Valda Bratka,[1]
Artūrs Prauliņš[2]
Department of Farm Economics
Latvian State Institute of Agrarian Economics
Riga, Latvia

Impact of the accession to the EU on the performance of agricultural holdings in the Baltic States and Poland: a comparative study

Abstract. In the result of the EU enlargement not only a united legislative and economical body was formed on European basis, but also the support payments in many branches of economy in the new member states have increased substantially, including those in agriculture and rural development. A brief characteristics of place of agriculture in the economy of the Baltic states and Poland is given in the article, as well as that of the changes in total amount of support achieved before the entry into the EU. The effect of this support upon different agricultural holdings performance parameters (net value added, production net value added, net investments) in the period of years 2002-2006 is studied. A comparative analysis gave basis for the conclusions on the specificity of support use in the economic activity of holdings in different states.
Key words: accession to the EU, subsidies for agriculture, net value added, production net value added, net investments

Agriculture in the economy

After the EU made a political decision on its enlargement and admission of new members, a majority of the Central and Eastern European countries, Baltic states and Poland among them, has chosen the way of integration into the European Community. Accession to the EU brings challenges to the entire national agricultural system. There is an increased competition in agricultural and food products in local markets. Also higher production, environmental and product quality standards were introduced. The lack of qualification and skills in the agricultural labour force has been emphasized which increased the need for financial resources and financial instruments that would help to diversify agricultural activities, renovate and modernize agricultural production, create conditions for a further development. In general terms EU-accession has been positive for the agricultural sector of the new member states because of the increased product market, financial support for agriculture, farmers' competitiveness and trade quantities.

The goal of the article is to research the changes in total amount of support achieved by the Baltic states and Poland before and after the accession to the EU and its effect upon different agricultural holdings performance parameters such as net value added (hereinafter NVA) and net investments. All calculations are made by authors and based on data collected by FADN national Liaison Agencies in the Baltic states and Poland.

Agriculture plays an important role in the national economy of the Baltic states and Poland despite the fact that it contributes only a small share towards the gross national

[1] Dr oec., head of department, Struktoru street 14 – 214, LV-1039, Riga, Latvia; tel. (371) 67552786; e-mail: valda.bratka@lvaei.lv.
[2] Dr oec., researcher, Struktoru street 14 – 213, LV-1039, Riga, Latvia; tel. (371) 67552786; e-mail: arturs@lvaei.lv.

product. Though since 1995 it has decreased twice, still it substantially exceeds the average values of the EU-15 and the EU-25 (Table 1). If on the average in the EU in 2005, comparing to 2002, a slight decrease of gross value added in agriculture was observed, the situation in the Baltic states was quite the opposite. The highest growth showed Estonia (almost 40%) and Latvia (20%). Growth in Poland attained 22%.

Table 1. Agricultural output (EUR million) and gross value added share in the Baltic states' and Poland's GNP

Country	Gross value added share in GNP, %			Gross value added at producer prices		Crop production output		Animal production output	
	1995	2000	2004	2000	2005	2000	2005	2000	2005
Latvia	9.0	4.5	4.1	197	237	199	291	220	292
Lithuania	11.4	7.8	5.7	393	417	622	540	481	706
Estonia	8.0	5.5	4.3	140	195	146	180	180	258
Poland	6.5	3.5	2.9	4660	5 689	5992	6692	5893	7696
EU-15	2.7	2.2	2.0	119434	116758	131857	135816	110031	109475
EU-25	2.8	2.3	2.0	128726	127162	143768	149452	121509	123318

Source: [EU… 2006; Europe… 2007].

Table 2 displays that in years 2002-2006 the number of people employed in EU agriculture was continuously decreasing. In the Baltic states this process was the fastest in Lithuania (6.2 percentage points), and the least changes were in Estonia (1.5 percentage point). In the Polish agricultural sector this part of employed population is still 3 times higher, but in the Latvian and the Lithuanian agriculture it exceeds the average EU values twice. In its turn in Estonia it was less than one percentage point lower than EU-27 average.

