

Proceedings of the 7th International Scientific Conference Rural Development 2015

Edited by prof. Asta Raupelienė

ISSN 1822-3230 / eISSN 2345-0916
eISBN 978-609-449-092-7

Article DOI: <http://doi.org/10.15544/RD.2015.096>

SUBSIDIES AND THEIR IMPACT ON THE COMPETITIVENESS OF THE AGRICULTURAL SECTOR IN MOLDOVA

Liliana CIMPOIES, Department of Economics, Faculty of Economics, The State Agrarian University of Moldova, Mircesti 44 st., Chisinau, Moldova, l.cimpoies@uasm.md

State support is a major determinant for efficient farm activity that contributes to an increase in the efficiency and quality of production, and contributes to the increase of competitiveness and modernization of agricultural sector.

In this paper, the distribution of agricultural subsidies by directions and regions is analyzed. In order to reach the goal and conclude the research tasks the analysis and synthesis of scientific literature, systematization of information, comparative analysis and summarizing methods were used and farm technical efficiency (TE) was calculated. The analyzed period in the given research were 2010–2014, based on primary data collected from corporate farms and secondary data provided by the National Bureau of Statistics, and Agency for Interventions and Payments in Agriculture.

During the analyzed period, the amount of allocated subsidies to farmers increased, but still are present inequalities in the distributed funds, difficulties in obtaining the payments and lack of transparency. As well, a clear and consistent policy that could be implemented through the allocation of subsidies aimed at developing the agricultural sector is missing.

Keywords: agricultural sector, farmers, subsidies, support policy, technical efficiency.

INTRODUCTION

Agricultural subsidies are an important way to help support farmers incomes and ensuring food supply. Given its importance the state support to agriculture is highly discussed among leading economists. Many are debating that this support of income for farmers is a basic need; some are advocating that agricultural subsidies are a compensation for the public goods that farmers deliver. In the same time, a number of researchers consider that there is no need of such payments, arguing that it should not distinguish the agricultural sector from other economic sectors and that subsidies are inefficient and not benefit the farm performance (Schmidt, 2006; Zhu, 2010; Rizov, 2013).

Nevertheless, state supports for agriculture in underdeveloped markets are much more needed in comparison with stable and properly functioning markets (Brummer, 2004). The problem of subsidies allocations is to increase the benefits from state support particularly for countries that face low competitiveness of agricultural production and have scarce accumulated capital that could be used for the reconstruction of the sector (Svetlov, 2010).

Subsidizing agricultural producers is a common practice in many countries, including the EU member states. Since the direction towards European integration was adopted in the last years, an approach of the subsidizing policy in Moldova to the European policy (CAP) in this context should be undertaken. Nowadays, the local subsidizing policy and approaches differs considerably from those from EU. This is caused by the instability of the subsidizing policy in Moldova and the lack of financial resources for applying policies similar to those from EU.

In the same time is little discussed how well defined are the subsidized directions and if the allocated resources are enough for the sustainable development of the agricultural sector.

The *aim* of this paper is to analyze the subsidizing policy in Moldova and its impact on the competitiveness of the agricultural sector.

Research objectives are to analyze the performance of the agricultural sector in Moldova; to assess the subsidizing policy in Moldova through subsidies allocations by directions and regions; to evaluate the impact of subsidies allocation on output growth.

Research methods. In order to reach the goal and conclude the research tasks the analysis and synthesis of scientific literature, systematization of information, comparative analysis and summarizing methods were used. Additionally, farm technical efficiency (TE) was calculated. The analyzed period in the given research were 2010–2014, based on secondary

data provided by the National Bureau of Statistics, and Agency for Interventions and Payments in Agriculture and primary data collected from corporate farms.

RESEARCH RESULTS

The development of the agricultural sector is very important for Moldova. Rural population constitutes 58 % from total population, whose earnings are from the agricultural sector and other related activities. In this context, the government has to undertake policy actions to support rural population in maintaining their earnings. The share of the agricultural sector in the Gross Domestic Product (GDP), which together with food processing industry is about 35 %, while agri-food products are country's main export articles having a share of 40 % in total exports (Table 1).

