

ROMANIA'S SOYBEAN MARKET AND COUPLED SUBSIDIES

Iuliana IONEL

Institute of Agricultural Economics, INCE, Romanian Academy, Calea 13 Septembrie no. 13
District 5, Bucharest, Romania, Phone/Fax: +4022/318241; Mobile:+40723 1671 56, Email:
48ionel@gmail.com

Corresponding author: 48ionel@gmail.com

Abstract

In the paper we quantified the impact of Government's Decision no. 219/2015 upon the soybean market in Romania in the year 2015. The working method used is the cost-benefit analysis, which is frequently used to quantify the agricultural policy effect. 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. On the basis of 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. At the same time, each Romanian contributed with 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 the consumption of organic products of animal origin implicitly.

Key words: coupled subsidies, import and export price, soybean

INTRODUCTION

The unfavourable weather conditions for soybean cultivation, mainly in Western Europe, corroborated with the low prices of soybean 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 60s and 70s, 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) [6].

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 [10].

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 materials. 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 value terms, in the country's balance of trade [7]. However, there

was an obvious diminution of dependency on imports 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.

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 still 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 [2].

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, in order 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 with regard to the crop

diversification measures and the Greening policy [9].

The study funded by Donau Soja Association [2] 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 for the processing industry for this crop. 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 soybeans that is utilized in EU each year.

MATERIALS AND METHODS

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. The selected method that we used is the cost-benefit analysis, which is often indicated in policy evaluation [1].

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 [8].

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 [6].

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 [5]. 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.

RESULTS AND DISCUSSIONS

For the purpose of the paper, 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 on the basis of 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%). In order 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, soybeans 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) as a result of the introduction of the national coupled support for soybean.

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.

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.

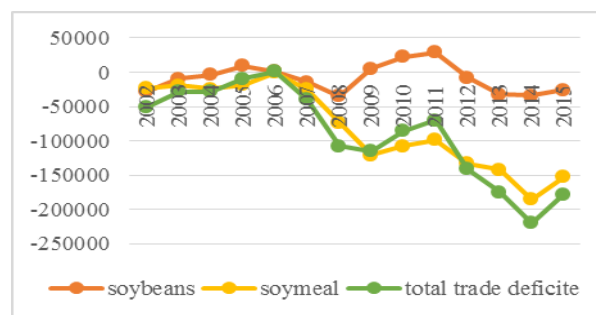


Fig. 1. Romania: balance of trade with soybean and soybean products
Source: Eurostat

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 soybeans, have a non-EU origin (445 thousand tons), while the exports mainly go to EU (135 thousand tons).

According to 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). 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.

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 (Table 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

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).

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' soybeans export in 2015 x 113 Euro/ton subsidy).

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 respectively by 53 thousand tons, the balance of trade remaining negative.

This means that in the year 2015, each Romanian contributed with 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 the consumption of organic products of animal origin implicitly.

REFERENCES

- [1]Ashdown Jane, 2002, What Is Cost-Effectiveness Analysis? New York University Barbara Hummel-Rossi, New York University, Journal of Reading Recovery Fall 2002
- [2]Delloite, 2008, Raport de Evaluare Ex-Post a Politicii de Sprijin acordat producătorilor agricoli din sectoarele vegetal și zootehnic pentru anul 2006.
- [3]Dima Dragos Costin, 2015, Soybean Crop in Romania, Bulgaria and the Republic of Moldova: Current Situation and Perspectives, Agriculture and Agricultural Science Procedia 6 (2015), 3 – 8
- [4]James Clive, 2014, Global Status of Commercialized Biotech/GM Crops: 2014. ISAAA Brief No. 49. ISAAA: Ithaca, NY.
- [5]Kee, J. E., 1995, Benefit-cost analysis in program evaluation. In J. S. Wholey, H. P. Hatry, & K. E. Newcomer, Handbook of practical program evaluation, pp. 456–488. San Francisco: Jossey-Bass.
- [6]Levin, H. M., 1983, Cost-effectiveness: A primer. New Perspectives in Evaluation, 4. Newbury Park, CA: Sage
- [7]Steriu, V., Otiman P.I., 2013. Cadrul național strategic pentru dezvoltarea durabilă a sectorului agroalimentar și a spațiului rural în perioada 2014-2020-2030. Cadrul național strategic rural, Romanian Academy Publishing house, Bucharest, pp.77-94
- [8]Stufflebeam Daniel, L., 2001, Evaluation Models, New directions for evaluation, no. 89, Spring 2001 © Jossey-Bass, A Publishing Unit of John Wiley & Sons, Inc
- [9]<http://www.gmo-compass.org>
- [10]<http://www.fas.usda.gov>