Table 2. Employment in agriculture, hunting, forestry and fishing in the Baltic states and Poland, 2002-2006

State	**Measure**	**Year**				
		2002	**2003**	**2004**	**2005**	**2006**
Latvia	1000 person	151	146	136	122	122
	% of total employment	15.3	14.6	13.3	11.8	11.2
Lithuania	1000 person	265	276	234	207	187
	% of total employment	18.6	18.7	16.3	14.0	12.4
Estonia	1000 person	38	37	32	32	32
	% of total employment	6.5	6.3	5.5	5.3	5.0
Poland	1000 person	2713	2485	2409	2452	2304
	% of total employment	19.6	18.2	17.6	17.4	15.8
EU-25	1000 person	10479	10163	9645	9660	9468
	% of total employment	5.5	5.3	5.0	4.9	4.7
EU-27	1000 person	14461	14013	12987	12869	12564
	% of total employment	7.1	6.8	6.3	6.1	5.9

Source: [Agriculture in the European... 2007].

Support for agriculture and rural development

Accession of the Baltic states and Poland to the EU similarly to other new member states has significantly changed the structure and scope of agricultural support. The direct payments became the most important element of agricultural policy with significant impacts on income of holdings [Kožar 2006]. Since the EU enlargement new member states have implemented the Single Area Payment Scheme. It is a transitional scheme of reformed policy where part of direct support funding became available for the first time without obligation to produce certain production [Salputra 2007].

Due to accession to the EU, the Latvian agricultural support achieved in 2006, comparing to 2002, grew by 5.5 times and reached EUR 308 million (Table 3). Altogether in 2002-2006 achieved the Latvian agricultural sector a support as big as EUR 931 million, the biggest part of which made the EAGGF Guarantee financing (48%), state subsidies (27%) and structural funds (14%).

Table 3. Received support for agriculture and rural development in Latvia in 2002-2006, EUR million

Indicator	Year					Total
	2002	2003	2004	2005	2006	
State subsidies	50.3	52.9	28.3	33.6	83.0	248.0
year 2002 = 100%	100	105%	56%	67%	165%	X
SAPARD	6.0	32.2	41.2	24.0	3.4	106.9
year 2002 = 100%	100	535%	684%	398%	57%	X
EAGGF Guarantee financing[3]	0.0	0.0	81.3	190.7	173.9	446.0
year 2002 = 100%	X	X	100	235%	214%	X
Structural funds	0.0	0.0	15.3	67.2	43.7	126.2
year 2002 = 100%	X	X	100	438%	285%	X
Others	0.0	0.0	0.0	0.0	3.9	3.9
TOTAL	**56.3**	**85.1**	**166.1**	**315.6**	**308.0**	**931.0**
year 2002 = 100%	100	151%	295%	561%	547%	X
Exchange rate (LVL / EUR)	0.581	0.645	0.6652	0.6962	0.6962	X

Source: authors' calculations based on study by Pilvere [2007].

In Estonia, unlike in Latvia, the amount of support in 2006, comparing to 2002, grew not so notably (namely 3.8 times) and reached EUR 141.7 million (Table 4). In the result in years 2002-2006 the total received support for Estonian agriculture and rural development made EUR 470.1 million, 52% of which made development aid, 44% direct support and 12% general support.

[3] Direct payments, complementary national direct payments, market measures, rural development plan measures.

Table 4. Received support for agriculture and rural development in Estonia, years 2002-2006, EUR million

Indicator	Year					Total
	2002	2003	2004	2005	2006	
I. Direct support	**21.1**	**16.8**	**47.9**	**50.9**	**68.8**	**205.5**
year 2002 = 100%	100%	80%	227%	242%	327%	X
1. Support for dairy and suckler cows	7.2	7.3	11.8	0.5	10.9	37.7
2. Support for cereal production	7.0	7.0	13.1	10.3	19.0	56.4
3. Other support [4]	6.8	2.5	1.7	12.6	4.2	27.8
4. Single area payment	0.0	0.0	21.2	27.6	34.7	83.5
II. Development aid	**14.1**	**28.3**	**72.1**	**63.7**	**65.9**	**244.0**
year 2002 = 100%	100%	201%	510%	451%	467%	X
1. Agri-enviromental aid	1.9	2.6	20.7	23.0	26.0	74.0
2. SAPARD (without fishery)	9.6	23.0	25.0	3.6	0.5	61.7
3. State development plan	0.0	0.0	10.9	23.3	17.3	51.5
4. Aid for less favored areas	0.0	0.0	7.5	8.0	7.2	22.7
5. Other support [5]	2.7	2.8	8.0	5.9	14.8	34.2
III. General support [6]	**2.0**	**2.2**	**3.0**	**6.4**	**7.0**	**20.6**
year 2002 = 100%	100%	109%	153%	318%	350%	X
TOTAL	**37.2**	**47.3**	**123.0**	**121.0**	**141.7**	**470.1**
year 2002 = 100%	100%	127%	331%	326%	381%	X
Exchange rate (EEK/EUR)	15.647	15.647	15.647	15.647	15.646	X

Source: authors' calculations based on information obtained from the Estonian Ministry of Agriculture.