Table 1. Main indicators of agricultural development in Moldova

	2001	2003	2005	2007	2009	2011	2013
Share of agriculture in GDP, %	21.7	17.36	15.52	10.9	10.61	13.61	12.34
Share of agriculture in total employment, %	51.02	42.99	40.68	32.76	28.17	27.52	28.8
Share of rural population, % of total population	59.1	58.9	59.0	58.7	58.6	58.3	58.1
Share of capital investments in agriculture as % of total investments	4.9	5.2	5.9	4.8	8.4	11.1	9.7
Change in Gross Agricultural Output (GAO) volume, %	106	86	101	77	90	105	139
Change in crop output	109	83	98	66	83	107	164
Change in livestock	101	95	108	99	112	100	100
Share of agri-food exports in total exports	63.1	58.6	53.4	37.7	47.1	41.3	41.8
Share of agri-food imports in total imports	16	14.5	12.1	12.6	15.6	13.2	14.2
Total agri-food Balance, mio USD	213.5	258.4	303.1	402.9	91.1	229.3	231.7

Source: based on data from National Bureau of Statistics

Unfortunately, the economic transformations from the last decades lead to negative results for the agricultural sector.

As result of transition period, changes in the proportion between agriculture and industry occurred, decreasing the share of agriculture in GDP (from 21.7 % in 2001 to 12.3 % in 2013). In the same time, the Gross Agricultural Output had increased from 8268 mio MDL in 2001 to 23814 mio MDL in 2013.

In Gross Agricultural Output the largest share belongs to plant production (70 %) namely cereals (27 %), potatoes and vegetables (19 %), fruits and technical crops (14 %), and grape (about 30 %). Animal production has a share of only 20–25 % from total agricultural output.

Agricultural sector is highly supported by the government in many countries. In Moldova, during the last years the support for farmers had a central attention in the promoted governmental policy. Thus, a number of documents are reflecting the sustainable development of the agri-food sector of Moldova as “National Strategy for the Agri-Food Sector’s Sustainable Development for 2008–2015”, with objectives oriented to competitiveness, living standards of rural population and maintenance of the rural areas and the conception for the agricultural producers’ subsidizing system for the years 2008–2015” (MAFI, 2007).

In 2014 the National Strategy for Agricultural and Rural Development of Moldova for 2014–2020 were adopted and has as priority to increase the agricultural competitiveness; to ensure the durable use of natural resources in agriculture and to improve the life quality in rural areas (MAFI, 2014).

A major importance was given to subsidizing policy as main measure to support farmers, and aimed to enhance the competitiveness of the agricultural sector. This was reflected in the conception for the agricultural producers’ subsidizing system for the years 2008–2015” which has two main directions:

- the modernization of the agricultural sector – through subsidizing investments activities related to the creation of units for handling and processing agricultural production, endowment with the corresponding equipment, provision of agricultural row materials, establishing vineyards and orchards, development of services in agriculture;
- agricultural activities for increasing the competitiveness of the vegetal and livestock sector – aimed to achieve an increase in agricultural productivity and competitiveness, market stabilization, insuring of food security and equal incomes for farmers through the allocation of direct payments depending on crop, animal species, average farm yield, depending on owned area of agricultural land or livestock number (GD, 2007).

Financial support to agricultural producers was allocated from state budget ba number of programs or single actions, as well as from external sources (e.g. Project of Investments and Rural Services, Project of Agriculture Revitalizing, Program Rural Financial Services and Marketing etc.). Nevertheless, a unifying tool of all the programs and projects is the subsidizing fund of agricultural producers (Budianschi, 2012).

In 2010 was established the Agency for Interventions and Payments in Agriculture (AIPA) as legal entity subordinated to the Ministry of Agriculture and Food Industry, which is responsible for the administration of financial

resources aimed to support agricultural producers, monitoring its distribution and evaluation of qualitative and quantitative impact generated by the government's support measures in the agricultural sector. Before 2010 the subsidizing fund was administrated by four different institutions, mainly by the Ministry of Agriculture and Food Industry (about 70 %).

According to the General Agricultural Census data during 2009–2011 from governmental support had benefited 70541 farms including bank credits, subsidies or other type of financial assistance. From these, 1170 were corporate farms and 69371 individual farms. Most of farms benefited from subsidies allocation (89 % or 63209 farms), from which 1026 corporate farms and 62183 individual farms.

