ABSTRACT
Development of agriculture is a substantial element of a balanced development of a country, comprising the development of agricultural, forestry and fishery sectors as well as the aggregate of other economic, social, and ecological activities related to the rural environment. The two main types of state aid provided to agriculture and rural development include direct and indirect support. The state aid shall be fully consistent with the basic guidelines of the European Community regarding the support for agriculture. The aim of the research is to discuss the legal regulation in the sphere of state aid allocation and to analyse the dynamics and impact of allocated national subsidies for the development of agriculture and rural development. Currently, the requirements for allocation state aid in the form of subsidies undergo fundamental amendments within the framework of simplification of regulatory enactments of the EU CAP. The amendments relate to both the content and procedures of the requirements. The goal is to speed up the conformation and approval of state aid payments and to simplify the requirements for allocation of subsidies. It is envisaged that the amendments would not affect the targets of subsidies but they would provide more earmarked state support.
KEYWORDS: state aid, subsidies, agriculture, crop production, livestock production, impact assessment.
JEL CODES: Q10, Q14, Q18

Introduction
Agriculture subsidies are government programmes providing benefits to farmers for the purpose of stabilising food prices, ensuring plentiful food production, and guaranteeing farmers' basic incomes. State aid for agriculture in Latvia is mainly provided in three ways:
• direct support – state subsidies for the producers of certain agricultural produce (like cattle breeding, crop farming etc.);
• indirect support – tax relief, state subsidies programmes that establish pre-conditions for efficient agricultural activities and identification of production (like promotion of agricultural produce market, agricultural data surveillance, development of science and education, establishment of animal register etc.);
• investment co-financing – state subsidies programmes for certain measures (like improvement of agricultural land, technical modernisation of agricultural production, purchase of breed animals, purchase of elite seed etc.).

However, state aid is aimed at those farms that guarantee stable production and improve economic efficiency indicators (Mazūre, 2005: 61). The research is narrowed to direct support, thus, analysing granted national subsidies. Many researchers in Latvia and other countries (Lithuania, the Czech Republic, Poland etc.) have discussed aspects related to the state support for agriculture and evaluated its economic efficiency.

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(Ciburiene, 2009; Dibrova, Dibrova, 2009; Jakusonoka, 2007; Jasjko, 2000; Karpik, 2008; Kotane, 2003; Makutenas, Makuteniene, 2004; Mayrand, Dionne, Paquin, 2003; Mazūre, 2003, 2005; Melece, Prauliņš, 2010; Ohvril, 2003; Pilvere, 2010, 2011; Reiljan, Tamm, 2008; Ribauskiene, Kairyte, Meyers, 2007; Špička, Boudný, Janotová, 2009; Upite, 2010; Zawojska, 2008, 2009). These findings reveal various problems requiring solutions, however, this study is based on the following hypothesis: national subsidies directed towards the crop and livestock production development affect the production output. The research object is national subsidies. The research aim is to discuss the legal regulation in the sphere of state aid allocation and to analyse the dynamics and impact of allocated national subsidies for the development of agriculture and rural development. The aim of research has set a number of tasks:

- to provide an overview on legal regulation determining the procedure for the allocation of national subsidies;
- to analyse the dynamics of allocated national subsidies for agriculture and rural development;
- to analyse the impact of national subsidies allocated for crop production and livestock production on crop and livestock production output in farms of various sizes.

The information summarised by the Rural Support Service (RSS), which administers the allocation and disbursement of subsidies and the FADN data were used to identify the amount of granted subsidies to agriculture and rural development by the farms of various sizes. The Farm Accountancy Data Network (FADN) is an instrument for evaluating the income of agricultural holdings and the impacts of the Common Agricultural Policy. The concept of the FADN was launched in 1965, when the Council Regulation 79/65 established the legal basis for the organisation of the network. It consists of an annual survey carried out by the Member States of the European Union. In Latvia, the establishment of the FADN system was started in 1997 consistent with the EU FADN guidelines and specific conditions of Latvia. Each Member State has its own organisational and technical system for information collection, summarisation, and processing. However, the system ensures a certain and standardised information on agricultural holdings compliant with the single EU methodological requirements (Lauku saimniecības, 2009: 10). The basic criteria for the classification of agricultural holdings are region, specialisation, and economic size.

