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THE EFFECT OF COUPLED SUBSIDIES ON THE ROMANIAN SOYBEAN MARKET

ABSTRACT

In this paper, we have quantified the impact of the Government's Decision no. 219/2015 upon the soybean market in Romania in the year 2015. For this purpose, we collected data on the soybean areas, production and trade with soybeans and soybean meal, as well as the prices for these products, both domestic prices and foreign trade prices. Based on existing data, we also estimated the minimum coupled support received by farmers per ton of soybeans and per cultivated hectare.

The farmers who cultivated soybean in the year 2015 could receive the amount of 373.3 euro/ha, out of which total subsidy for soybeans 181 euro/ton, of which 113 euro/ton represented the national coupled support. If we compare the annual (2015) average soybean price without subsidy (480 euro/ton), with the import price (434 euro/ton), we could draw the conclusion that Romania does not have competitive advantage in soybean cultivation. At the same time, we find out that by subsidizing the domestic soybean production, the exported soybean production increased to 95 thousand tons, and with this export we also exported the subsidy worth 10.735 million euro.

Key words: soybeans; coupled subsidies; import and export price

JEL Classification: Q11.

1. INTRODUCTION

The unfavourable weather conditions for soybean cultivation, mainly in Western Europe, corroborated with the low prices of soy meal and beans on the international market, make the soybean crop non-attractive for Europe.

With the strong development of the European livestock sector in the late 1960s and 1970s, the trade with soybean intensified, while the imports from Latin America increased each year. This trend has been recently stabilized at the level of about 37 million tons imported in the European Union (EU) (James, 2014).

The imports mainly consist of genetically modified soybean, as 88% of the world production is based on this technology. In other words, EU imports production from about 13.5 million ha under soybean in order to cover its domestic demand. The only source of conventional soybean for Europe is Brazil, which produces both Genetic Modified Organism (GMO) and non-GMO soybeans; yet in

this country, too, the biotech penetration rate reached more than 91% in 2013, and the production has rather a seasonal character, depending on the demand for animal feeding.

In the EU, the adoption of agricultural biotechnologies is rather slow, due to the regulation system, which is based on an extremely complex risk assessment by the competent authorities, European Food Safety Authority (EFSA).

However, EU authorized dozens of genetically modified products for import and utilization in human food, cultivated in other parts of the world. Thus, in the last decade, EU became the largest net importer of agricultural raw products. Many of these products are obtained on the basis of agricultural biotechnologies, mainly soybean, maize and rapeseed for the production of animal feeds and cotton for the textile industry.

Romania was and continues to be a net importer of soybean meal, this product having one of the top positions in the country's balance of trade, in value terms. However, the dependency on imports obviously decreased in the period when transgenic soybean was authorized for cultivation (1999–2006). While the soybean meal imports covered 11% to 30% of protein consumption until the accession to the EU in 2007, in the year 2014 the imports covered 71% of the national consumption needs, i.e. 586 thousand tons. The main suppliers of protein meal for Romania were Brazil and Argentina.

2. STATE OF KNOWLEDGE

The agricultural policy is a component of the economic policy, which after the Second World War was based on the interventionist conception of production subsidizing and control and support to farmers' incomes, both in Europe and in America. Governments' interventions influenced the demand/supply ratios and contributed to the periodical re-establishment of agricultural market equilibrium in these countries. The cost of these interventions was and remains high, and the effects were not satisfactory on long term and required fundamental reforms in the United States of America (USA) and the EU, depending on market evolutions (Delloite, 2008).

In the year 2013, the European Commission under the European Innovation Partnership for Agricultural Productivity and Sustainability (EIP-AGRI) set up the Focus Group on Protein Crops, to support innovation and research, aiming to increase the protein crop yields and to support the development of protein crops chain in the European Union. In the year 2014, the European experts evaluated the challenges of the protein crop chain and identified solutions that can be implemented through agricultural consultancy, referring to good practices, demonstrative plots, utilization of certified seeds, fostering the adoption of new seed varieties by broadening the European genetic base of crops through long-term investments in the European agricultural research.

The increasing demand for soybean proteins, which are certified as non-GMO for the food industry, animal feeds and as raw material for the pharmaceutical industry, can stimulate farmers to cultivate conventional soybean, which also represents the core of the European Commission debates about the crop diversification measures and the Greening policy.