The amount of allocated subsidies for farmers and the number of beneficiaries during the analyzed period had increased, but its share still remains low (Table 2).

Table 2. Allocation of agricultural subsidies in Moldova

Indicators	2006	2007	2008	2009	2010	2011	2012	2013
Agricultural subsidies allocated, mio. MDL	256	465,3	270	563,5	400	400	400	560,8
Share of subsidies in Gross Agricultural Output (GAO), %	2.84	5.85	1.66	2.33	2.012	1.76	2.07	3.9
Share of agricultural subsidies in GDP, %	0.45	0.73	0.21	0.24	0.29	0.25	0.24	0.54
Number of agricultural subsidies recipients	1721	2110	3907	3954	3749	2198	4629	3959

Source: based on data from Agency for Intervention and Payments in Agriculture (AIPA) and National Bureau of Statistics

In 2013–2014 the amount of allocated subsidies increased as result of some external projects with AIPA's co-participation. In 2014, initially was allocated by the government 500 mio MDL, later being added extra amount from budget, as well as gathering additional funds from World Bank and EU ENPI program.

Nevertheless, the number of subsidized directions had been changing during the analyzed years, not ensuring an efficient subsidizing policy with achieving visible results for the agricultural development. Still among them a highest share belongs to subsidizing investments for purchasing agricultural machinery and equipment, including irrigation equipment, subsidizing investments for the establishment of multiannual plantations, stimulating investments in the development of the processing and post harvesting infrastructure, stimulating crediting for agricultural producers and by commercial banks and non financial institutions (Table 3).

Table 3. Evolution of subsidies allocation, mio MDL

Subsidized directions	2008	2009	2010	2011	2012	2013	2014
1. Stimulating crediting for agricultural producers from the commercial banks and non financial institutions	-	-	2.8	23.5	40.6	39.2	15.8
2. Stimulating risks insurance in agriculture	27.2	25.49	18.82	11.2	37.8	41.2	29.3
3. Subsidizing investments for the establishment of multiannual plantations	53	50	80	38	74.3	88.6	93.9
4. Subsidizing the production of vegetables on protected area	20	12.5	6.9	2.9	10.6	14.4	50.9
5. Subsidizing investments for purchasing agricultural machinery and equipment, including irrigation equipment	163.5	216.15	91.8	45.9	165.14	141.7	117.9
6. Stimulating the promotion and development of ecological agriculture	0.7	2	4.1	5.3	-	-	-
7. Stimulating investments for the technological renovation of livestock farms	-	-	2.7	8.08	16.9	27.3	47.2
8. Stimulating the purchasing of pedigree cattle and the maintenance of their genetic fund	-	-	7.3	2.5	11.1	29.2	47.4
9. Stimulating investments in the development of the processing and post harvesting infrastructure	20	-	29.1	19.6	43	69.8	141.2
10. Subsidizing agricultural producers for offsetting irrigation energy costs	9.67	7.22	10.0	1.9	-	2.1	-
11. Subsidizing purchasing of plant protection materials and fertilizers	159	130	107.3	67.4	-	-	-
12. Stimulating agricultural land consolidation	-	-	-	-	-	0.046	0.059

Source: based on data from the Agency for Interventions and Payments in Agriculture (AIPA)

In 2014, 543.9 mio MDL were allocated as subsidies to 2782 beneficiaries, with 36 % more comparing to previous year. Nevertheless, the number of beneficiaries had decreased with about 50 % in 2014, fact which indicates that farmers benefited of higher amounts of subsidies. A particular attention in the last years was given to subsidizing credits for young farmers. As well, a new subsidizing direction "stimulating agricultural land consolidation" was added in the eligible

measures, particularly important for farm development in Moldova, in the context of high degree of land fragmentation. Unfortunately, it had a small share so far.

Only 0.3 % of land holders benefited from subsidies allocation, demonstrating that only a small number of farmers could receive a support, mainly those who hold larger agricultural areas.

The distribution of subsidies allocation across the legal forms had changed. If in 2009 about 70 % of beneficiaries were corporate farms and 30 % individual farms and households, then in 2014 from 5291 solicitations for subsidies 50 % came from individual farms. From corporate farms the main beneficiaries are still Limited Liabilities Companies (40 %).

