INVESTMENT SUPPORT AND ITS IMPACT ON THE ECONOMIC RESULTS OF RURAL FARMS OF DIFFERENT GROUPS

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Abstract. Investment support is a very important type of agricultural and rural support but its evaluation in both Latvian and foreign research is not unequivocal. Therefore, the analysis of the public importance of this investment is a significant part in the evaluation of the impact of the Rural Development Programme.

The aim of the research is a detailed analysis of the investment provided by the RDP Measure *Modernisation of Agricutural Holdings*, taking into account the type of investment and the structure of the supported farms, calculating the yield of different types of investment and the impact on the rural farms of different groups. It has been performed by using the information of the Rural Support Service and the FADN databases as well as statistical data and research of Latvian and foreign scientists.

The findings show that the modernisation support has mainly reached large farms, although, the economic performance results of the small farms are much poorer and their provision with fixed assets is worse. However, the performance of the small farms has significantly increased working with the support. Taking into account the significant role of small farms in the population density of the rural areas of Latvia, this situation is closely linked with attaining the overall goal of the rural development of Latvia. Therefore, the paper offers recommendations that would facilitate the support investment to enhance the development of the rural territory more not only corresponding to the economic interests of a particular entrepreneur.

Key words: agricultural policy, farm subsidy, investment, project evaluation.

JEL code: O130, O220, Q180.

Introduction

Investment support in Latvia is a very important type of agricultural and rural support. Approximately 63% of the public funding of the Rural Development Programme 2007-2013 (RDP) is granted to investment projects. More than a half of this amount of funding (52%) is assigned to agriculture, 8% - to food production, 16% - to other entrepreneurial activities, while 24% - to the development of infrastructure.

However, a wide use of investment support is criticised in some research on agrarian policy, identifying this type of support as inefficient in increasing the revenues of rural farms because the end beneficiaries of most of the support are manufacturers and suppliers of resources.

In Latvia, the investment support and its allocation criteria are not either evaluated unequivocally, thereby, it is very important to perform an objective evaluation of the impact of this support. The Measure 1.2.1 *Modernisation of Agricutural Holdings* of the Rural Development Programme 2007-2013

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comprises the absolutely largest part of support to agriculture in 2007-2013. In the next planning period (2014-2020), the RDP draft also provides a measure of support of a similar character and volume. Taking into consideration the above, the research **hypothesis** is that it is possible to use the resources assigned for the modernisation of agriculture more effectively, providing larger benefits to the development of rural space.

The **research aim** is a detailed analysis of the investment provided by the RDP 2007-2013 Measure 1.2.1. *Modernisation of Agricutural Holdings*, taking into account the structure of the supported farms, calculating the economic results of the rural farms of different groups.

The following tasks were put forward:

1) to analyse the significance of the investment support and the experience of other countries;
2) to analyse the results of support for the modernisation of agriculture in Latvia;
3) to evaluate the support efficiency depending on the amount of the received financing per beneficiary and the economic size of the farm;
4) to summarise the obtained results and offer recommendations to improve the support effectiveness taking into account the overall goal of rural development.

The research object is rural farms of Latvia that have received support for the modernisation of agriculture in the period of 2007-2013. Results of the entire agriculture sector as well as results of the farms of similar size and specialisation that have not received the support are also used to characterise the support impact. The research subject is the RDP 2007-2013 support for the *Modernisation of Agricutural Holdings*.

Methods and approaches of economic analysis were used in the research. The main quantitative methods used in processing data and obtaining results were grouping and comparative analysis. The logical constructive analysis and interpretation were used to make conclusions and develop recommendations. The graphical method was used to illustrate the results.

The theoretical part of the paper is based on the research of Latvian and foreign scientists but practical information was mainly obtained from the databases of the Rural Support Service (RSS) as well as the FADN from which the necessary groupings were made. In addition, the data of the Central Statistical Bureau (CSB) were used in the research.

