THE IMPACT OF INTERMEDIARY CONSUMPTIONS ON AGRICULTURAL COMPETITIVENESS

IMPACTUL CONSUMURILOR INTERMEDIARE ASUPRA COMPETITIVITĂȚII AGRICULTURII

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Abstract: *The objective of this work is the investigation of the major indicators reflecting the level and trends of the efficiency in agricultural economic activity. In this regard an important role is played by the analysis of the relationship between yield and gross value added, compared with the intermediary consumptions, respectively GVA per 1 ha of utilised agricultural area. In Romania's agriculture, the intermediary consumptions, in real terms, have recorded a slight decline that started before 1989 and got more significant during the following years, representing a major factor limiting the increase of agricultural production.*

Key words: *efficiency, impact, intermediary consumptions, production, gross value added*

INTRODUCTION

Intermediary consumptions represent the consumptions of economic goods, excepting the fixed capital, used to produce other goods. In agriculture, such goods are: biological material, chemical and organic fertilizers, insecticides and fungicides, fuels and lubricants, water and electric energy, forage, veterinary medicines and other raw matter and materials. Some of them are achieved from the agricultural production; the others are supplied by non-agricultural fields.

In Romania's agriculture, the intermediary consumptions, in real terms, have recorded a slight decline that started before 1989 and got more significant during the following years.

Romania provides inputs in a small amount, because of the lack of capital. The capital represents a major factor limiting the increase of agricultural production. The agricultural structures' character of subsistence and the lack of capital-developing resources, at the moment in Romania, produce a blockage in the technical and technological holding modernization.

MATERIAL AND METHOD

In the assessment of the macroeconomic efficiency of agricultural activity, an important role is played by the analysis of the relationship between yield and gross value added, compared with the intermediary consumptions, respectively GVA per 1 ha of agricultural area used.

To determine these indicators, we used data taken from the European Commission statistics (Eurostat); successively, we processed and observed on these data in order to draw conclusions.

RESULTS

During the last 20-30 years, Romanian agriculture has recorded a significant decrease of intermediary consumptions, with a slight increase in the last 2-3 years. The consumptions of fuels, chemical and natural fertilizers, and the other consumptions necessary for agriculture are below the level required by the good results in this field. In table 1, we present some significant data regarding the final consumption of fertilisers and soil improvers in Romania and in the other European Union-member countries, expressed in euros per hectare.

Crop fertilization is a factor of major influence on yield level. It is known that we cannot obtain big and safe yields without fertilization, even on the most fertile soils. The experiences performed in our country and abroad as well proved that the maximal yields that can be obtained without fertilization are 2500-3000 kg/ha (OTIMAN P.I., 2002). Consequently, the chemical and organic fertilization is a necessity, a condition to have constancy in the agricultural production.

The data in this table explain the causes of the disproportion between the mean yields from Romania and the EU countries. Moreover, if we mention that the most EU countries use annually the entire amount of organic fertilizers as solid manure or liquid, than we obtain another support for yield level, especially in cereals and pastures.

Table 1

Fertilisers and soil improvers used in Romania and EU

Countries	Fertilisers and soil improvers (€/1 ha UAA)	RO:UE	Crop output (€/1 ha UAA)	RO:UE
EU-27	**107**	**1:1,5**	**1193**	**1:1,3**
EU-15	**118**	**1:1,7**	**1333**	**1:1,4**
BE	185	1:2,6	2265	1:2,4
DK	83	1:1,2	1340	1:1,4
DE	143	1:2,0	1585	1:1,7
IE	119	1:1,7	412	1:0,4
GR	60	1:0,8	1689	1:1,8
ES	69	1:1,0	978	1:1,0
FR	185	1:2,6	1425	1:1,5
IT	111	1:1,6	2157	1:2,3
LU	118	1:1,7	1091	1:1,1
NL	242	1:3,5	6237	1:6,5
AT	56	1:0,8	1078	1:1,1
PT	48	1:0,7	922	1:0,9
FI	172	1:2,5	691	1:0,7
SE	111	1:1,6	779	1:0,8
UK	112	1:1,6	627	1:0,6
CZ	74	1:1,0	795	1:0,8
EE	40	1:0,6	377	1:0,4
CY	100	1:1,4	2301	1:2,4
LT	95	1:1,3	558	1:0,6
LV	55	1:0,8	299	1:0,3
HU	110	1:2,5	1133	1:1,2
MT	193	1:2,7	5200	1:5,5
PL	80	1:1,1	767	1:0,8
SI	123	1:1,7	1295	1:1,4
SK	68	1:1,0	647	1:0,7
BG	**73**	1:1,0	**845**	**1:0,9**
RO	**70**	**1:1,0**	**951**	**1:1,0**

Source: Calculated according to EUROSTAT

The amount of chemical fertilizers used in the Romanian agriculture has been reduced, during 1989-2008, for about three times; in 2008, we used 36

kg active substance per 1 ha of arable land compared with 78 kg in 1989. The last two years the amount of fertilizers used in agriculture increased, reaching in 2011 to 51 kg/ha.