The regional distribution by beneficiaries of the allocated subsidies is unequal (Fig. 1). The largest share belongs to districts from Northern region (Edinet, Briceni), followed by South and Center regions. These districts are those who benefit from the largest amount of subsidies, due to the fact that most of large farms are situated in the Northern area, being specialized mostly in orchards, while the South and Center regions are more specialized in vineyards. For ensuring the development of rural areas and a more equal distribution of state support should be elaborated specific policies for the development of all rural areas including those less favored.

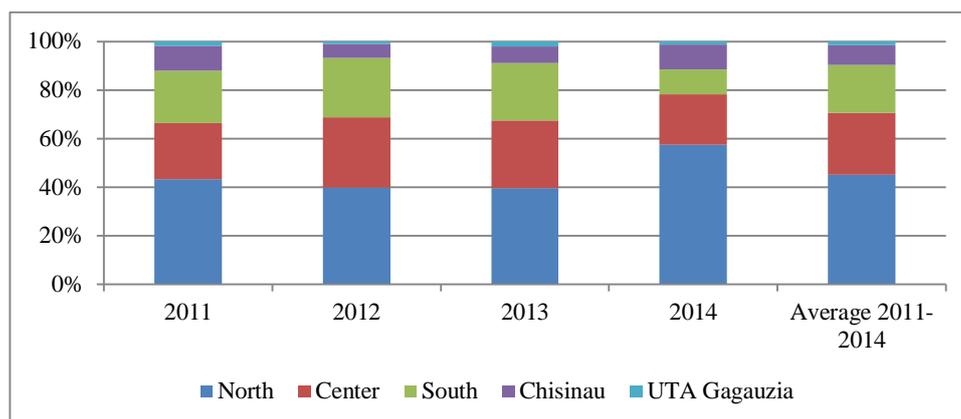


Figure 1. Distribution of agricultural subsidies allocated to corporate and individual farms by regions

Source: based on data from the Agency of Interventions and Payments in Agriculture (AIPA)

According to OECD (p. 25) efficiency should be regarding as metrics of competitiveness. The farms competitive advantage results from the efficient use of factors. The term of efficiency includes technical, allocative and social efficiency (Ratinger, 2001). In order to evaluate the farm competitiveness through the subsidies allocations we used technical efficiency, defined as the ability to obtain a maximum amount of output from a given set of outputs. According to Farrell the technical efficiency is represented by the ratio between actual and frontier output:

$$TE(y, x) = \frac{y}{f(x)} \quad (1.1)$$

Where y represents the output and x is a vector of inputs. Technical efficiency can take values between 0 and 1.

We will use technical efficiency to analyze the changes in the output by agricultural branches (crop production and livestock) as a result of the received subsidies (Table 4). The analysis is based on corporate farms data of those who received subsidies for crop production (154 farms) and livestock sector (27 farms), versus those who did not benefit from any support (113 farms for crop production and 85 farms for livestock sector).

Table 4. The impact of subsidies on output of crop production and livestock sector

	Number of units	Technical efficiency					
		Subsidies (+/-)	100 %	75 %	50 %	25 %	0 %
Crop production, thousands MDL per ha	154	with subsidies	11.78	3.98	3.33	3.36	2.58
	113	without subsidies	4.28	3.41	3.52	2.60	1.95
Livestock, thousands MDL per ha	27	with subsidies	8.85	3.24	0.39	1.11	0.58
	85	without subsidies	18.98	1.06	0.47	0.35	0.15

Source: based of collected data from corporate farms

Analyzing technical efficiency data concerning the impact of subsidies on output indicates to a higher performance for a 100 % level of efficiency in the case of crop production. For the impact of subsidies on livestock sector it is noticed a better performance at the level of efficiency of 75 %. The high performance in the case of the livestock sector without benefitting from subsidies is resulted from a very small share of subsidies allocated to the subsidized directions aimed for this sector. Subsidies impact on the output of crop production is higher because most allocated subsidies are aimed for this sector.