The economic size of a farm characterises its potential to create value added, and it determines largely the competitiveness of the farm, depending on its specialisations. The farm’s total standard gross margin has to be computed to determine the economic size of a farm. The economic size of the EU farms is expressed in the European Size Units (ESU) – 1 ESU is equivalent to EUR 1200 (Pilvere, 2011: 38). Latvia different from the EU FADN classifies agricultural holdings in seven groups (Table 1).

<table>
<thead>
<tr>
<th>EU FADN grouping</th>
<th>Description of class</th>
<th>Latvia FADN grouping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>ESU</td>
<td>Class</td>
</tr>
<tr>
<td>I</td>
<td>&lt;2</td>
<td>1</td>
</tr>
<tr>
<td>II</td>
<td>2–4</td>
<td>2</td>
</tr>
<tr>
<td>III</td>
<td>4–6</td>
<td>3</td>
</tr>
<tr>
<td>IV</td>
<td>6–8</td>
<td>4</td>
</tr>
<tr>
<td>V</td>
<td>8–12</td>
<td>5</td>
</tr>
<tr>
<td>VI</td>
<td>12–16</td>
<td>6</td>
</tr>
<tr>
<td>VII</td>
<td>16–40</td>
<td>7</td>
</tr>
<tr>
<td>VIII</td>
<td>40–100</td>
<td></td>
</tr>
<tr>
<td>IX</td>
<td>100–250</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>&gt;250</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Commission Decision 85/377/EEC and Lauku saimniecības, 2009: 10*
Unfortunately, the entire EU statistic system was changed in 2010, thus, initiating the transfer to the assessment of economic size by the value of standard output – it makes the comparison of the data with previous periods difficult. Therefore, the amount of granted subsidies is analysed for the period of 2005–2009 and in some cases for 2010–2011.

The structure of EU agricultural holdings differs greatly; hence, it is required to determine the economic size of agricultural holdings (farms) as farms of various sizes exist in different countries. This is the economic size threshold, which is 2 ESU in Latvia. Each Member State determines its own economic size threshold, for example, it is 2 ESU in Estonia, Lithuania, Poland, and Ireland, while 16 ESU in the Netherlands, Belgium, and the UK (Lauku saimniecības, 2010: 10). In Latvia, the economic size threshold equals to EUR 4000.

In addition, the information compiled by the Rural Support Service, the Ministry of Agriculture, scientific publications of foreign and local researchers and other materials have been used for the purpose of the study.

The research is mainly based on the monographic descriptive method as well as the methods of analysis and synthesis are used to study the problem elements and synthesise coherencies or formulate regularities. The regression analysis was used to determine the relationship between the amount of disbursed subsidies and production output or to clarify whether the amount of allocated subsidies affect the production output. The correlation analysis was used to show the strength of relation between the pairs of variables. The tool Regression of MS Excel was used for data processing and the analysis.

1. Legal regulation determining the procedure for allocation of subsidies

The state aid shall be fully consistent with the basic guidelines of the European Community regarding the support for agriculture. Currently, the requirements for allocation state aid in the form of subsidies undergo fundamental amendments within the framework of simplification of regulatory enactments of the EU CAP. The amendments relate to both the content and procedures of the requirements. The goal is to speed up the conformation and approval of state aid payments and to simplify the requirements for allocation of subsidies. It is envisaged that the amendments would not affect the targets of subsidies but they would provide more earmarked state support. State aid rules in the agricultural sector are based on three different perspectives: 1) the agricultural state aid rules follow the general principles of competition policy; 2) state aid rules in the agricultural sector have to be coherent with the EU’s common agricultural and rural development policies; 3) the rules have to be compatible with the EU’s international obligations, in particular the WTO Agreement on Agriculture.


The Community guidelines for state aid in the agriculture and forestry sector 2007–2013 apply to all state aid, granted in connection with activities related to the production, processing and marketing of agricultural products falling within the scope of Annex I of the Treaty. They apply to any aid measure, in whatever form, including aid measures financed by parafiscal taxes, which falls within the definition of state aid laid down in Article 87(1) of the Treaty. These guidelines do not apply to state aids in the fisheries and aquaculture sector. The guidelines cover state aid in the agriculture and forestry sector for the period of 2007–2013 and replace the previous guidelines established for agriculture. These guidelines apply to state aid granted for the production, processing and marketing of agricultural products. Annex I of the Treaty on the Functioning of the European Union provides a detailed list of the agricultural products included. They do not apply to the
fisheries and aquaculture sector but, unlike the previous ones (2000–2006), are applicable for aid for some forestry activities.

