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Measuring Support to Agriculture in a Transition Economy in the Southern Balkans: The case of FYR Macedonia

Ericson T.¹, Pelling E.¹ and Surry Y.¹

¹ Department of Economics, Swedish University of Agricultural Sciences, Uppsala, Sweden

Abstract— As a candidate country to the EU and a member of the WTO there is a need for a comprehensive, transparent and internationally comparable assessment of the support to agriculture in Macedonia. OECD that has been measuring support to agriculture on a yearly basis, in its member countries as well as some other countries since the mid-1980s, offers a good tool for such a task. The method is known for its most important indicator, the Producer Support Estimate (PSE). Using this method, data on Macedonian agricultural policy measures, in place – partly or entirely - for the period 1999 to 2004, have been gathered and categorized in order to arrive at an estimate of the level of support.

Keywords— Producer support estimate (PSE), FYR Macedonia, trade protection.

I. INTRODUCTION

FYR Macedonia (hereafter referred to as Macedonia), a small country in the southern Balkans, can still be considered to be in transition¹. The time that has passed since Macedonia gained its independence in 1991 has been turbulent although the country, unlike many of its Balkan neighbours, has been spared any major armed conflicts. Agriculture has a share of GDP that gravitates around 12 percent and thus plays a significant role in the Macedonian economy; if agro-processing is added the share in GDP increases to around 16 percent [1]. Major agricultural production are vegetables (29%), grapes (9%), tobacco (7%), and fruits (4%), while the grain livestock complex plays an important role with dairy production (cow and sheep milk) accounting for 15% of gross agricultural output, meat (mainly sheep, pig and beef) represent 11% and cereals (wheat, maize and barley) forming an additional 14%.

As a candidate country to the European Union and a member of the World Trade Organization (WTO) there is a need for a comprehensive, transparent and internationally comparable assessment of the support to its agricultural

sector. Using the method developed by the OECD for calculating producer support estimates, data on Macedonian agricultural policy measures, in place in all or some of the years between 1999 and 2004, have been gathered and categorized in order to arrive at an estimate of the level of support to the agricultural sector.

II. METHOD

The estimates of support to agriculture in Macedonia presented here are based on OECD's methodology for the measurement of support to agriculture as of the revision in 1999 [2]; although, OECD revised its methodology in 2007 [3] to better capture decoupled policy measures, the results for Macedonia would not be significantly different with the new method considering the composition of its support to agriculture.

Agricultural support can be analyzed from many angles since it affects producers, consumers, taxpayers, and government differently. The main indicators used by the OECD and also here are: i) Producer Support Estimate (PSE) made up of Market Price Support (MPS) and budgetary transfers; ii) Consumer Support Estimate (CSE); iii) General Services Support Estimate (GSSE) which includes research and development, agricultural schools, inspection services, infrastructure, marketing and promotion, public stockholding, and miscellaneous; and iv) Total Support Estimate (TSE) measuring the overall costs of agriculture support financed by consumers and taxpayers net of import receipts. Two complementary indicators are computed: The Nominal Protection Coefficient (NPC) measures *market protection*, and the Nominal Assistance Coefficient (NAC) measures *market orientation*.

The data for the study were collected from national sources such as the State Statistical Office, the Ministry of Agriculture, Forestry and Water Economy [4] and its directorates, the National Extension Agency, and other relevant ministries and government bodies; moreover, FAO's and COMTRADE's statistical databases were used for complementary and comparison data. In addition, data from OECD's PSE estimation for neighbouring countries were used for approximation where real data were missing for Macedonia. Throughout, data issues have been a

1. The content of this paper should not be used without prior contact with the authors.

recurrent problem of this study and more reliable estimates of Macedonian agricultural support could be attained with more accurate and better statistical information on prices, production and consumption of agricultural commodities.

