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Domestic Support of Livestock Production in Ukraine

Abstract. Livestock plays an important role in food supplying. However, this industry is today in Ukraine in a difficult situation. A gradual reduction of livestock numbers affected both the output and the changes in the structure and range of livestock production. In recent years, there has been a tendency to a reduction of meat and milk consumption in the Ukraine's domestic market due to the low purchasing power of individuals, which therefore causes difficulties for the country's food security. In the structure of livestock production in Ukraine, the dominant place belongs to farms. However, small-scale production is not able to provide high quality products and volumes necessary to meet domestic demand. With significant available resources of Ukraine, the country instead of exporting the livestock products has become an importer. The Ukrainian allocations to supporting the livestock production are quite significant, due to budgetary payments and subsidies or rebates in the value added tax (VAT). However, this does not significantly influence either the output or the performance indicators of improvement in the livestock production. All this testifies to the imperfection of mechanism of state support for the livestock production in Ukraine. The global financial crisis has reduced the financial capacity of the state support for the livestock industry. Therefore, under these conditions, there is an urgent need of an efficient use of budgetary resources and of an improvement of the mechanism of support for the livestock production in Ukraine.

Key words: domestic support, agrarian policy, livestock products, Ukraine.

Introduction

In recent years the system of state support of Ukrainian agriculture has undergone significant changes, associated with country's joining the World Trade Organization (WTO). In particular, the limited volume of support measures defined by the WTO as a 'yellow box' has improved the use of funds for individual support programs and it has made changes in the support mechanism by introducing special regimes of levying value added tax (VAT).

According to the Accounting Chamber of Ukraine, during 2004-2008 the state support for domestic agricultural producers increased more than four times and it reached 6.9 billion UAH (Ukrainian hryvnas) in 2008. However, increasing amounts of state support to agriculture has not turned into a desirable productive incentive and it does not significantly impact the financial position of producers. In particular, if in 2007 28% of agricultural enterprises were unprofitable, in 2008, when grain yield was the highest in history, nearly 18% of economic loss in the agricultural sector totaled to 2.1 million UAH. However, the worst situation in the financial perspective prevails in the domestic livestock production,

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because without a governmental support it is largely an unprofitable industry. Despite the measures taken in Ukraine, a reduction in the overall trends is observed in the livestock production. Much of the domestic agricultural enterprises have resigned from livestock production in favour of plant production. As a result, the family farms remained as producers of animal products. In particular, 82.2% of milk and 48.6% of meat (slaughter weight) according to the State Statistics Committee of Ukraine were in 2008 produced in family farms. These structural transformations were related primarily to the increased unemployment in rural areas and poverty of peasants, because producing milk and meat remained the only way of earning a living. However, livestock production in family farms is characterized by a lack of efficiency performance and the complex set of international quality and safety standards, particularly in milk and milk products.

However, another fact clearly illustrates the structural imbalances in the development of a pricing system in the whole 'chain' of formation of product's value. If the retail prices in the domestic market for meat and milk now often exceed world prices they are considerably lower than their foreign counterparts. Consequently, with a low purchasing power of most people, most of the national consumers have to pay more for animal products than the average in the world while the domestic producers lack significant financial resources to implement the production processes. Insatiable domestic market and high prices for meat and dairy products under the conditions of the liberalized foreign trade regime, caused by the inclusion of Ukraine to the WTO, stimulate growth of imports to Ukraine. According to customs authorities in Ukraine, imported meat and offal in 2009 were worth 568.5 million US dollars and milk 110.5 million USD.

Given the above, a significant impact on the financial condition of domestic livestock producers currently has the governmental support, which is due to both budget programs and to special regimes of VAT calculation. However, the global financial crisis gives rise to an especially important problem of increasing the effectiveness of public support. In fact, due to significant limitations of state financial opportunities there is an urgent need for their effective use.

Therefore, theoretical and methodological rethinking of efficiency in the state support for livestock production in the conditions of global financial crisis caused primarily a rapid adaptation of industry to new economic conditions and preconditions of sustainable development in its long-term perspective [Dibrova 2008].

Purpose of the article is to determine the level, trends and effectiveness of public support for livestock production and to develop proposals for its improvement under substantial limitations of the state financial capacity.

Material and methods

The research is based on a general scientific methodology. During the process of research the systems analysis and synthesis, monographic, abstract, logical, economic-mathematic, grouping, computational and balance methods of scientific researches were used.