The accession to the EU made a huge direct impact on the Lithuanian agricultural system and its dynamics. Net agricultural incomes increased about 80 % to EUR 304.5 million, but agricultural subsidies rose more than sevenfold in 2004 comparing with 2003 [Agro economic... 2005]. Planned EU support for the Lithuanian agriculture in terms of Rural Development Plan for year 2004 was EUR 147.3 million, then in 2005 it grew by 11% (to 164.1 million), but in 2006 by 20% (to 178.1 million). Thus in the period of 2004-2006 it reached EUR 489.5 million. In its turn EU planned to grant to Lithuania EUR 624.515 million altogether (Table 5) [Rural ...2006].

In common with the Baltic states, the accession of Poland to the EU definitely contributed to an increased support for agriculture and rural development. As compared to 2003 the expenditure on agriculture and rural development tripled in 2005. Within the same period of time, national funds increased by 74 %, whereas EU funds increased 12 times (Table 6).

[4] Support for cattle, ewes, certified seed production, potatoes, fruits, vegetables and berrie production, compensation for damages.
[5] Support for meeting standards, reconstructed semi-subsistence farms, afforestation of agricultural land and improvement works, interests, insurance, liming, excise, Natura 2000 areas)
[6] Research and training, information distribution, school milk, animal breeding, support for market development and arrangement, etc.

Table 5. Allocated financial resources for agriculture and rural development in Lithuania, years 2004-2006, EUR million

Indicator	Total public expenditure	EU contribution
SINGLE PROGRAMMING DOCUMENT	**321.171**	**135.015**
1. Investment in agricultural holdings	111.623	40.613
2. Agricultural markets	66.920	22.210
3. Development of rural areas	88.293	39.164
4. Other support	54.335	33.028
RURAL DEVELOPMENT PLAN	**611.875**	**489.500**
I. Environment and Less Favored Ares	279.274	223.419
1. Agri-environment	62.200	49.760
2. Less Favored Areas, areas with environmental restrictions	146.900	117.520
3. Meeting standards	70.174	56.139
II. Afforestation of agricultural land	26.792	21.434
III. Farm restructuring	160.175	128.140
IV. Other support	145.634	116.507
TOTAL	**933.046**	**624.515**

Source: authors' calculations based on ministerial document [Rural... 2006].

Table 6. Received support for agriculture and rural development in Poland, years 2003-2005, EUR million

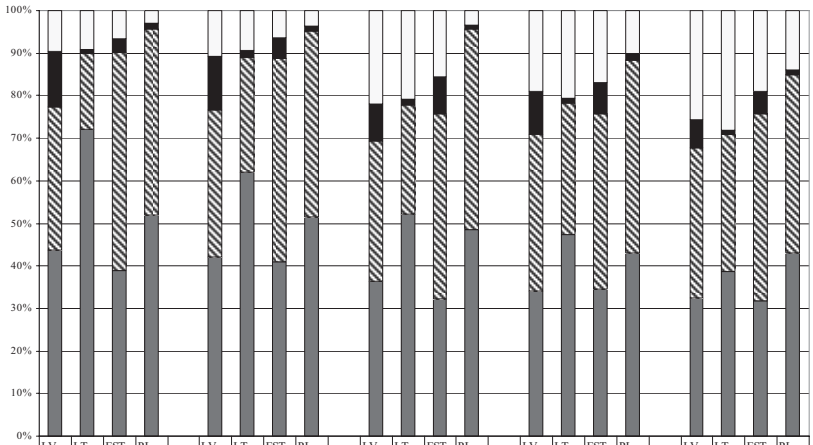
Indicators	Years			Total
	2003	2004	2005	
I. State budget	**995.2**	**1570.3**	**1734.4**	**4299.9**
year 2003 = 100%	100%	158%	174%	X
1. Agriculture and hunting	111.7	114.5	132.6	358.8
2. Fishing and fisheries	3.5	4.4	24.7	32.6
3. Rural development	439.7	1019.4	1191.0	2650.1
4. Agricultural markets	177.7	191.1	145.3	514.0
II. European Union funds	**159.6**	**463.7**	**1978.5**	**2601.7**
year 2003 = 100%	100%	291%	1240%	X
1. Phare	25.4	22.1	11.7	59.2
2. SAPARD	134.1	193.8	333.5	661.4
3. Structural funds	0.0	0.0	264.4	264.4
4. Common Agriculture and Fisheries	0.0	247.8	1368.9	1616.7
TOTAL	**1154.8**	**2034.0**	**3712.8**	**6901.6**
year 2003 = 100%	100%	176%	322%	X
Exchange rate (PLN / EUR)	4.3996	4.5268	4.023	X

Source: authors' calculations based on ministerial document [Agriculture… 2006].