Lately, the subsidizing process in the agricultural sector was strong supported by the government as well as by donors (European Union, World Bank) and this support is supposed to increase in the near future. Despite this fact, until now the agricultural support policy in Moldova does not have an economic and social impact, not leading to an increase in the competitiveness of the agricultural sector. Unfortunately in the subsidizing policy was given little attention towards

the branches with value added, being characteristic a lack of correlation between the development strategies and the financial support availability. Another problem is the lack of predictability and transparency of the institutional framework concerning the whole subsidizing process. As well, for a more efficient use of financial support from government should be hold an evaluation of the impact from the allocated subsidies.

CONCLUSIONS

State support to agriculture is essential in enhancing the competitiveness of the agricultural sector and its sustainable development.

The subsidized directions are changeable and do not reflect some long term objectives in achieving agricultural sustainable development. Technical efficiency data concerning the impact of subsidies on output indicates to a higher performance for a 100 % level of efficiency in the case of crop production. For the impact of subsidies on livestock sector it is noticed a better performance at the level of efficiency of 75 %.

The distribution of subsidies is unequal, being obvious a gap between the amounts of subsidies received per districts and its territorial distribution in general. In order to achieve a more equal distribution should be elaborated and promoted specific policies that would refer to the development of specific “less favored” areas.

For increasing the efficiency of the allocated subsidies and increasing the competitiveness of the agricultural sector an evaluation of impact from the allocated subsidies is needed using an evaluation methodology. The most adequate institution for implementing such an evaluation is the Ministry of Agriculture and Food Industry.

REFERENCES

1. Budianschi, D., Prohnițchi, V., Savva, T. 2012. Evaluarea eficienței și transparenței utilizării fondului de subvenționare a producătorilor agricoli, pp. 9–15, Expert Grup. (In Moldavian)
2. Brummer, B., Koester, U. 2004. Governance of the Common Agricultural Policy in the New Member States. *Eurochoices*, Vol. 3, Iss. 1, pp. 18–23. <http://dx.doi.org/10.1111/j.1746-692X.2004.tb00005.x>
3. Farrell, M. J. 1957. The measurement of productive efficiency. *Journal of the Royal Statistical Society*, Vol. 120, No. 3, pp. 253–281. <http://dx.doi.org/10.2307/2343100>
4. GD 2007. Government decision nr. 1305 from 28.11.2007 regarding the approval of the Concept concerning the subsidy system for agricultural producers for 2008–2015, Monitorul Oficial Nr. 188-191, Nr. 1356.
5. MAFI 2007. National Strategy for the Sustainable Development of the agri-food sector of Republic of Moldova for years 2008–2015.
6. MAFI 2014. National Strategy on Agriculture and Rural Development for the period 2014–2020.
7. National Bureau of Statistics 2011. General Agricultural Census 2011. National results.
8. OECD 2011. Fostering productivity and competitiveness in agriculture. OECD Publishing. Available at <http://dx.doi.org/10.1787/9789264166820-en>
9. Perju, I. 2011. Sistemul de subvenționare în agricultură administrat de agenția de intervenție și plăți în agricultură, Institutul pentru Dezvoltare și inițiative Sociale „Viitorul”. (In Moldavian)
10. Ratinger, T. 2001. Methodology for assessing determinants of competitiveness of Czech, Hungarian and Polish farms. IDARA.
11. Rizov, M., Pokrivcak J., Ciaian, P. 2013. CAP subsidies and productivity of the EU farms. *Journal of Agricultural Economics*, Vol. 64, Iss. 3, pp. 537–557. <http://dx.doi.org/10.1111/1477-9552.12030>
12. Schmidt, E., Sinabell, F., Hofreither, M. F. 2006. Direct payments of the CAP – distribution across farm holdings in the EU and effects on farm household incomes in Austria. Institut fur nachhaltige Wirtschaftsentwicklung, DP-16-2006.
13. Svetlov, N. M., Kazakevich, I. A. 2010. A Microeconomic Model for Subsidies Allocation: the case of Belarus, IAMO, Halle, 15 p.
14. Zhu, X., Lansink, A. O. 2010. Impact of CAP subsidies on technical efficiency of crop farms in Germany, the Netherlands and Sweden. *Journal of Agricultural Economics*, Vol. 61, Iss. 3, pp. 545–564 <http://dx.doi.org/10.1111/j.1477-9552.2010.00254.x>