In order to evaluate the effectiveness of agricultural policy and the level of domestic support for agriculture, the methodology which is applied in the member states of OECD was used. The methodology of the quantitative estimation of the state support is

substantiated in the works of such famous scientists as Josling [1973], Tsakok [1990], Webb, Lopes and Penn [1990].

In the world practice, the effectiveness of state support for agricultural production is determined by comparing its domestic price with world market prices. This approach is based on the fact that without governmental intervention, that is under free competition in domestic and foreign markets, the difference between domestic and world prices would have disappeared. One of the simplest indicators assessing the level of state support for producers is the NPC (Nominal Protection Coefficient), which evaluates only the ratio of domestic to world prices [Methodology...].

$$NPC_p = \frac{P_i^d}{P_i^w}.$$

where: P_i^d – domestic price of the product i ;
 P_i^w – world market price of the product i ;

Results

During the 2004-2008, as illustrated by the table 1, the volume of state support livestock production in agricultural enterprises in Ukraine increased in 3.2 times, while if the support for producers of beef increased in 2.3 times, the meat - in 6,9 times.

Table 1. Governmental support for agricultural livestock production enterprises of Ukraine, UAH million

Product	Year					Relation 2008/2004
	2004	2005	2006	2007	2008	
Total	815.0	1088.0	1144.0	1803.7	2623.3	3.2
Including production of:						
milk	353.0	369.0	404.0	526.8	760.8	2.2
beef	215.0	278.0	243.0	416.8	486.5	2.3
pork	143.0	223.0	283.0	424.8	662.4	4.6
poultry meat	104.0	218.0	214.0	435.3	713.6	6,9

Source: calculated on the data from [Basic... 2004 ... 2008].

The structure of livestock production support (Table 2) is dominated by special support regimes of VAT, which provides subsidies to producers of meat and milk.

However, unlike other forms of support for livestock products, poultry producers are supported mainly at the expense of the state budget. Up to 2008, 535.9 million UAH have been allocated for producers of poultry meat from the state budget, while for farms producing milk, beef and pork 570, 4 million UAH was marked in Ukraine.

Table 2. Governmental support for agricultural livestock production enterprises of Ukraine in terms of budget subsidies and discounts due to special regimes of VAT, UAH million

Product	Year									
	2004		2005		2006		2007		2008	
	1*	2*	1*	2*	1*	2*	1*	2*	1*	2*
total	171.0	644.6	316.4	770.9	337.9	806.8	868.1	935.6	1106.3	1517.0
milk	2.9	350.5	5.3	363.7	6.7	397.0	57.3	469.5	45.6	715.2
beef	62.7	152.0	114.4	163.3	94.3	148.8	237.9	178.9	238.3	248.2
pork	41.0	102.0	75.5	147.4	88.7	194.7	219.5	205.3	286.5	375.9
poultry meat	64.4	40.0	121.2	96.5	148.1	66.3	353.4	81.9	535.9	177.7

1 * - budget supplement, 2 * - subsidies by special regimes of VAT

Source: calculated on the data from [Basic... 2004 ... 2008].

An analysis shows that on average in 2008 compared to 2006, while the purchase price for milk increased 1.85 times and the total cost increased 1.71 times, the governmental support per 1 kg of product increased 2 times. Prices of beef per 1 hundredweight of product increased in the analyzed period 1.75 times, the full cost 1.42 times and the state support 2.38 times. Prices of pork rose accordingly 1.5 times, total cost 1.36 times and state support 1.75 times. Prices for poultry rose 1.55 times, the full cost 1.96 times and the state support increased 8.68 times. Thus, one can conclude that in this period the increase of state support for all major types of animal products was significantly ahead of the growth rate of purchase prices and full costs.

According to the data from Table 3, increasing the state support could slightly increase the efficiency of livestock production. However, beef production in Ukraine remains unprofitable. An analysis shows that there are significant regional differences in the amount of state support for livestock production in agricultural enterprises.

Grouping of agricultural enterprises by regions of Ukraine in terms of average state support per 1 hundredweight of product for beef producers has evidenced significant differences in the amounts and in the effectiveness of such support (Table 4).

In particular, the largest amount of average state support per 1 dt for beef production was received by agricultural enterprises in Kiev region (330.2 UAH), Lvov region (320.4 UAH) and Ivano-Frankivsk region (309.3 UAH), and the smallest in Odessa region (111.7 UAH), Dnipropetrovsk region (115.0 UAH) and the Transcarpathian region (117.3 UAH). The analysis has also showed that more than half of sold beef came from farms belonging to the group receiving 201 to 300 UAH of state support for a hundredweight of product. In this group the average level of profitability was 2.4%.