National and EU funds for agricultural and rural support were EUR 8.6 million in 2006. Namely national budget funds for agriculture amounted to EUR 1.1 million, national

funds to supplement payments related to CAP implementation EUR 1.2 million, EU funds (excluding Transition Facility) for rural areas and agriculture EUR 2.5 million and budget funds for Agricultural Social Insurance fund (KRUS) EUR 3.8 million. In 2004-2006, the national and EU funds totaled EUR 23 million, and those excluding payments to farmers because of the national insurance amounted to EUR 12 million [Agriculture… 2007].

Performance of agricultural holdings



	2002				2003				2004				2005				2006			
	LV	LT	EST	PL	LV	LT	EST	PL	LV	LT	EST	PL	LV	LT	EST	PL	LV	LT	EST	PL
Production subsidies	2559	4179	3238	981	2803	1830	2785	1267	8322	4809	11633	660	8564	6907	12134	2303	12162	6885	16084	3644
Other output	3450	410	1562	467	3275	326	2073	322	3276	351	6523	190	4538	335	5323	354	3205	268	4518	310
Total output livestock & products	8971	8009	24817	14412	9047	5246	20801	14693	12478	5919	32280	9298	16718	10370	29778	10417	16709	7901	37249	10950
Total output crops & products	11598	32524	18941	17204	10969	12083	17857	17299	13739	12055	24145	9523	15352	15860	24892	9880	15451	9502	26888	11293

Fig. 1. Revenue structure of agricultural holdings in the Baltic states and Poland, 2002-2006, %
Source: authors' calculations based on data obtained from FADN liaison agencies in the Baltic states and Poland.

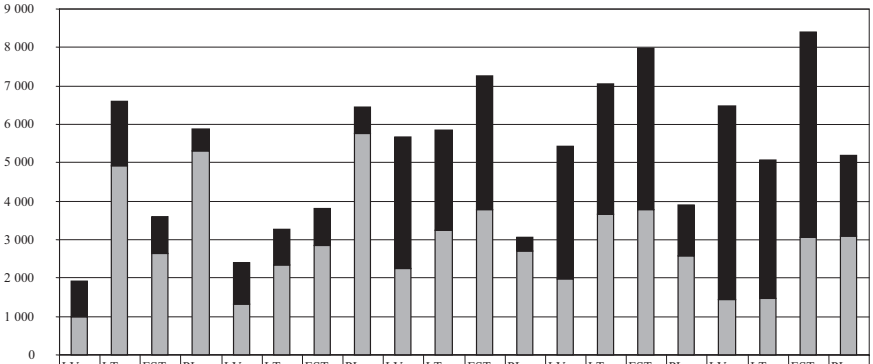
An analysis indicates (Figure 1) that structure of the revenue evidently varies as by years and by states. Still, due to the accession of the Baltic states and Poland to the EU, the situation has changed, because the specific weight of received subsidies grew up. If before the entry the subsidies to the Baltic states agricultural holdings made on the average 5-10%, to Polish agricultural holdings 3-4 % of their revenue, then, starting with year 2004, it has grown by 2-3 times. Lithuanian agricultural companies felt these positive changes least of all: if subsidies before year 2004 made for them on the average 10% of the revenue, then, after the entry, only a little bigger, namely 13-15%. In its turn the biggest specific weight of subsidies was observed in year 2006 for Lithuanian (28%) and Latvian (26 %) agricultural holdings. In Poland the specific weight of subsidies was 14 %.

Net value added (NVA) is one of the most essential performance indicators for farm holdings, which characterizes the value of a company's output produced with use of production resources. NVA is formed by total output (i. e. crop production and livestock products, other output) and total subsidies (excluding those to investments) amount, which is diminished by total specific costs and farming overheads, depreciation and production taxes. Taking into account that in formation of the agricultural NVA an essential part takes

form of the national and EU support payments, it is also reasonable to characterize the agricultural holding ability to generate the added value measured by the production NVA, whose calculation does not include the amount of the support achieved by the holding.