In Latvia, the law “On Agriculture and Rural Development” is the umbrella law ensuring the development of agriculture and rural areas. The purpose of the law is to provide a legal basis for agricultural development and to specify sustainable agricultural and rural development policy in accordance with the Common Agricultural Policy and the Common Fisheries Policy of the European Union. Therefore, the state aid and the European Union support shall be granted to promote agricultural and rural development as well as to raise the standard of living for the population of rural territories. The law stipulates that the state support for agricultural development in the form of subsidies may not be less than 2.5% of the total expenditures of the annual government consolidated budget that are covered from grants from general revenues, deducting the contributions to the budget of the European Union (Lauksaimniecības un lauku attīstības likums, 2004). The law states the minimum amount of cash flow to be channelled for the development of agricultural competitiveness and it is the only legal enactment that ensures regular and projectable amount of the state support financing.

The Cabinet Regulation No. 332 “Procedure by which the European Support for Processing of Skimmed Milk into Casein and Casein Products and for Use of Skimmed Milk and Skimmed Milk Powder in Forage is Allocated, Administered and Controlled” adopted on 20 April 2004 and issued pursuant to Sections 4 and 7, Clause 5 of the Law “On Agriculture and Rural Development” states the procedures by which the European Support for processing of skimmed milk into casein and casein products and for use of skimmed milk and skimmed milk powder in forage is allocated, administered and controlled. The Rural Support Service allocates, administers and controls the support (Kārtība, kādā tiek piešķirts, administrēts un uzraudzīts Eiropas Savienības atbalsts vājpiena pārstrādei kazeīnā un kazeinātīos un vājpiena un vājpiena pulvera izmantošanai lopbarībā, 2004).

Another very important legal enactment refers to the Cabinet Regulation No. 173 “Procedure by which State Aid and EU Support is Allocated for Agriculture within the Framework of Direct Support Schemes” adopted on 1 March 2011 and issued pursuant to Section 4, Clause 5 of the Law “On Agriculture and Rural Development”. These regulations prescribe the procedures by which the state aid and EU support is allocated for agriculture within the framework of direct support schemes. For the purpose of the regulations, the state aid and EU support includes single area payments; supplementary state direct payments for she-cattle and she-sheep, ton of milk quota, grass and flax seed and potato starch etc.; separated supplementary state direct payments for areas, cattle, milk etc.; payment for sugar; support for areas of raspberries and strawberries grown for processing; special support for milk; special payment for improvement of starch quality; and special payment for improvement of seed potatoes and seed forage plants (Kārtība, kādā tiek piešķirts valsts un Eiropas Savienības atbalsts lauksaimniecībai tiešā atbalsta shēmu ietvaros, 2011).

On 14 February 2012, the Cabinet adopted the Regulation No. 112 “Regulations on State Aid for Agriculture and Procedure for its Allocation”. The regulations prescribe measures for the state aid for agriculture and rural development, the amount of state aid and the criteria and procedure for its allocation (Noteikumi par valsts atbalstu lauksaimniecībai un tā piešķiršanas kārtību, 2012).

Another recent Cabinet Regulation was passed on 17 January 2012 “Procedure by which the State Aid is Allocated for Registering of Breeding Animals into the Breed Register as well as for Determination of their Genetic Quality and Evaluation of Productivity Data”. The support is provided pursuant to the EC Regulation No. 1857/2006. The support is aimed at promotion of breed activities in pig farming, sheep farming, dairy farming, and horse breeding (Kārtība, kādā piešķir valsts atbalstu vaislas lauksaimniecības dzīvnieku ierakstīšanai ciltgrāmatā, kā arī to ģenētiskās kvalitātes noteikšanai un produktivitātes datu izvērtēšanai, 2012).