Table 3. Performance of main livestock products in agricultural enterprises of Ukraine for 2006-2008

Product	Sale price of 1 hundredweight, UAH	Full cost of 1 hundredweight, UAH	Profit (loss) on 1 hundredweight, UAH	Grants by VAT reduction and budget supplements for 1 hundredweight, UAH	by reductions in VAT, UAH	including budgetary supplements, UAH	Level of profitability (loss) without subsidies, %	Level of profitability (loss) with grants, %
2006								
Milk	95.8	99.5	-3.7	22.0	21.7	0.4	-3.7	18.5
Beef	476.9	773.8	-296.9	92.0	56.3	35.7	-38.4	-26.5
Pork	772.1	849.9	-77.7	155.6	106.9	48.7	-9.1	9.2
Poultry meat	502.0	448.0	54.0	70.7	21.9	48.8	12.1	27.8
2007								
Milk	145.3	127.6	17.7	31.4	28.0	3.4	13.8	38.5
Beef	517.1	876.2	-359.1	150.4	64.5	85.9	-41.0	-23.8
Pork	671.2	926.4	-255.2	176.1	85.1	91.0	-27.5	-8.5
Poultry meat	592.2	731.5	-139.3	447.6	84.2	363.4	-19.0	42.1
2008								
Milk	176.8	169.8	7.0	44.0	41.4	2.6	4.1	30.1
Beef	835.53	1101.4	-265.8	219.0	111.8	107.3	-24.1	-4.2
Pork	1160.1	1157.2	2.9	272.9	154.9	118.1	0.3	23.8
Poultry meat	778.1	877.4	-99.3	613.5	152.7	460.7	-11.3	58.6

Source: calculated on the data from [Basic... 2004 ... 2009].

Grouping of farms by regions in Ukraine in terms of average state support per 1 hundredweight of product for pork producers has also showed significant regional differences in subsidy received (Table 5).

But, unlike beef, pork production in the agricultural enterprises of Ukraine was in 2008 profitable. The analysis showed that the greatest amount of average state support per 1 dt for pork production in 2008 was received by agricultural enterprises of Rivne region (974.4 UAH), Chernivtsi region (354.7 UAH) and Volhynia region (336.6 UAH), and the smallest in the Odessa region (104.8 UAH) and Mykolayiv region (146.2 UAH). The significant differences in the amount of state support for livestock production in Ukraine

are difficult, in our view, to justify by objective reasons. In fact, if an extra budgetary support for agricultural enterprises can depend on produced cattle weight, the amount of subsidy ensuing from special regimes of VAT depend primarily on the purchase price for the product. However, as it is shown in Table 5, the decline of purchase prices was pretty low. So to clarify the significant differentiation in the amount of support per 1 hundredweight of product requires conducting a deeper research involving large array of statistical information. However, in our view, such a significant difference in the amount of state support per 1 hundredweight of product is associated primarily with an imperfect mechanism for distribution of financial resources of the state.

Table 4. Grouping of farms by regions of Ukraine and in terms of state support for beef producers per 1 hundredweight of product, 2008

State support per 1 hundredweight, UAH	Number of regions in group	Number of farms in group	Grants by VAT reductions and budget supplements per 1 hundredweight, UAH	including subsidies due to VAT UAH	including budgetary supplements, UAH	Sales, thousand hundredweight	Full cost of 1 hundredweight, UAH	Price of 1 hundredweight, UAH	Profit (loss) per 1 hundredweight, UAH	Level of profitability (loss) without state support, %	Level of profitability (loss) with state support, %
Under 200	12	1494	155,1	74,3	80,9	815,8	1165,7	801,0	-364,6	-31,3	-18,0
201-300	10	1855	236,4	123,2	113,2	1242,0	1046,7	835,7	-211,1	-20,2	2,4
More than 301	4	217	402,1	139,1	263,0	163,3	1155,0	952,0	-203,1	-17,6	17,2
Total	26	3566	219,0	111,8	107,3	2221,1	1101,4	835,5	-265,8	-24,1	-4,2

Source: calculated on the data from [Basic... 2009].

The state support by special regimes of VAT was abolished in 2009 and then restored by the Law of Ukraine no. 1782-VI 'On amending some laws of Ukraine to support agriculture in the global financial crisis' of 22 December 2009. In accordance with the paragraph 11.21 of this law 'Amount of VAT that should be paid to the budget by processing enterprises of all forms of property on sold by them milk and dairy products, meat, is fully and exclusively directed to the payment of subsidies for agricultural commodity processors to the milk and meat in live weight sold'. It referred to a standard operational, unrestricted use of the term.