The study conducted by Dima (2015) reveals an important development potential for the soybean crop in Romania, Bulgaria and Moldova Republic.

According to the study, the governments should increase the support for soybean production and processing industry. The study estimates that Romania, Bulgaria and Moldova Republic have a total potential of soybean cultivation of about 0.8–1.0 million ha that could generate a production of more than 2 million tons, accounting for about 5% of the yearly consumption of the European Union, i.e. around 30% of the non-GMO soybean utilized in EU each year.

3. MATERIAL AND METHOD

The general objective of the paper is to analyze the relevance, efficiency, effectiveness, impact and sustainability of coupled support intervention, from national funds, for soybean cultivation in the year 2015. To quantify the impact of coupled subsidy for soybeans upon the internal market, in the year 2015, we assessed the impact on: crop area; average yield; total production; price of beans on the domestic market compared to import and export prices; finally, we quantified whether the subsidy has favoured the national animal production, or the organic animal production from the West European countries, through export.

The selected method that we used is the cost-benefit analysis, which is often indicated in policy evaluation (Ashdown, 2002). The purpose of the cost-benefit analysis is to determine the costs associated to policy implementation and to determine the monetary value of the results of its implementation, calculation of the cost-benefit ratio and appreciate the policy effectiveness in economic terms (Stufflebeam, 2001). The cost-effectiveness analysis necessarily includes the analysis of production factor costs in order to determine the costs associated to the progress made in reaching each objective. For instance, the costs and effects of the implementation of two or more policies in order to reach the same objectives could be compared (Levin, 1983).

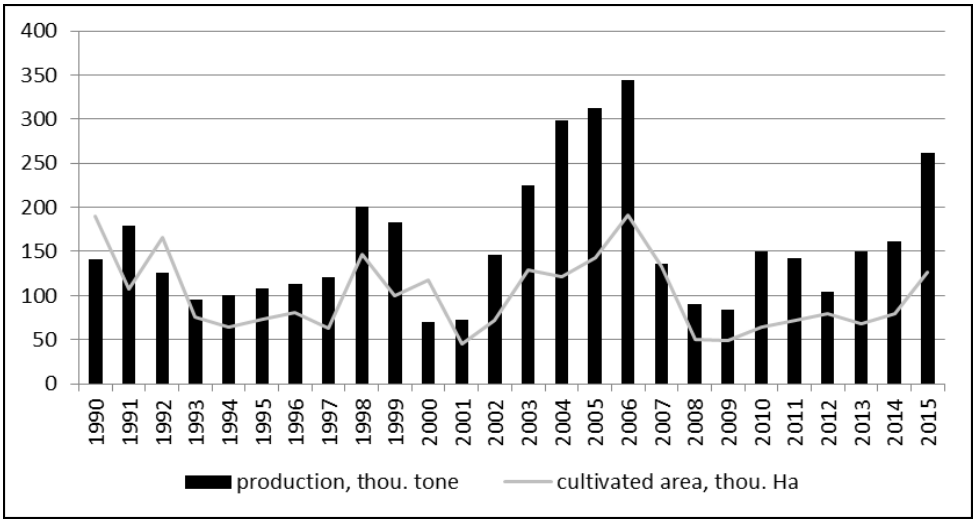
A policy could be appreciated as more adequate out of cost-efficiency reasons in the case it had the same costs but yielded better results compared to other similar policies. Or a policy might be more advantageous if it achieves the same objectives as another policy, but at lower costs. Usually, the cost-effectiveness analysis does not need the conversion of results in monetary terms, but a target must be established that includes measurable objectives. But the cost-benefit analysis goes further and tries to identify a wider range of results than those strictly associated to the objectives of the group to which it is addressed. This

analyzes the relation between the financial intervention and the intensity of positive and negative effects upon the economic environment in general. In this respect, the financial inputs are quantified and each obtained result is identified.

4. RESULTS AND DISCUSSIONS

For the purpose of our study, we collected data referring to the soybean areas and production in the period 1990–2015, Romania's foreign trade with soybeans and soybean meal, as well as the prices for these products, both on the domestic market and in the foreign trade. At the same time, on the basis of existing data, we estimated the minimal support obtained by farmers for soybean production and per hectare. We quantified the effect of soybean supply on the Romanian market based on the balance of the product.