The amount of natural fertilizers has been reduced in the same way, as effect of livestock reduction. As a result, the available soil nutrients and land's productive capacity decreased, as well.

A similar reduction may be observed on the amounts of insecticides, fungicides and herbicides. The main cause of the reduction of fertilizers and other chemical substances is represented by the increase of prices, under the lack of financial resources for purchase.

The efficiency of intermediary consumptions' utilization in the Romanian agriculture, expressed by yield and gross value added reported to the intermediary consumption, has recorded a decrease in both cases and it is presented in table 2.

Table 2

Efficiency of intermediary consumptions in Romania's agriculture

Years	Production (Mio. EUR)	Intermediary consumption (Mio. EUR)	Gross value added – GVA (Mio. EUR)	Production per 1 EUR intermediary consumption	GVA per 1 EUR intermediary consumption
1998	9783	4631	5152	2.11	1.11
1999	7780	3560	4219	2.18	1.18
2000	8067	3850	4216	2.09	1.09
2001	10707	4998	5708	2.14	1.14
2002	10100	4902	5197	2.06	1.06
2003	10761	5108	5653	2.10	1.10
2004	13654	6462	7192	2.11	1.11
2005	12853	6664	6188	1.93	0.93
2006	14365	7348	7017	1.95	0.95
2007	14312	8047	6265	1.78	0.78
2008	18216	9837	8378	1.85	0.85
2009	14134	7742	6392	1.83	0.83
2010	15301	8732	6569	1.75	0.75
2011(e)	18454	10139	8315	1.82	0.82

(e) estimated value

Source: Calculated according to EUROSTAT –„Economic Accounts for Agriculture"

Table 3

Efficiency of intermediary consumptions in the European Union agriculture (2011)

	Agricultural production AP (Mio. €)	**Intermediary consumption IC (Mio. €)**	**Gross value added GVA (Mio. €)**	**IC / AP %**	**AP / 1 € IC (€)**	**IC / 1 ha utilised agr. area (€)**	**GVA / 1ha utilised agr. area (€)**
EU-27	**389758**	**236483**	**153275**	**60.67**	**1.65**	**1372**	**889**
EU-15	**322799**	**195993**	**126806**	**60.71**	**1.64**	**1575**	**1019**
BE	7607	5575	2032	73.28	1.36	4056	1479
DK	10265	7204	3061	70.18	1.42	2705	1150
DE	52260	36954	15306	70.71	1.41	2165	904
IE	6538	4755	1783	72.72	1.37	1149	431
GR	10678	5447	5231	51.01	1.96	1336	1283
ES	41177	20023	21154	48.62	2.05	804	850
FR	70394	43434	26960	61.70	1.62	1581	981
IT	47815	22453	25362	46.95	2.13	1762	1990
LU	352	257	95	73.01	1.37	1977	731
NL	25492	17317	8175	67.93	1.47	9047	4271
AT	7310	4173	3137	57.08	1.75	1308	984
PT	6248	4124	2124	66.00	1.51	1188	612
FI	4526	3101	1425	68.51	1.46	1975	622
SE	5707	4210	1497	73.76	1.35	1830	480
UK	26429	16967	9462	64.19	1.55	1647	590
CZ	4756	3415	1341	71.80	1.39	971	381
EE	793	501	292	63.17	1.58	553	322
CY	707	378	329	53.46	1.87	2589	2253
LT	2579	1726	853	66.92	1.49	652	322
LV	1045	776	269	74.25	1.34	437	152
HU	7765	4631	3134	59.64	1.67	1095	741
MT	129	71	58	55.04	1.81	7100	5800
PL	22939	13566	9373	59.14	1.69	876	606
SI	1192	743	449	62.33	1.60	1522	920
SK	2285	1741	544	76.19	1.31	899	281
BG	4316	2803	1513	64.94	1.54	919	496
RO	**18455**	**10139**	**8316**	**54.94**	1.82	**737**	**605**

Sursa: Calculated according to EUROSTAT – „Economic Accounts for Agriculture”