A mechanism for payment of subsidies for processing enterprises to milk and meat in live weight applied to all categories of agricultural producers in 2009. The payments were 1276.9 million UAH, that less by 53.4% than in 2008. According to the data from Table 6, subsidies for livestock and poultry sold in 2009 decreased 3.5 times when compared with 2008 and amounted to 296.1 million UAH. Thus, the share of subsidies in the value of livestock and poultry sold decreased from 15.1% in 2008 to 6% in 2009.

Table 5. Grouping of farms by regions in Ukraine and in terms of average state support for pork producers per 1 hundredweight of product, 2008

State support per 1 hundredweight, UAH	Number of regions in group	Number of farms in group	Grants by VAT reduction and budget supplements per 1 hundredweight, UAH	including subsidies due to VAT reduction, UAH	including budgetary supplements, UAH	Sales, thousand hundredweight	Full cost of 1 hundredweight, UAH	Price of 1 hundredweight, UAH	Profit (loss) per 1 hundredweight, UAH	Level of profitability (loss) without state support, %	Level of profitability (loss) with state support, %
Under 200	6	1077	155.0	72.2	82.7	326.6	1210.1	1166.2	-43.9	-3.6	9.2
201-300	13	1936	255.2	147.8	107.4	1508.6	1172.1	1167.1	-5.1	-0.4	21.3
More than 301	7	852	423.6	225.4	198.2	592.1	1157.5	1160.4	2.9	0.3	36.8
Total	26	3865	272.9	154.9	118.1	2427.2	1157.2	1160.1	2.9	0.3	23.8

mln. Table 6. Subsidies for all farms in Ukraine producing livestock and poultry (in live weight) through special regimes of VAT

Production and subsidy	Year				
	2005	2006	2007	2008	2009
Sold livestock and poultry, thousand tons	489.0	621.5	753.9	601.6	449.7
Value of sold livestock and poultry, UAH million	3581.4	3978.6	5158.3	6806.9	4966.2
Subsidies for livestock and poultry sold, UAH million	595.9	648.5	834.0	1028.7	296.1
Grants for a ton of livestock and poultry, UAH	1218.6	1043.5	1106.2	1710.0	658.6
Share of subsidies in the value of livestock and poultry sold, %	16.6	16.3	16.2	15.1	6.0

Source: calculated on the data from [Basic... 2004 ... 2009].

Similar trends are observed for subsidies to milk production (Table 7). The volume of subsidies to milk sold decreased in 2009 when compared with 2008 by nearly half of 1709.3 8 million UAH to 980.8 million UAH.

Thus, supporting local producers of animal products from the state budget and by special regimes of VAT could significantly improve the situation in this branch but it will not solve all questions of its development. Because the special regimes of VAT for producers of livestock products were only restored in December 2009, it quite complicated the price situation in the relevant markets. The experience of 2009 confirmed that '... current method of VAT support is most important for agricultural producers, because its effect can be considered a double benefit: on the one hand no outflow of proceeds from the sale nor decrease of expenditure on current production needs, on the other hand an inflow of money back through subsidies' [Shundyruk 2006].

Table 7. Grants for all categories of farms producing milk and milk processing enterprises in Ukraine by special regimes of VAT

Production, subsidy	Year				
	2005	2006	2007	2008	2009
Sold milk, thousand tons	5689	5607.4	6029.2	5396.7	4671.2
Value of milk sold, UAH million	5800	5233.6	9002.4	8806.9	7694.6
Subsidies for milk sold, UAH million	1022.6	948.5	1563.2	1709.3	980.8
Grants for one ton of milk, UAH	179.7	169.1	259.3	316.7	210.0
Share of subsidies in the price of milk sold, %	17.6	18.1	17.4	19.4	12.7

Source: calculated on the data from [Basic... 2004 ... 2009].