In 2002-2006 the proportion of NVA in the total revenue (i. e. total output and total subsidies, excluding those to investments) increased both for the Baltic states' and for the Polish agricultural holdings (Figure 2). The biggest proportion of NVA was in Lithuanian farms, where it reached the maximum 43-47% in 2004-2005. At the same time an analysis shows that in the formation of NVA production subsidies take bigger and bigger part. If in 2002 they made 10% of Polish, 25% of Lithuanian, 27% of Estonian and 48% of Latvian agricultural holdings NVA, then in 2006 it was respectively already 40%, 71%, 64% and 78%. Along with that the input of agricultural holdings production factors in total NVA formation decreased crucially.

FADN methodology grants to member states sufficient sweeping powers to run merges and regroupings of principal types of farming and defining types of farming. In the result the agricultural holdings specialization structure existing at the national level in Baltic states and inPoland differs much. This enables making a comparative analysis of only those types of farming which are identical in all (dairy) or at least in 3 states (field crops, granivores).



	2002				2003				2004				2005				2006			
Production subsidies	925	1685	974	576	1088	929	960	700	3415	2600	3490	378	3435	3369	4184	1320	5024	3624	5353	2086
Production NVA	999	4926	2630	5305	1 317	2341	2860	5759	2 263	3250	3766	2692	1 995	3669	3788	2594	1 447	1457	3057	3101
NVA / total income	19%	36%	25%	30%	23%	33%	25%	35%	36%	47%	32%	27%	30%	43%	32%	30%	33%	39%	30%	35%
Prod. subsidies / NVA	48%	25%	27%	10%	45%	28%	25%	11%	60%	44%	48%	12%	63%	48%	52%	34%	78%	71%	64%	40%

Fig. 2. NVA per 1 AWU[7] in agricultural holdings in the Baltic States and Poland (2002 – 2006, EUR)
Source: authors' calculations based on data obtained from FADN liaison agencies in the Baltic states and Poland

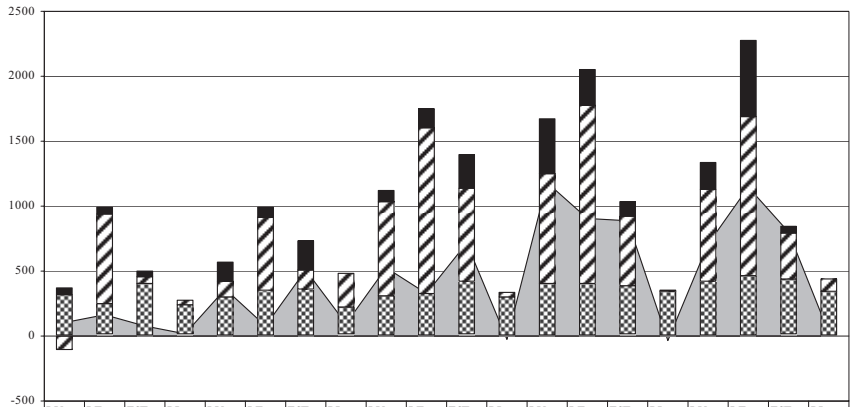
For dairy farms the trends of changes of NVA proportion in the total revenue in 2001-2006 in the Baltic states were very similar to the already mentioned ones in agriculture as a whole (Table 7). If in years 2002-2003 the biggest proportion occured in Polish farms (40-46%), starting with 2004 the leadership was taken by the Lithuanian farmers (45-49%). In its turn the biggest proportion of production subsidies in the NVA during all those years was observed exactly in Latvia. If in 2002 they constituted 51% of the NVA, in the year

[7] 1 average work unit (AWU) = 1840 hours of total labour input/year.

before the accession to the EU 40%, then in 2004 their share grew up to 57%, and in its turn in 2006 it reached already 73%. Another kind of extremity was observed in Poland (in 2002 it was 7 % and 38 % in 2006). Entry of Lithuania into the EU almost did not effect the proportion of subsidies achieved by dairy agricultural holdings in the NVA, staying at the level of year 2003, particularly at 34-37%. Only in 2006 it grew up to 47%.