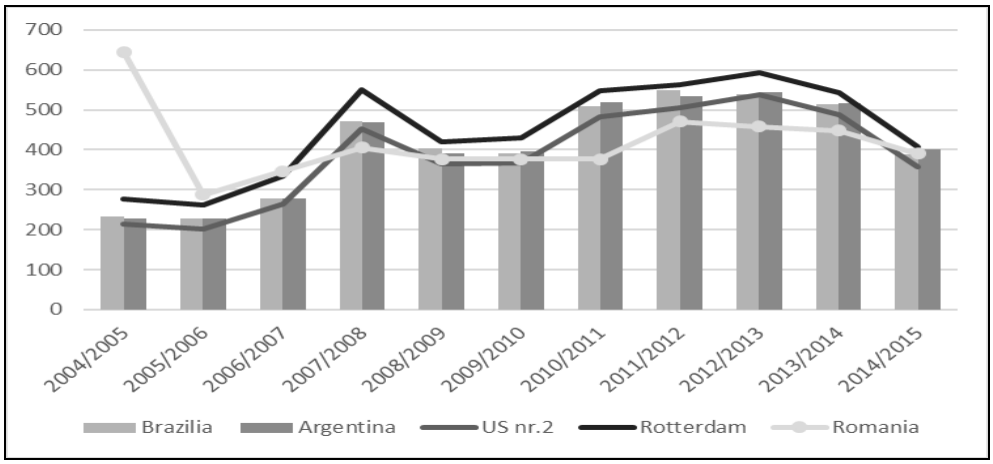
Soybean supply in Romania largely comes from the soybean meal imports (60%), the domestic soybean production (22%) and the soybean imports (18%). To quantify the impact of imports upon the domestic market we converted the imports to the average soybean production (olympic average) to estimate the number of soybean hectares that must be cultivated for self-sufficiency in soybeans. While in the year 2006, when the Romanian farmers cultivated GMO soybean, we imported the equivalent of 32 thousand hectares, soy beans and meal, by the year 2015 the imports in hectares equivalent increased to 368 thousand hectares, although the area cultivated with soybean also increased (by 47 thousand ha) because of the introduction of the national coupled support for soybean.



Source: National Institute of Statistics

Figure 1. Soybean: area and production, 1990–2015

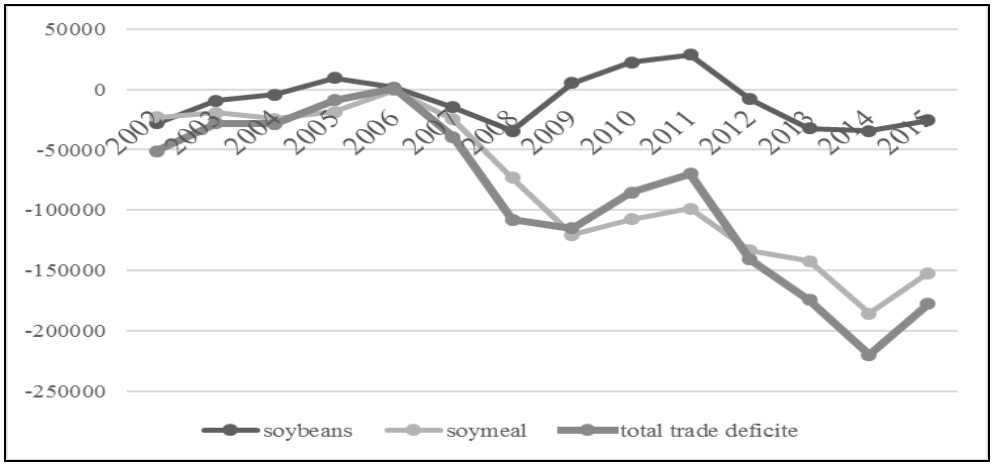
As regards the prices of soybeans and soybean meal imports, one can notice that these are lower in Romania than in Rotterdam, as the quality criterion, i.e. the protein content, is not associated to prices.