“Regulations regarding Procedures for Accounting and Granting of de minimis Aid and Samples of de minimis Aid Accounting Forms” are issued pursuant to Section 48, Paragraph one of the Law On Control of Aid for Commercial Activity. These Regulations prescribe the procedures for accounting and granting of de minimis aid as well as prescribe the following samples of de minimis aid accounting forms: an accounting form regarding the received de minimis aid and an accounting form for the granting of new de minimis aid (Noteikumi par de minimis atbalstu uzskaites un piešķiršanas kārtību un de minimis atbalsta uzskaites veidlapu paraugiem, 2008).
2. National subsidies granted to agriculture and rural development

Generally, farm subsidies refer to the economic tool used by the government for influencing food prices and maintaining food supply. These funds are normally given as cash payment or a grant to the farm. The purpose of subsidies is to facilitate the competitiveness of agricultural products in domestic and foreign markets, to stimulate the stabilisation of agricultural industries and to introduce modern technologies in farming households. In Latvia, national subsidies are granted to promote agricultural and rural development as well as to increase the living standard of rural population. They are allocated in addition to the EU support measures. The amount of allocated subsidies has consistently increased from 1994 to 2003 reaching the growth of 8.89 times in comparison with 1994, hence, totally exceeding LVL 39.28 million. The other tremendous peak was observed in 2006 reaching the highest amount of allocated subsidies in the analysed period (LVL 58.1 million). The development of financing allocated under the state subsidies programmes is reflected in Figure 1.

![Figure 1. Number and chain increase rate of allocated national subsidies for agriculture and rural development in Latvia for the period of 1994-2011](image)

*Source: Kopsavilkums par subsīdiju (…), 2000–2011 and author’s calculations*

Figure 1 outlines that practical application of subsidies under the implementation of agricultural policy of Latvia was started from 1994. The target was to develop the declined seed farming and cattle breeding in general and subsidies were disbursed as direct and indirect payments. Direct subsidies then were mainly disbursed to increase the quality of resources and provision of raw materials in processing companies, including:
- sowings and sales of elite seeds;
- sales of flax and potatoes for processing (since 1995);
- development of healthy and high quality herds (cattle breeding, pig breeding, sheep breeding and horse-breeding), thus paying for the number of animals;
- sales of meat young stock for processing.

Indirect subsidies were targeted for the development of science, seed farming, performance of selection (from 1996) and the improvement of quality in milk processing companies. The procurement of breed abroad served as co-financing for investments at that time, where the main target was to improve the quality indicators of herd of Latvia.

Figure 1 presents the chain increase rates calculations. The highest absolute increase of the chain of subsidies was observed in 2006, when the amount of subsidies increased by LVL 30.5 million or 110.5 % compared with the previous year. However, in 2007, total subsidies amounted to LVL 32.27 million experiencing a decline of LVL 25.8 million or 44.4 %. When looking at the considerable differences in comparison
with 2006, it has to be borne in mind that in 2006 the government granted additional subsidies on top of the existing subsidies for LVL 25.8 million as compensation for losses incurred by drought. Consequently, the very significant base increase rates reached in 2003 and 2006 have to be mentioned, when the amount of disbursed subsidies increased by 790 % and 1220 % (9 and 13 times) respectively. In 2010, the total amount of paid subsidies equalled LVL 10.3 million; yet, additional LVL 3.9 million were allocated from the government consolidated budget for the pig-breeding sector to maintain the core of sow pedigree. Hence, the total amount of subsidies comprised LVL 14.27 million. The provision of an additional support was based on the rapid increase of grain prices and decrease of pork purchase prices.

National subsidies are used for the implementation of specific programmes. Subsidies in Latvia are disbursed for technical modernisation of production, amelioration of soil, increase of farm efficiency, and other similar objectives. Yet, it has to be remarked that the attraction of investments is the most efficient only in several programmes. Relatively, the largest and the most stable programme has been “Development of animal husbandry”, which comprises 32.54 % of the total amount of allocated subsidies. This programme is followed by “Investment and support for investment in agriculture” with the share of 24.55 %. The share of other subsidy programmes is less than 10 %. The breakdown of subsidies by years and programmes is given in Table 2. This table includes a section “Other programmes”, which covers those subsidy programmes that have varied by years, like support for covering interest payments, support for the introduction of the EU requirements, support for promotion of investment in agriculture, support for foreign cooperation projects, support for agro-marketing activities, support for elimination of agricultural risk, and similar programmes and measures.