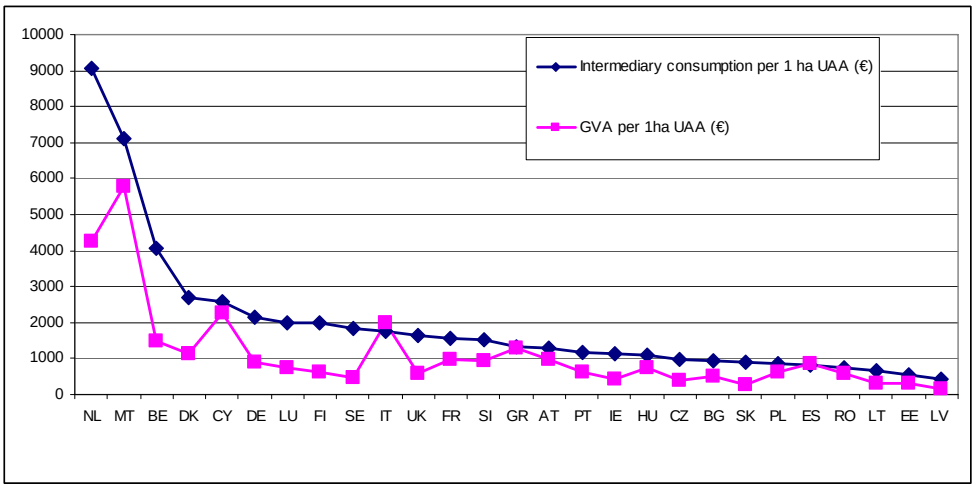


Figure 1. Intermediary consumption and gross value added in EU's states

The intermediary consumptions from the Romanian agriculture represent another sensible point, deviated from normality, in comparison with the situation available in the advanced states. In order to assess correctly the level of intermediary consumptions and their economic efficiency, it is necessary to compare them with the situation in the EU and in the member states.

CONCLUSIONS

By analyzing the data in table 3, we may draw the following conclusions:

a) The percentage of intermediary consumptions in the final agricultural production ranges between 48.42% in Spain and 73.76% in Sweden or 76.19% in Slovakia.12 of the EU-15 countries have percentages that are superior to the Romanian one, and three of them are inferior. Of the other member states, only one country has a percentage that is inferior to the Romanian one (Cyprus).

b) Regarding the economic efficiency expressed by final agricultural production reported to intermediary consumptions (respectively, final agricultural production obtained per 1 EUR), 12 countries (from EU-15)

achieve levels that are reduced compared with Romania, and three – superior levels. The best efficiency is obtained by Italy (2.13 EUR production per 1 EUR intermediary consumptions), and the smallest one is obtained by Sweden (respectively 1.35/1 EUR). Of the new member states, only Cyprus overtakes the level of this indicator obtained in Romania.

The situation in Romania is very similar with the EU mean in terms of intermediary consumptions' percentage in the agricultural production, and also regarding the proportion GVA/intermediary consumption.

The gaps appear and they are very big if we analyze the level of intermediary consumptions per unit of surface used and compared with the level of final agricultural production and with the obtained gross value added.

Because Romania has intermediary consumptions per ha of only 737 EUR, it is overtaken by all the old EU member states and by the new ones, as well, excepting Latvia, Lithuania and Estonia. The intermediary consumptions per ha are bigger with 12.3-fold in The Netherlands, 5.6-fold in Malta, 5.5-fold in Belgium, 3.7-fold in Denmark and 2.9-fold in Germany than in Romania. EU-15 allocates, for the intermediary consumptions, a mean value that is 2.1-fold bigger than Romania. The value added per ha is also remarkably bigger than in Romania: 9.6-fold in Malta, 7-fold in The Netherlands, 3.7-fold bigger in Cyprus, 3.3-fold in Italy, 2.4-fold in Belgium, 2.1-fold in Greece and 1.9-fold bigger in Denmark; the EU mean is 1.7-fold bigger. The big gaps between Romania and the EU member states regarding the mean production and the gross value added rely especially on much bigger intermediary consumptions. This comparison is also available in the case of the new member states, because Romania is overtaken by almost all the EU countries when we speak about the gross value added per ha, excepting the Baltic countries.

The unfavourable situation from Romania, in terms of intermediary consumptions per ha, presents the advantage of having a „cleaner" soil, favourable for the development of the ecologic agriculture; this would represent a real chance for the advancement of Romania in the hierarchy of countries from such an important field, from an economic and social viewpoint.

REFERENCES

1. FEHER, ANDREA, 2009, „Finanțarea agriculturii şi dezvoltării rurale. Politici comunitare", Editura Orizonturi Universitare, Timişoara
2. GOŞA, V., 2005, Management financiar în agricultură şi turism rural, Editura Mirton, Timişoara
3. POPESCU, M., 2005, „Eficiența economică în agricultura României", Romanian Academy, National Institute of Economic Research
4. Eurostat Website: http://ec.europa.eu/eurostat
5. European Commission: http://ec.europa.eu