Essential growth of the support after accession of new member states to the EU is especially well-seen on the example of field crops agricultural holdings (Table 8). In 2004, comparing to the pre-entry year 2003, Estonian agricultural holdings felt that more than others, their subsidies proportion in the NVA grew from 23% to 77%, i. e. by 54 % percentage points. Polish farmers felt the changes a bit later: in 2004 the subsidies share grew only by 6 percentage points to 19 % and only in 2005-2006 it reached the 43-50% level. At the same time NVA changes were not so abrupt and this shows that growth of subsidies did not cause the same fast increase of the NVA share in the total revenues. Thus, if in Poland the input of holdings' production factors in formation of NVA during the last years of the analyzed period made a half, then in Latvia and in Estonia only a negligible 10%, showing the low efficiency of this branch and its great dependence on support payments.

Farm investments have many sources of internal financing (depreciation, adjusted farm income, i. e. net farm income minus costs of unpaid labour input) and external financing (loans and subsidies to investments). The study shows that in 2002-2003 net investments (i. e. purchases of fixed assets minus their sales minus depreciation for the reporting period) of almost all agricultural holdings (excluding Polish farmers in 2004-2005) were positive (Figure 3).



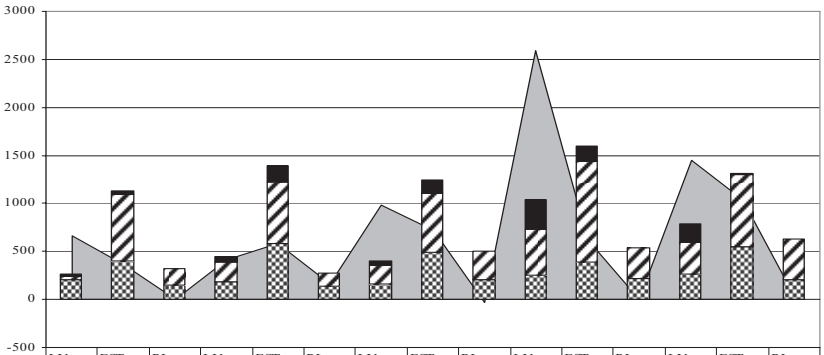
	2002				2003				2004				2005				2006			
	LV	LT	EST	PL	LV	LT	EST	PL	LV	LT	EST	PL	LV	LT	EST	PL	LV	LT	EST	PL
Net investment	104	164	74	15	366	76	509	92	530	325	718	-29	1177	906	891	-32	708	1149	800	29
Subsidies on investment	48	52	43	0	146	77	222	0	81	153	255	0	428	275	107	2	213	587	51	4
Adjusted farm income	-105	688	51	38	121	559	147	264	731	1274	718	39	838	1365	538	8	702	1229	349	95
Depreciation	312	233	395	224	297	350	349	202	298	321	407	290	397	401	374	336	414	457	427	333
Economic size	7,9	17	13	17	8,2	6	13	18	10,1	6	16,3	10	10,8	8	14	10	11,5	7	16,6	10

Fig. 3. Net investment and sources of internal financing in agricultural holdings in the Baltic States and Poland, 2002-2006, EUR per 1 economic size unit (ESU)
Source: authors' calculations based on data obtained from FADN liaison agencies in the Baltic states and Poland

This means that holdings could not only be equipped with fixed assets at previous level but also could make extra investments. Also, in the case of deficiency of subsidies to investments, the agricultural holdings (excluding Estonian farmers in 2003 and 2006) could finance net investments by means of depreciation and adjusted farm income. Especially fast growth of net investment was observed in Lithuania (179%) and in Latvia (122%) in 2005. In years 2005-2006 in Latvia by means of subsidies to investments were financed respectively 36% and 30%, in Lithuania 30% and 51%, but in Estonia only 12% and 6% of net investments. Average amount of subsidies to investments achieved by Polish agricultural holdings was extremely small.

Very similar situation was observed in the dairy sector. Though in 2005-2006 Latvian agricultural holdings' net investments made only 60-70% of the leading Lithuanian holdings' level, the data (Table 9) distinctly confirm the conclusion made by Gulbe [2007] in another research. Namely, Latvian dairy farmers have rapidly learnt to take advantage of the EU support mechanisms. Many farms have expanded and modernised their production facilities such as milking and cooling equipment, grain drying and storage capacity with the partial help of subsidies. Really, dairy farms' net investments more than twice exceed average values for Latvian agriculture (Figure 3). At the same time during the last years of the analyzed period the amount of subsidies on investment achieved by Polish farmers was 7 times less compared to Lithuania, and 4-5.5 times less than in Latvia.