Source: United State Department of Agriculture, Foreign Agricultural Service, National Institute of Statistics

Figure 2. Soybean prices 2004–2015, euro/ton

Romania has a negative trade balance from the trade with soybean, which has recently grown larger as a result of the increase of vegetable protein demand destined for animal feeding under industrial system.



Source: Eurostat

Figure 3. Romania: balance of trade with soybean and soybean products

Romania's foreign trade with soybean in the year 2015 was dominated by imports from the non-EU countries of 158 thousand tons and soybean exports to the EU countries of 55 thousand tons and 38 thousand tons to Turkey. The imports of soybean meal, as well as of soy beans, have a non-EU origin (445 thousand tons), while the exports mainly go to the EU (135 thousand tons).

According to the Government's Decision 219/30.03.2016, the farmers who cultivated soybean in 2015 could benefit from several forms of support per hectare (according to Table 1) such as: single area payment, redistributive payment, payment for environment-friendly agricultural practices, payment to young farmers, payment under the small farmer scheme, coupled support according to the National Transitory Aid 1 (NTA 1).

Table 1

Subsidies paid to farmers who cultivated soybean, in the year 2015

	Euro/ha	Soybean total (thou. euro)
Single area payment scheme	79.7	10,127
Redistributive payment	5–51.1	**
Payment for agricultural practices beneficial for the climate and the environment	59.1	7.509
Payment to young farmers	19.9	**
Simplified small farmer scheme		**
Total direct payments soybean (1)	138.9	17,636
National Transitory Aids (NTA 1)	191.9	**
National coupled support soybean (2)	234.4	29,770
Total soybean subsidy (1+2) * euro/ha	373.3	47,406

Source: according to GD 2016 of 30.03.2016, *own calculations, **Lack of data

Thus, farmers could receive a total amount of 373.3 euro/ha for one hectare cultivated with soybean in the year 2015, out of which total subsidy for soybeans 181 euro/ton, and national coupled support for soybean 113 euro/ton. Due to the coupled subsidy, soybeans crop has become more attractive than cereals for farmers. Thus, the price of seeds for planting has increased, and the seed stocks exhausted during the spring of the year 2015.

At the level of the entire land area under soybean in the year 2015, all subsidy payments amounted to about 47,406 thousand euro, out of which 29,770 thousand euro national coupled support.

If we compare the yearly average soybean price of 299 euro/ton, practiced on the domestic market, to the import and export prices, we can draw the conclusion that Romania has competitive advantage in soybean cultivation; but if we add the subsidy allocated per ton of product to the price practiced on the domestic market, we can notice that the price on the domestic market with subsidy included amounts up to 480 euro/ton, exceeding the import price of. 434 euro/ton.

Table 2

Romania: Soybean prices in 2015

	Soybean prices in 2015 (euro/ton)
CIF import price Constanta	391
FOB export price Constanta	434
Price of domestic production	299
Soybean subsidy	181
Soybean price domestic production plus subsidy	480

Source: Eurostat, MARD, own calculations

Thus, we can see that by subsidizing the domestic soybean production, soybean exports increased to 95 thousand tons, and together with this export we also exported the subsidy worth 10.735 million euro (95,000 tons soybean export in 2015 x 113 euro/ton subsidy).

5. CONCLUSIONS

The total budgetary effort for the coupled subsidies to the area cultivated with soybean in the year 2015 amounted to 29,770 thousand euro, to 113 euro/cultivated hectares respectively. Subsidizing the soybean crop in the year 2015 determined the decrease of average yield per hectare (by 20% compared to 2014) with the increase of cultivated area (by 60%), while the total soybean production increased to 262 thousand tons (by 30%). At the same time, soybean imports and exports increased by 66 thousand tons and by 53 thousand tons respectively, the balance of trade remaining negative.

The prices of soybean from domestic production, with the subsidy included, are higher by 11% than the imported soybean prices, showing that subsidizing soybeans determines only the increase of domestic soybean supply, and not an increased efficiency of the crop.

By subsidizing the domestic soybean production, the exported increased to 95 thousand tons, and with this soybean export we also exported the subsidy worth 10.735 million euro.

This means that in the year 2015, each Romanian contributed 1.5 euro to the coupled subsidizing of soybean production, which finally went to export, to support the organic production of countries from Western Europe, and indirectly the consumption of organic products of animal origin.

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