with the EU (major foreign trade partner) concluded and a commitment of BaH to join to the World Trade Organization. In the case of imports of agricultural and food products from CEFTA member countries no customs tariffs are applied, and in case of imports from the EU they are within the range 0-10% (BaH Customs tariff, 2011). After learning that, by accepting low levels of tariff protection, domestic agricultural production is too much and too fast exposed to the pressure and competition from abroad, tariff quotas and additional (temporary) duties were introduced for some key agricultural and food products. The World Bank in its recent study found that the nominal rate of protection in BaH for key products of plant origin (cereals, fruits and vegetables) is negative and for milk and lamb is positive (World Bank, 2010).

For the purpose of this research, systemizing and processing of data was done on the amount and structure of gross value added (GVA), *i.e.* gross domestic product (GDP) and subsidies paid to agriculture in the Republic of Srpska in the period 2007-11. Data are derived originally from the Ministry of Agriculture, Forestry and Water Management, and the authors have processed them for the purpose of analysis and designing the Republic of Srpska Agricultural Development Strategy for the period 2007-11 (RS Ministry of Agriculture, Forestry and Water Management, 2012). The methods of analysis, synthesis, modelling, comparison and tabulation of results of research were used. Moreover, the comparison of data was carried out on the amount and structure of subsidies in the Republic of Srpska and in the European Union, but it was limited because of methodological differences in the monitoring of the same data.

Subsidies for agriculture and rural areas in the EU and developing countries are paid according to a different model compared to the developing and underdeveloped countries. Almost all the researchers that investigated the same phenomenon in individual countries faced with the same problem of comparative analysis, including the authors of this paper. In

order to make agricultural subsidies comparable, the OECD[1] has established several standard indicators including the commonly used PSE (Producer Support Estimate) indicator that summarizes all kinds of subsidies, regardless of differences in the way they are, from a country to another one, are paid. What exactly is summarized in the PSE indicator? Producer Support Estimate (PSE) is the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm-gate level, arising from policy measures that support agriculture, regardless of their nature, objectives or impacts on farm production or income (OECD, 2009). PSE is the ratio of agro political transfers compared to the total value of domestic production, measured in domestic prices (Franic and Kumric, 2008).

Results and Discussion

Gross value added of agriculture, hunting and related service activities in the Republic of Srpska (expressed in current prices) in 2011 is lower by 43.5 million compared to 2007, or 5.3%, despite the fact that this production in the same period was subsidized with 403 million BAM. In the same period GVA structure of agriculture has changed; the share of crop production increased, and the share of livestock production decreased. Although subsidies for crop production decreased, the value of crop production has increased, among other things, due to increase of the price of grains and other products of plant origin. In the period 2007-09, at the level of EU-27, crop production in agricultural output accounted for 52.9% and the livestock production for 39.9% (OECD, 2011), which confirms that the recognized tendency of changing the structure of Republic of Srpska agriculture GVA should not come as a surprise.

Table 1: GVA agriculture, plant and animal production and subsidies[2] (current prices)

million BAM

Specification	Indicator	2007	2008	2009	2010	2011	2007-2011
Plant production	GVA	286.1	401.2	383.4	381.5	409.0	1.861.3
	Subsidies	17.6	40.9	9.5	10.1	20.3	98.4
	Subsidies /GVA	6.1%	10.2%	2.5%	2.6%	5.0%	5.3%
Animal production	GVA	524.4	451.3	430.5	396.2	356.0	2.158.3
	Subsidies	30.4	45.8	31.0	27.4	28.8	163.4
	Subsidies /GVA	5.8%	10.1%	7.2%	6.9%	8.1%	7.6%
Agriculture, hunting and related services[3]	GVA	818.2	860.7	824.1	787.9	774.7	4.065.7
	Subsidies	64.1	107.8	55.5	95.8	80.2	403.4
	Subsidies /GVA	7.8%	12.5%	6.7%	12.2%	10.3%	9.9%

Source: Calculation of the authors based on data of the analyses of the Republic of Srpska Agricultural Development Strategy for the period 2007-2011, supplemented with forecast data of the Statistical Institute of the RS on the size and structure of RS GDP in 2011.