Completely different trends characterized changes in net investments of granivores farms (Figure 4). If Estonian farmers felt an essential increase of subsidies already in 2003-2005 (they made up to $^{1}/_{3}$ of net investments), Latvian agricultural holdings witnessed their fast rise only in 2005. Since year 2002 they have been financing the investments by loans (share of subsidies in the net investments was 12-15%).



	LV	EST	PL	LV	EST	PL	LV	EST	PL	LV	EST	PL	LV	EST	PL
	2002			2003			2004			2005			2006		
Net investment	662	367	3	408	584	156	980	718	-31	2595	616	7	1448	1038	47
Subsidies on investment	27	36	0	61	177	0	41	143	0	305	164	0	189	8	1
Adjusted farm income	27	695	171	203	635	131	191	614	298	479	1049	325	333	760	424
Depreciation	211	398	155	187	585	141	163	488	202	253	386	214	262	546	207
Economic size	158	58	26	29	40	30	63	78	18	264	73	19	205	83	22

Fig. 4. Net investment and sources of internal financing in granivores agricultural holdings in the Baltic states and Poland, years 2002-2006, EUR per 1 economic size unit
Source: authors' calculations based on data obtained from FADN liaison agencies in the Baltic states and Poland

Especially actively external financing was used in 2002 (424 EUR per 1 ESU), in 2005 and 2006 (1863 EUR and 853 EUR per 1 ESU respectively). In its turn, the fact that Polish farmers did not receive any subsidies to investments, in a certain way may be explained by the Polish granivores holdings' small average economic size and their possible difficulties with elaborating reconstruction or modernization projects, and consequently with application for the appropriate subsidies.

Conclusions

1. After the accession to the EU the achieved by Latvia support for agriculture and rural development (EUR 308 million), comparing to year 2002, in 2006 grew 5.5 times, but in Estonia (EUR 141.7 million) 3.8 times. In Poland in 2005 the achieved support (EUR 3712.8 million), comparing to 2003, increased 3.2 times.

2. If before the accession to the EU the subsidies to the Baltic states agricultural holdings made on the average 5-10% and to Polish agricultural holdings 3-4 % of their revenue, then, starting with year 2004, it has grown 2-3 times. The biggest specific weight of subsidies was observed in year 2006 for Lithuanian (28%) and Latvian (26%) agricultural holdings. In Poland the specific weight of subsidies was 14 % of the revenue.

3. An increasingly bigger part in the NVA formation had production subsidies, thus rapidly decreases in it the share of the input of agricultural holdings production factors. In 2006 the proportion of subsidies in NVA, comparing to year 2002, grew from 10% to 40% in the Polish, from 25% to 71% in the Lithuanian, from 27% to 64% in the Estonian and from 48% to 78% in the Latvian agricultural holdings.

4. During the analyzed time period net investments of almost all agricultural holdings were positive, and the depreciation and the adjusted farm income were sufficient to provide renewal of fixed assets also in the case of deficit of subsidies to investments. Most actively subsidies to investments were used by Latvian and Lithuanian farmers. In 2005-2006 they were used to finance respectively 36% and 30% of net investments in Latvia, but in Lithuania 30% and 51% respectively. In Poland the achieved subsidies to investments were insignificant.

References

Agriculture and food economy in Poland. [2006]. Ministry of Agriculture and Rural Development, Warsaw.

Agriculture and food economy in Poland. [2007]. Ministry of Agriculture and Rural Development, Warsaw.

Agriculture in the European Union – statistical and economic information. [2007]. Retrieved from: : http://ec.europa.eu/agriculture/agrista/2007/table_en/index.htm.

Agro economic policy analysis of the new member states, the candidate states and the countries of the western Balkans. 6-monthly report 'Monitoring of agricultural policy, market and trade developments in Lithuania'. [2005]. Lithuanian Institute of Agrarian Economics, Vilna. Retrieved from: http://www.euroqualityfiles.net/cecap/Report%201/Section%201%20country%20report/CEECAP%20report%201%20section%201%20LITHUANIA.pdf.

EU integration seen through statistics. Key facts of 18 policy areas. [2006]. Eurostat, Luxembourg.

Europe in Figures – Eurostat yearbook 2006-07. [2007]. Eurostat, Luxembourg.

Gulbe I., Melece L., Hazners J., Csaba J. [2007]: Impact of Accession to the EU on Latvia's Food Sector. Changes in the Food Sector after Enlargement of the EU. Proceedings of international conference, no. 57 (1), Warsaw, pp. 226-243.