Table 2. The dynamics of subsidies allocated for the agricultural sector and their breakdown according to the programmes in Latvia between 2005 and 2011, LVL thousand

<table>
<thead>
<tr>
<th>Subsidies programme</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>Total</th>
<th>Relative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvement of agricultural land</td>
<td>1,549.0</td>
<td>280.2</td>
<td>1,554.3</td>
<td>292.1</td>
<td>123.0</td>
<td>0.0</td>
<td>0.0</td>
<td>3,798.6</td>
<td>2.06</td>
</tr>
<tr>
<td>Development of animal husbandry</td>
<td>6,670.0</td>
<td>9,990.6</td>
<td>11,025.3</td>
<td>11,043.6</td>
<td>15,762.6</td>
<td>3,684.0</td>
<td>1,781.9</td>
<td>59,958.0</td>
<td>32.54</td>
</tr>
<tr>
<td>Development of crop farming</td>
<td>977.0</td>
<td>1,764.5</td>
<td>865.9</td>
<td>821.5</td>
<td>622.0</td>
<td>465.1</td>
<td>72.4</td>
<td>5,588.4</td>
<td>3.03</td>
</tr>
<tr>
<td>Education, science and dissemination of</td>
<td>2,573.6</td>
<td>2,037.0</td>
<td>2,870.8</td>
<td>3,269.7</td>
<td>766.1</td>
<td>811.7</td>
<td>395.3</td>
<td>12,724.2</td>
<td>6.91</td>
</tr>
<tr>
<td>information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support for organic farming</td>
<td>243.0</td>
<td>213.7</td>
<td>198.3</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>655.0</td>
<td>0.36</td>
</tr>
<tr>
<td>Market promotion</td>
<td>743.0</td>
<td>1,102.3</td>
<td>1,374.0</td>
<td>2,855.1</td>
<td>53.3</td>
<td>245.2</td>
<td>152.7</td>
<td>6,525.6</td>
<td>3.54</td>
</tr>
<tr>
<td>Co-financing for Latvia and foreign</td>
<td>290.0</td>
<td>250.0</td>
<td>79.2</td>
<td>100.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>719.2</td>
<td>0.39</td>
</tr>
<tr>
<td>projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment and support for investment</td>
<td>8,295.5</td>
<td>11,058.1</td>
<td>10,836.7</td>
<td>5,608.4</td>
<td>6,245.6</td>
<td>1,044.9</td>
<td>2,152.3</td>
<td>45,241.5</td>
<td>24.55</td>
</tr>
<tr>
<td>in agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other programmes</td>
<td>2,083.3</td>
<td>30,951.9</td>
<td>3,469.0</td>
<td>5,931.1</td>
<td>1,626.7</td>
<td>4,068.4</td>
<td>916.3</td>
<td>49,046.7</td>
<td>26.62</td>
</tr>
<tr>
<td>Total</td>
<td>23,424.4</td>
<td>57,648.3</td>
<td>32,273.5</td>
<td>29,921.5</td>
<td>25,199.3</td>
<td>10,319.3</td>
<td>5,470.9</td>
<td>184,257.2</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Kopsavilkums par subsīdiju (…), 2005–2011 and author’s calculations

According to Table 2, only 3 out of more than 20 programmes implemented over the period analysed may be considered as stable subsidy programmes used for the attraction of investments and support of agricultural production. The annual amount and breakdown of subsidies depend on the state political and financial situation and changes alongside with it.
In 2008 in comparison with 2007, the programme “Improvement of agricultural land” experienced the largest reduction of financing, since the largest amounts of subsidies were directed towards the animal husbandry sector and promotion of investment in agriculture. Similar decline was observed also in the subsidy programme “Market promotion”. At the same time, the programme “Development of animal husbandry” experienced considerable increase in 2009 and a four-fold decrease in 2010. The amount of allocated subsidies declined with the beginning of the financial and economic crisis in 2009 and the decline has also continued in 2010 and 2011.

Detailed analysis on the programmes shows that “Development of animal husbandry” is the largest subsidy programme directed towards the promotion of establishment of healthy and qualitative herds, keeping and growing of young cattle and production of qualitative forage. This subsidy programme includes 10 - 15 sub-programmes depending on the annual state policy. The total amount of subsidies allocated under this programme amounts to LVL 59,958 or 32.54 % of the total amount allocated over the period analysed. The largest increase in financing of the programme was observed in 2009 when the financing increased by 42.7 % in comparison with the previous year.