III. RESULTS

On aggregate, farmers in Macedonia received 13 percent of their farm revenues in the form of support in 2004, see Table 1. The corresponding number in the European Union was 33 percent and the average for OECD was 29 percent. In an international perspective, farmers in Macedonia thus received less support during the period of study than what the average OECD farmer and farmers in the EU did. Total support to agriculture in Macedonia, however, amounted to 2.9 percent of GDP on average during the period, a share that is substantially higher than the corresponding share in the EU and among OECD countries, which reflects the relative importance of agriculture in the country.

Due to a significant MPS component, farmers in Macedonia on average, as measured by the producer NPC, received prices 20 percent higher than the border prices in 1999-2004. That is less than the corresponding numbers in the EU and in the OECD, which are 33 and 32 percent respectively. Still, consumer prices were 21 percent higher than what consumers would have had to pay without any

support to farmers. The cost to consumers of the support, as measured by the percentage CSE, was 16 percent of the consumption expenditures of agricultural commodities. These facts indicate that the MPS causes Macedonian consumers to pay more for agricultural commodities than the world prices; however, there are exceptions at the commodity level: Rice, potatoes, cucumbers, alfalfa, apples, grapes, and tobacco seem to be traded at border prices.

A. Distribution of producer support across commodities

For individual commodities and commodity groups, the level of support differentiates the previously described results. The average PSE for all commodities in 1999-2004 was 17 percent. However, livestock producers, with an average percentage PSE of 28 percent, received the largest portion of producer support amounting to 65 percent of the total. By contrast crop products are characterized by an average PSE of 11 percent (Table 1), which represents only 35 percent of the total producer support. A comparison with the levels of support for individual commodities in the EU and the OECD reveals that Macedonia supported only egg more than the case in the EU and in the OECD.

Table 1 Percentage PSE by commodity, 1999-2004

	1999	2000	2001	2002	2003	2004	Average
PSE Crops	15	11	9	14	8	9	11
Wheat	49	39	35	40	28	26	36
Maize	23	8	4	0	23	16	12
Barley	33	15	20	20	10	12	18
Rice	1	1	1	1	1	2	1
Potatoes	1	1	1	1	0	2	1
Cucumbers	1	3	1	1	0	2	1
Alfalfa	1	1	1	1	0	2	1
Apples	1	1	1	1	0	2	1
Grapes	1	1	2	11	1	2	3
Tobacco	0	0	1	11	0	0	2
PSE Livestock	33	26	29	30	26	21	28
Cow Milk	26	23	27	24	25	11	23
Sheep Cheese	39	45	37	37	40	35	39
Beef and Veal	11	10	20	27	36	5	18
Pigmeat	29	30	30	30	16	18	26
Sheep meat	56	56	57	41	19	27	43
Eggs	55	2	4	25	1	38	21
All commodities	22	17	17	20	16	13	17

Table 2 Composition of Producer Support Estimate, in percent

	1999	2000	2001	2002	2003	2004	Average
Producer Support Estimate	100	100	100	100	100	100	100
Market Price Support	91	84	82	78	92	79	85
Budgetary Support	9	16	18	22	8	21	15
⇒ output	4	7	6	16	2	3	6
⇒ area planted/animal numbers	1	0	0	0	1	4	1
⇒ historical entitlements	0	0	0	0	0	0	0
⇒ input use	4	8	12	6	5	14	8
⇒ input constraints	0	0	0	0	0	0	0
⇒ overall farm income	0	0	0	0	0	0	0
⇒ miscellaneous	0	0	0	0	0	0	0

B. Composition of producer support

In relation to the EU and the OECD, the support to farmers in Macedonia is to a larger degree based on market price support while budgetary transfer is characterized by a larger reliance on output and input subsidies. It should be noted that OECD considers these forms of support as trade distorting. The share of MPS was 85 percent of producer support on average in 1999-2004 and payments based on output and inputs stood for the greater part of budgetary support, see Figure 1. The combined share of trade distorting policy measures was estimated to be equal to 99 percent on average during the period of study. This figure is significantly higher than the corresponding one in the EU and the average for OECD countries. It is however similar to the shares Bulgaria and Romania had prior to their accession to the EU in 2007 but higher than the share Slovenia had experienced prior to its accession to the EU in 2004.