In addition to the analysis of relations between subsidies paid and (gross) value added of agriculture, it is important to see to what extent subsidies are involved in the total GDP of the Republic of Srpska and the RS total budget (Table 2).

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[1] OECD - Organisation for Economic Cooperation and Development has today 34 members from Europe, North and South America, Asia and Oceania.

[2] These annual subsidy amounts represent the amount of funds approved for a particular calendar year, which include delegated duties paid from the budget for the coming year, that is why these annual amounts generally differ from the amount of agricultural budget for the same year.

[3] The difference between the total GVA of crop and livestock production and GVA of entire sector make hunting and related service activities, whose contribution to the creation of the total GVA is marginal and is not taken into account in this analysis.

Table 2: Gross domestic product, the RS budget and the RS agricultural subsidies (2007-11)

billion BAM

Specification	2007	2008	2009	2010	2011	2007-2011
RS Gross domestic product	7.351	8.489	8.223	8.308	8.670	41.041
GVA agriculture	0.818	0.861	0.824	0.788	0.775	4.066
RS Domestic budgetary revenue	1.190	1.436	1.375	1.227	1.383	6.610
Agricultural subsidies	64.1	107.8	55.5	95.8	80.2	403.4
GVA agriculture/RS GDP	11.13%	10.14%	10.02%	9.48%	8.93%	9.91%
Subsidies in RS GDP	0.87%	1.27%	0.68%	1.15%	0.93%	0.98%
Subsidies in the RS Budget	5.38%	7.51%	4.04%	7.81%	5.80%	6.10%

Source: Calculation of the author based on data of the analyses of the Republic of Srpska Agricultural Development Strategy for the period 2007-2011, supplemented with forecast data of the Statistical Institute of the RS on the size and structure of RS GDP in 2011.

Following the principle that the subsidies for a given year are considered the ones paid on the basis of subsidy requests approved for that year, and not allocated funds from the budget for that year; spending on agricultural subsidies in the RS ranges between 0.68% and 1.27% of its total GDP with the five-year average of 0.98%. In relation to domestic budgetary revenue (total budget of the RS was higher due to the impact of grants and loans) agricultural subsidies were between 4% and 7.8%, with the five-year average of 6.1%. For example, still "unavailable" Croatia ten years earlier (2001) for the same purposes, allocated 2.2% of the state budget, which was 0.88% of its GDP, i.e. 13.6% of agriculture GVA (Gotovac, 2003). This comparison suggests that the Republic of Srpska allocates a much larger proportion of budgetary resources to agricultural subsidies, while the share of subsidies in total value of agricultural production is still lower than it was in Croatia a decade ago.

When the level of agricultural subsidies is seen as an absolute number (an average of 80 million BAM per year) it does not look very impressive, considering that ½ of the RS population lives in rural areas and are engaged, to a greater or lesser extent, in agriculture. If, for example, 80 million BAM is divided on 55 thousand registered farms, that were registered in the Farm Registry in late 2009 (Mirjanic *et al.*, 2011) we get an average subsidy of 1,450 BAM per household per year (120 BAM/month). It is for most small farmers actually less because a significant part of the subsidies are paid to (big) corporate entities. If the amount of the annual subsidy is divided by 952,000 ha of agricultural land, it means that a subsidy is only 84 BAM per hectare. Since about 40% of agricultural land is not cultivated, then a real subsidy per hectare, is slightly higher than the above average.