The second largest programme “Investment and support for investment in agriculture” covers LVL 45,241.5 or 24.55 % of the total amount of allocated subsidies. The total amount of subsidies has started to decline in 2008, when the amount decreased by 48.2 % compared with the previous year. Unfortunately, the decrease has continued also in the rest of the analysed years, finally slightly exceeding LVL 2 million in 2011.

Support for improvement of agricultural land has ceased in 2010, Support for organic farming – 2008, and co-financing for Latvia and foreign projects – 2009. State aid for fishery and modernisation of agricultural production was stopped from 2004; these changes relate with Latvia’s accession to the EU and the respective EU criteria and requirements.

3. Impact of national subsidies allocated for crop production and livestock production on crop and livestock production output in farms of various sizes

Latvia’s accession to the EU had a positive effect on the amount of support to the farms – its percentage increased for all Latvia’s farms revenue structure. The following tables (Table 3, Table 4) show the amount of support allocated for crop and livestock production to the farms of various sizes. The tables cover the data for the period ending in 2009, since the FADN methodology was changed in 2010, and thus, the data by farm sizes are incomparable.

<table>
<thead>
<tr>
<th>Years / ESU</th>
<th>2-&lt;4</th>
<th>4-&lt;8</th>
<th>8-&lt;16</th>
<th>16-&lt;40</th>
<th>40-&lt;100</th>
<th>100-&lt;250</th>
<th>&gt;=250</th>
<th>Average per farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>288</td>
<td>791</td>
<td>1,843</td>
<td>3,327</td>
<td>10,725</td>
<td>23,103</td>
<td>42,522</td>
<td>1,369</td>
</tr>
<tr>
<td>2006</td>
<td>276</td>
<td>666</td>
<td>1,334</td>
<td>4,124</td>
<td>10,512</td>
<td>23,854</td>
<td>58,462</td>
<td>1,488</td>
</tr>
<tr>
<td>2007</td>
<td>105</td>
<td>299</td>
<td>541</td>
<td>1,616</td>
<td>4,326</td>
<td>10,809</td>
<td>13,263</td>
<td>632</td>
</tr>
<tr>
<td>2008</td>
<td>182</td>
<td>287</td>
<td>820</td>
<td>2,408</td>
<td>7,136</td>
<td>23,951</td>
<td>46,131</td>
<td>1,110</td>
</tr>
<tr>
<td>2009</td>
<td>123</td>
<td>266</td>
<td>677</td>
<td>2,024</td>
<td>5,054</td>
<td>15,318</td>
<td>41,479</td>
<td>867</td>
</tr>
<tr>
<td>2009/2005, %</td>
<td>-57.3</td>
<td>-66.4</td>
<td>-63.2</td>
<td>-39.2</td>
<td>-52.9</td>
<td>-33.7</td>
<td>-2.5</td>
<td>-36.7</td>
</tr>
</tbody>
</table>

Source: Lauku saimniecības ...2005–2009 and author’s calculations

The largest average amount of subsidies per farm was allocated in 2006, when it equalled LVL 1488, while the smallest one comprising LVL 632 was allocated in 2007. In general, the amount of subsidies allocated for crop production has decreased by 36.7 % in the period of 2005–2009. Farms of all the sizes have experienced a decrease in the amount of subsidies – the largest decline was observed in small (4-<8
ESU) and medium small farms (8-<16 ESU), while very large farms (>= 250 ESU) experienced the smallest decrease in the amount of subsidies for crop production. The reason could be the fact that very large farms generate more revenues themselves and the amount of subsidies they rely on is not so significant.

The amount of subsidies paid for livestock production shows completely different scene. The sector of livestock production shows a continuous increase compared with the sector of crop production over the whole analysed period.