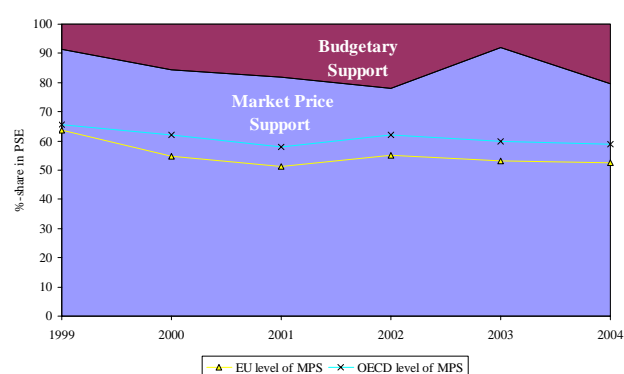


Figure 1 Composition of producer support

C. General services to agriculture (GSSE)

General services to agriculture stood for 5.3 percent of total agricultural support in 2004; a small share when compared to the OECD (18.0%) and even a rather small share when compared to the EU (7.8%) and countries such as Slovenia (9.6%) and Romania (7.1%), but similar to Turkey's 5.6 percent of TSE. Macedonia's figures also diverge in terms of composition of GSSE. A comparison between the composition of GSSE in Macedonia, OECD and the European Union is striking. As can be seen from figure 2, Macedonia dedicates a much larger share on infrastructure and inspection services than the case in both OECD and the European Union but less on marketing and promotion, agricultural schools, and public stockholding.

Measures supporting infrastructure represents the bulk of the general services provided to agriculture in Macedonia and stood for 69 percent, on average, of the overall GSSE during the period. The average shares for inspection services was 16 percent, and for research and development 8 percent. It is noticeable that only 1 percent of GSSE was directed towards marketing and promotion, and that

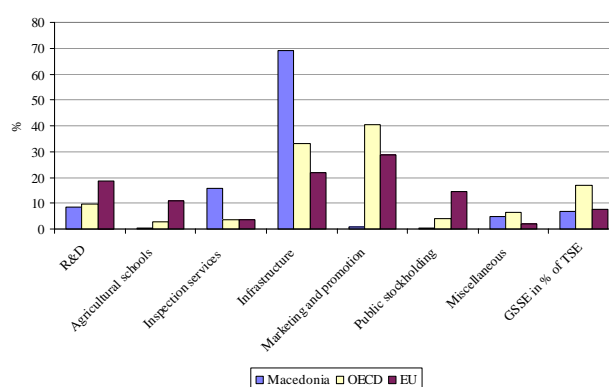


Figure 2 General Services to Agriculture

agricultural schools receive, on average, even less than that. Costs associated with the public stockholding of agricultural products are recorded for 2004 only. Such results, however, should be interpreted with caution since no figures on secondary and tertiary agricultural education are included and since most figures on public stockholding are classified due to national security reasons and thus not included in the estimation.

IV. FUTURE PROSPECTS

Given that Macedonia intends to join the European Union when allowed to, one would expect that the level and composition of its farm support with a move towards more direct (decoupled) subsidies will increasingly bear some kind of resemblance to the situation in the EU. In 2004, however, there was still no sign of this, neither in the level nor in the composition of support. There is also room for another composition of the general services to agriculture. In order to improve Macedonia's competitiveness relative to the European Union, an increase in the support to research and development as well as to marketing and promotion would be beneficial to promote the export potentials of key agricultural commodities produced by this country (lamb, vegetables, grapes, wine and tobacco).

V. CONCLUDING REMARKS

This study presents the findings of the first comprehensive measurement of support to agriculture in Macedonia applying the guidelines specified by the OECD. The advantage of these estimates is the possibility to use them for international and regional comparisons. Moreover, they can be a useful contribution to the ongoing analysis of the impacts on Macedonia's agriculture of the country's future accession to the EU.

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- Author: Tina Ericson
- Institute: Dep.of Economics, SLU
- Street: PO. Box 7013
- City: Uppsala
- Country: Sweden
- Email: Tina.Ericson@ekon.slu.se