A common objection is that subsidies for rural development cloud the picture of the actual level of incentives for agriculture and thus "stealing" some of the funds that were supposed to be used by the "real" farmers. On the other hand, Daugbjerg *et al*. (2005) state that consumers and taxpayers easier accept less visible forms of agricultural subsidies, because lobbies that support farmers often cover them through the various other forms of support. They recognize that farmers are more likely to understand the effects of individual measures with immediate effect than the various forms of social transfers whose effects on their economic situation is harder to recognize. The fact that the RS agricultural budget for 2012 was reduced by 20 million BAM in comparison with the previous year, supports the thesis that taxpayers and non-agricultural lobbies in the context of the economic crisis became less sensitive to the problems of farmers than in previous years the compensation period of loss of farmers based on introduction of 17% VAT to their inputs and outputs expired).

PSE indicator of the last 4 years had the following values (at the time of research, data were not completed for 2011) (OECDb, 2011).

Table 3: PSE indicator in some characteristic countries and economic groups (%).

State/Group	Indicator	2007	2008	2009	2010
Switzerland	PSE	48.65	54.40	59.52	53.86
Japan	PSE	46.12	48.47	47.88	50.01
Russia	PSE	18.19	21.89	22.11	21.37
EU	PSE	23.45	22.05	23.53	19.84
OECD	PSE	21.45	20.19	21.87	18.32
USA	PSE	10.01	8.76	10.07	7.04
The R. of Srpska	Subsidies/GVA agriculture	7.8	12.5	6.7	12.2

With all the reservations that the share of subsidies for agriculture (and rural development in the RS) in relation to agricultural GVA does not have the same meaning as the PSE, roughly these two numbers can, more or less, be compared. This comparison indicates that the level of agricultural subsidies in the RS is lower by 50% than in OECD countries and 60% lower than the EU average. If we go back to the formula given in the introduction of this work, it means that local farmers on average have to have lower production costs by 6-8% compared to the same product producers from the EU or the OECD, which are imported and sold in the domestic market or to be satisfied with a much lower profit margin in relation to its competitors from abroad. We should not forget that the entire analysis is based on the average farmer's level of subsidies. Historically confirmed rule is that those ones above the average, i.e. successful survive, and the ones below-average decline, which is a lesson that will have to be learnt and accepted by local farmers. There is no such a state and agricultural policy that will indefinitely help and rescue those who are permanently ineffective. The objectives of the Common Agricultural Policy of the EU in the forthcoming programming period 2014-20 will be significantly amended, and will insist on greater responsibility of farmers for their success or failure in the market and more subsidies will be related to the achieved results. EC plans in the next programming period (2014-2020) to increase funds for CAP only by 3.16% compared to the previous programming period (2007-13) (European Parliament, 2012). It should be noted that local farmers in this regard have some initial advantages over the European, because they, in the last ten years, have largely been left over to the actions of the market economy, and much less aided by various forms of subsidies (see *e.g.* Mirjanic and Vasko, 2008).

Conclusion

Subsidies are cash benefits from dedicated funds paid to certain categories of users, if they meet the requirements. They are particularly prevalent in agriculture as well as the kind of help and support those who are engaged in agriculture and living in rural areas. As a form of additional income or compensation of part of the costs, subsidies directly affect the level of competitiveness of agricultural producers, in the sense that producers who receive a higher level of subsidies are more competitive than those who have a lower level of subsidies.

In the Republic of Srpska, funds to subsidize the development of agriculture and rural areas during the period 2007-11 ranged between 55 and 108 million BAM per year, with significant variations from year to year. In this period, they ranged between 7-12% of the value of agricultural production of the Republic of Srpska, 4-7% of its budget expenditures and about 1% of its total GDP. Regardless of the trend of increased spending on agriculture subsidies, the RS is below the level of subsidies in the EU and other developed countries, which, combined with low levels of tariff protection of domestic agricultural producers puts it at a disadvantage in the domestic and international markets. Projections under the Common Agricultural Policy of the EU programming period 2014-2020, funding to subsidize

agriculture remain at the same level as in the previous period, with the intention to significantly reduce subsidies for market intervention. It should go in favour of the farmers in the RS and BaH due to budget constraints, and in the near future, it will not be able to implement more generous policy of subsidizing agricultural production.

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