**Table 4.** The amount of subsidies allocated for livestock production in farms of Latvia for the period of 2005–2009, LVL

<table>
<thead>
<tr>
<th>Years / ESU</th>
<th>2&lt;4</th>
<th>4&lt;8</th>
<th>8&lt;16</th>
<th>16&lt;40</th>
<th>40&lt;100</th>
<th>100&lt;250</th>
<th>&gt;=250</th>
<th>Average per farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>346</td>
<td>510</td>
<td>748</td>
<td>1,441</td>
<td>2,638</td>
<td>10,419</td>
<td>14,634</td>
<td>695</td>
</tr>
<tr>
<td>2006</td>
<td>477</td>
<td>769</td>
<td>1,580</td>
<td>2,952</td>
<td>4,122</td>
<td>21,013</td>
<td>33,413</td>
<td>1,276</td>
</tr>
<tr>
<td>2007</td>
<td>568</td>
<td>1,047</td>
<td>2,377</td>
<td>4,117</td>
<td>8,050</td>
<td>10,808</td>
<td>72,669</td>
<td>1,824</td>
</tr>
<tr>
<td>2008</td>
<td>597</td>
<td>1,119</td>
<td>2,088</td>
<td>3,550</td>
<td>7,233</td>
<td>16,851</td>
<td>65,740</td>
<td>1,789</td>
</tr>
<tr>
<td>2009</td>
<td>719</td>
<td>1,265</td>
<td>2,399</td>
<td>4,496</td>
<td>8,665</td>
<td>14,525</td>
<td>59,877</td>
<td>2,000</td>
</tr>
<tr>
<td>2009/2005, %</td>
<td>107.7</td>
<td>148.0</td>
<td>220.7</td>
<td>212.0</td>
<td>228.5</td>
<td>39.4</td>
<td>309.2</td>
<td>187.8</td>
</tr>
</tbody>
</table>

Source: Lauku saimniecības (...), 2005–2009 and author’s calculations

The largest average amount of subsidies per farm was paid in 2009, when it amounted to LVL 2000. Analysing the amount of subsidies paid to farms of various sizes leads to the conclusion that the largest increase in the amount of subsidies for livestock production was observed for very large farms (>=250 ESU), while the smallest one for large farms (100-<250 ESU). The respective figures are 309 % and 39 %; hence, the difference is almost 8 times.

The regression analysis was used to determine the relationship between the amount of disbursed subsidies and production output or to clarify whether the amount of allocated subsidies affect the production output. Therefore, the amount of subsidies paid for crop or livestock production was chosen as an independent variable (x), while crop or livestock production output – as a dependent variable (y). The tool Regression of MS Excel was used for data processing and the analysis. The results of the regression analysis are summarised in Table 5.

**Table 5.** Relationship between the amount of disbursed subsidies and production output in farms of various sizes

<table>
<thead>
<tr>
<th>2&lt;4</th>
<th>4&lt;8</th>
<th>8&lt;16</th>
<th>16&lt;40</th>
<th>40&lt;100</th>
<th>100&lt;250</th>
<th>&gt;=250</th>
<th>Average per farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact of subsidies on crop production output</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple R</td>
<td>0.59</td>
<td>0.44</td>
<td><strong>0.84</strong></td>
<td>0.09</td>
<td>0.69</td>
<td>0.33</td>
<td>0.28</td>
</tr>
<tr>
<td>R Square</td>
<td>0.35</td>
<td>0.19</td>
<td><strong>0.70</strong></td>
<td>0.01</td>
<td>0.47</td>
<td>0.11</td>
<td>0.08</td>
</tr>
<tr>
<td>Impact of subsidies on livestock production output</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple R</td>
<td>0.37</td>
<td>0.66</td>
<td>0.76</td>
<td>0.78</td>
<td>0.79</td>
<td><strong>0.92</strong></td>
<td>0.72</td>
</tr>
<tr>
<td>R Square</td>
<td>0.14</td>
<td>0.43</td>
<td>0.57</td>
<td>0.61</td>
<td>0.63</td>
<td><strong>0.85</strong></td>
<td>0.51</td>
</tr>
</tbody>
</table>

Source: author’s calculations

The general conclusion is that subsidies are not the only factor affecting the production output. The majority of cases showed a weak or very weak correlation. A very strong relationship (r = 0.85) was revealed between the amount of subsidies and production output for large farms (100 –<250 ESU) in the sector of livestock production. The average indicators per farm show a medium strong correlation (r = 0.61).

Practically, no correlation or very weak correlation is found between the amount of subsidies and production output in the sector of crop production. The strongest relationship is observed in the group of medium
small farms (8 – < 16 ESU), where the correlation coefficient equals 0.70. Therefore, more detailed analysis including more factors like the EU support, utilised agricultural area, total production output, net turnover, assets, liabilities, farm revenues, and other indicators shall be analysed to determine the relationship between the financing and production output.