Kožar M., Kavčič S., Erjavec E. [2006]: Post-accession income situation of agricultural households in Slovenia under different direct payments policy options. *Journal of Central European Agriculture*, volume 7 no. 3, pp. 409-412. Retrieved from: http://www.agr.hr/jcea/issues/jcea7-3/pdf/jcea73-5.pdf

Pilvere I. [2007]: Atbalsta maksājumi Latvijā Kopējās lauksaimniecības politikas reformas nosacījumos. *Latvijas Lauksaimniecības universitātes Raksti*, no. 19 (314), pp. 3-15.

Rural Development Plan 2004-2006 Lithuania. [2006]. Ministry of Agriculture of the Republic of Lithuania, Vilna.

Salputra G., Miglavs A. [2007]: Different CAP Support Systems – Evaluation of the Impact on Supply of Agricultural Products. Economic Science for Rural Development. Proceedings of the international scientific conference, Jelgava, no. 14, pp. 67-74.

Table 7. NVA per 1 AWU in dairy agricultural holdings in the Baltic states and Poland, 2002-2006, EUR

	2002				2003				2004				2005				2006			
	LV	**LT**	**EST**	**PL**	**LV**	**LT**	**EST**	**PL**	**LV**	**LT**	**EST**	**PL**	**LV**	**LT**	**EST**	**PL**	**LV**	**LT**	**EST**	**PL**
A	1503	1154	1205	391	1115	1127	1139	1642	3726	2319	3426	371	3419	3031	4129	1211	4841	2863	4643	2016
B	1429	3775	2503	5493	1657	2179	2941	5593	2779	3921	5133	2474	2387	5386	4163	3253	1754	3226	3568	3278
C	27%	32%	26%	40%	28%	33%	22%	46%	41%	48%	37%	34%	34%	49%	34%	41%	35%	45%	32%	43%
D	51%	23%	32%	7%	40%	34%	28%	23%	57%	37%	40%	13%	59%	36%	50%	27%	73%	47%	57%	38%

A — production subsidies; **B** — production NVA; **C** — NVA / total income; **D** — production subsidies / NVA
Source: authors' calculations based on data obtained from FADN liaison agencies in the Baltic states and Poland

Table 8. NVA per 1 AWU in crop agricultural holdings in the Baltic states and Poland, 2002-2006, EUR

	2002			2003			2004			2005			2006		
	LV	**EST**	**PL**	**LV**	**EST**	**PL**	**LV**	**EST**	**PL**	**LV**	**EST**	**PL**	**LV**	**EST**	**PL**
A	1300	769	1329	1914	979	1134	5534	4573	631	5316	5290	1719	7232	7706	2663
B	1477	2368	5448	1841	3214	7728	2704	1335	2761	862	3257	2253	655	762	2670
C	21%	29%	29%	25%	32%	36%	37%	30%	31%	28%	35%	32%	32%	33%	36%
D	47%	25%	20%	51%	23%	13%	67%	77%	19%	86%	62%	43%	92%	91%	50%

A — production subsidies; **B** — production NVA; **C** — NVA / total income; **D** — production subsidies / NVA
Source: authors' calculations based on data obtained from FADN liaison agencies in the Baltic states and Poland

Table 9. Net investment and sources of internal financing per 1 economic size unit in dairying agricultural holdings in the Baltic States and Poland (2002 – 2006, EUR)

	2002				2003				2004				2005				2006			
	LV	**LT**	**EST**	**PL**	**LV**	**LT**	**EST**	**PL**	**LV**	**LT**	**EST**	**PL**	**LV**	**LT**	**EST**	**PL**	**LV**	**LT**	**EST**	**PL**
A	421	885	82	204	454	121	61	123	414	142	795	39	1235	1689	738	224	964	1587	1123	222
B	56	358	35	0	170	177	79	0	82	65	192	0	908	516	58	0	477	843	83	2
C	316	1250	58	26	308	746	-74	493	1409	1828	859	-58	1784	2775	511	152	1268	2227	377	306
D	280	402	327	196	296	417	282	185	315	378	357	282	473	518	332	322	476	521	446	349
E	8	9	21	13	6	4	24	14	7	4	29	8	7	5	22	8	8	5	22	8

A — net investments; **B** — subsidies to investments; **C** — adjusted farm income; **D** – depreciation; **E** — economic size (in Economic Size Units)
Source: authors' calculations based on data obtained from FADN liaison agencies in the Baltic states and Poland