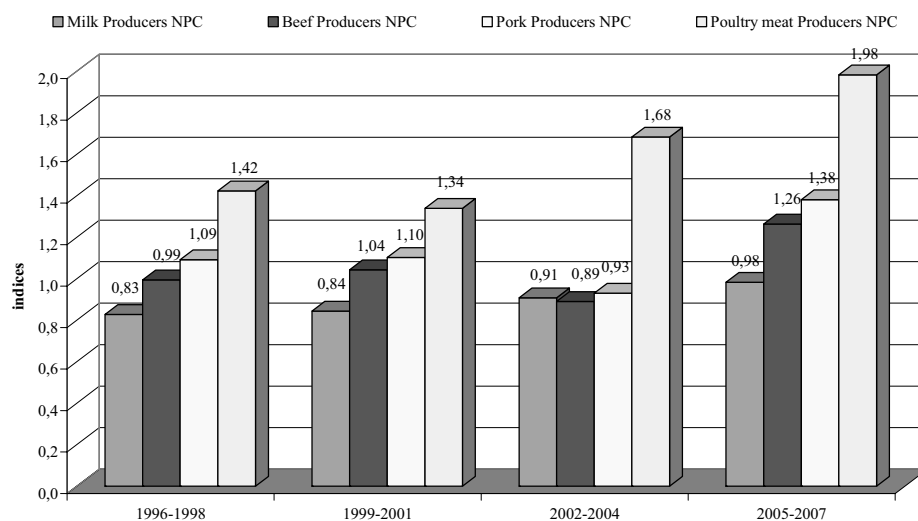


Fig. 1. Index "Nominal Protection Coefficient" of the Livestock Producers in Ukraine, the indices

Source: OECD data.

The analysis has showed that the present mechanism of financial resources distribution to livestock production support is very imperfect. Under these conditions, an urgent task under the negative impact of the global financial crisis is the development and implementation of '... scientifically based transparent methodological approach to determining criteria for state support distribution among the agricultural producers' [Borodina 2008].

Calculation of NPC indices for livestock product in Ukraine shows a rather high level of domestic support to production of poultry meat. In particular, the average NPC index in 2005-2007 for producers of poultry meat was 1.98. This means that the product was sold in the domestic market at a price nearly twice higher than world prices (Figure 1).

Conclusions

Thus, because the domestic support includes two components: a direct budget support (or an equivalent support from budgetary resources through special regimes of VAT) and an indirect one which is called market price support, then, in our opinion, a development of criteria for distributing state funds among individual types of livestock producers should be taken into account. This will improve the governmental support due to concentrating financial resources on those kinds of animal products that are most needed (such as beef products). The same applies to poultry farms. They should take care not to increase their own competitiveness by increasing support from the state and selling products in the domestic market in the future at prices that exceed almost twice the world price, but to increase it due to lower costs and improved quality.

There is also a need to improve the mechanism of financial resources distribution for support of livestock production, because the analysis shows that there are significant deviations between the volumes of grants awarded to regions of Ukraine, in anticipation of creation of a production center in each one. A WTO requirements lead to the introduction of a transparent system of state support of agriculture. An important task is to encourage state farms to the formation of medium and large systems for fattening cattle based on modern technologies. To this end, the state should participate in projects of building systems for fattening cattle.

References

- Basic economic indicators of agricultural output in the agricultural enterprises. [2008]. Statistical Bulletin. State Statistics Committee of Ukraine, Kiev, pp. 217.
- Borodina O.M. [2008]. Derzhavna pidtrymka agrosfery: evolyutsiya, problemy. Kiev, pp. 217.
- Dibrova A.D. [2008]: Derzhavne reguliuvania silskogospodarskogo vyrobnytstva. Avtoreferat dysertaciji na zdobutia naukovogo stupenia doktora ekonomichnyh nauk. Nazionalnyy naukovyy zentr 'Instytut agrarnoyi ekonomiky', Kiev, pp. 2.
- Josling T.E. [1973]: Agricultural Protection: Policy and International Trade. FAO, Rome.
- Methodology for the measurement of support and use in policy evaluation. [2010]. [Available at:] <http://www.oecd.org/dataoecd/36/47/1937457.pdf>. [Accessed: May 2010].
- Receipts for livestock products processing enterprises. [2009]. Statistical Bulletin. State Statistics Committee of Ukraine, Kiev, pp. 18.
- Shyndyruk I.P. [2006]: Organizatsiya finansuvanya pidpryemstv metodamy podatkovoyi pidtrymky. *Oblik i finansy APK*. no. 7, pp. 85.
- Tsakok I. [1990]: Agricultural Price Policy: A Practitioner's Guide to Partial –Equilibrium Analysis. Cornell University Press, Ithaca NY.
- Webb A.J., Lopes M., Penn R. [1990]: Estimates of Producer and Consumer Subsidy Equivalents. Governmental Intervention in Agriculture. United States Department of Agriculture, Washington DC.