Conclusions

1. State aid rules in the agricultural sector are based on three different perspectives: they follow the general principles of competition policy; they have to be coherent with the EU’s common agricultural and rural development policies; and they have to be compatible with the EU’s international obligations, in particular the WTO Agreement on Agriculture.

2. The general purpose of subsidies is to facilitate the competitiveness of agricultural products in domestic and foreign markets, to stimulate the stabilisation of agricultural industries and to introduce modern technologies in farming households. In Latvia, national subsidies are granted to promote agricultural and rural development as well as to increase the living standard of rural population.

3. National subsidies in Latvia are disbursed for technical modernisation of production, amelioration of soil, increase of farm efficiency and other similar objectives. The attraction of investments is the most efficient only in several programmes. The largest and the most stable programme has been “Development of animal husbandry”, which comprises 32.54% of the total amount of allocated subsidies. This programme is followed by “Investment and support for investment in agriculture” with the share of 24.55%.

4. The largest average amount of subsidies per farm was allocated in 2006, when it equalled to LVL 1488, while the smallest one comprising LVL 632 was allocated in 2007. Farms of all the sizes have experienced a decrease in the amount of subsidies – the largest decline was observed in small (4 – <8 ESU) and medium small farms (8-<16 ESU), while very large farms (> = 250 ESU) experienced the smallest decrease in the amount of subsidies for crop production. The reason could be the fact that very large farms generate more revenues themselves and the amount of subsidies they rely on is not so significant.

5. The sector of livestock production shows a continuous increase compared with the sector of crop production over the whole analysed period. The largest average amount of subsidies per farm was paid in 2009, when it amounted to LVL 2000. The largest increase in the amount of subsidies for livestock production was observed for very large farms (> = 250 ESU), while the smallest one for large farms (100-<250 ESU). The respective figures are 309 % and 39 %; hence, the difference is almost 8 times.

6. Subsidies are not the only factor affecting the production output, since the majority of cases showed a weak or very weak correlation. A very strong relationship (r = 0.85) was revealed between the amount of subsidies and production output for large farms (100-<250 ESU) in the sector of livestock production. The average indicators per farm show a medium strong correlation (r = 0.61).

7. Practically, no correlation or very weak correlation is found between the amount of subsidies and production output in the sector of crop production. The strongest relationship is observed in the group of medium small farms (8 -< 16 ESU), where the correlation coefficient equals 0.70.

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Kopsavilkums par subsidiju izmaksu rezultātiem 2007. gadā (Summary on the Results of Subsidy Payments in 2007).

Kopsavilkums par subsidiju izmaksu rezultātiem 2008. gadā (Summary on the Results of Subsidy Payments in 2008).

Kopsavilkums par subsidiju izmaksu rezultātiem 2009. gadā (Summary on the Results of Subsidy Payments in 2009).

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TIESIOGINĖ VALSTYBĖS PARAMA ŽEMĖS ŪKIO IR KAIMO PLĖTRAI LATVIJOJE

GUNITA MAŽŪRE
Latvijos žemės ūkio universitetas (Latvija)

Santrauka

Žemės ūkio plėtra yra svarbus šalies vystymosi elementas, apimantis žemdirbystės, miškininkystės ir žuvinininkystės sektoriaus bei kitas ekonominės, socialinės ir ekologinės veiklas, kurios susijusios su kaimo aplinka. Valstybės parama žemės ūkio ir kaimo plėtrai gali būti tiesioginė ir netiesioginė, ji turi būti suderinta su Europos Sąjungos paramos žemės ūkiui gairėmis. Tyrimu siekta ištirti teisinį valstybinės paramos skirstymo reguliavimą ir išanalizuoti paskirstytų nacionalinių subsidijų žemės ūkio ir kaimo plėtrai dinamiką bei poveikį. Šiuo metu valstybinės paramos skirstymo reikalavimai koreguojami siekdami supaprastinti ES reguliuojančių aktų įgyvendinimą. Keičiamos tiek turinys, tiek procedūros, siekiant paspartinti patvirtinimo procesą ir supaprastinti subsidijų gavimo reikalavimus.

PAGRINDINIAI ŽODŽIAI: valstybės parama, subsidijos, žemės ūkis, pasėlių produktyvumas, galvijų prieaugis, įtakos vertinimas.

JEL KODAI: Q10, Q14, Q18