The aim of this paper is not to analyse all aspects of investment support. Investment support creates not only the direct economic impact but also structural changes related with it, which leave social, territorial, environmental impact etc. All these aspects are very significant when developing investment policy in Latvia but they are objects of another research. Due to the scope limitations, three main indicators that characterise events in farms after receiving the support were selected for the analysis:

1) changes in the net turnover (approve the increase of production volume);

2) changes in the gross value added (GVA) (approve changes of the newly created value, thus, the revenue gaining potential; additional GVA is the main result indicator according to the EU evaluation methodology and is the basis for the calculation of impact indicators (Lukesh R., Schuh B. et al., 2010).

3) changes in employment (it is one of the indicators of the economic impact, and according to the current research on the rural environment, employment is the most topical issue in rural territories).

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A method of comparing the results of the group of the supported farms with the control group was used in cases when it is possible to design a group of the farms to be supported and the control group. To compare changes in the value added in farms of different size the indicator "ratio of GVA change against the support" was used.

The group of supported farms includes those farms that have received the support of Measure 1.2.1 from 2008-2010, while the group of those working without the support comprises the farms that have not received any support of this Measure from 2007-2011. The analysis comprises only those farms about which data were available for the entire period of 2007-2011 (there are 660 such farms in the FADN database).

Taking into consideration the relatively short time between starting the 2007-2013 support measures and the evaluation as well as the fact that a complete return on the capital investment can be expected after several years (at least 5 years for the technical equipment but even more for buildings), the results described in the paper should be considered indicative.

The author has not found any equivalent earlier research on the evaluation of the economic impact of the agriculture investment support in Latvia. There are some similar studies in other EU countries, which in general show similar results (e.g. Medonos T., 2012; Ortner K., 2011), although, they explain results at national level without more detailed structure.

Research results and discussion

1. The importance of the investment support and the analysis of the experience of other countries

Analysing the history and development of the CAP, it can be observed that investment support is a relatively new form of support which has partly substituted the previous support mechanisms (direct price support, export repayment etc.) (European Commission, 2010; Neal L., 2007; Treisijs M., 1996). In Latvia, the investment support has been one of the most significant types of support in agriculture already since the beginning of the SAPARD programme in 2001 (RSS database). However, it has to be admitted that this support also creates direct impact on competition, including the fact that those entrepreneurs who have not received such a support are placed in a significantly worse position (for example, the number of the farms receiving the planned support in Measure 1.2.1 of the RDP 2007-2013 is only around 4.5% of total number of active rural farms but at the regional level this proportion (taking into account farms that have been involved in the measure until 2.07.2012) fluctuates from 0 to 10.5% against the total number of farms (RSS data).

In certain research on agrarian policy, the use of investment support is criticised, identifying this type of support as inefficient in increasing the revenue of rural farms (Upite, 2010). However, irrespective of that, a very large amount of funding is allocated to this support, especially in the EU, including Latvia. In Latvia, this support has received 30-40% of the total financing meant for the funds financing structural changes in agriculture since 2002 (SAPARD, Structural Funds 2004-2006 and RDP 2007-2013).

The negative aspects of investment support are analysed in studies carried out by the OECD. They indicate that setting increase of revenues as a support goal comes along with several significant aspects: first, not all farms need the revenue support. Therefore, it is necessary to define precisely the criteria that will be used to evaluate the appropriateness of farms for such a support. If the support is provided

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without setting such criteria, a situation is created when less competitive farmers are under a constant pressure: prices of agricultural products decrease due to the cost reduction because of production modernisation, and those manufacturers who have not managed to adjust to the new production methods experience drop in the revenue (OECD, 2002). There it can be concluded that a situation when the investment support is mainly aimed at those farms which are economically stronger (are able to attract credit resources, show better viability indicators etc.) creates an even larger economic stratification – the already strong farms become even more competitive but the revenues of others reduce, which is unwelcome from the perspective of the country's balanced development.

The OECD authors admit ineffective such support programmes that are not aimed at particular target households that experience a topical need to increase revenues. For example, providing support proportionally to the production volume, the largest part of transfer reaches the largest manufacturers, out of which many already have larger revenues. The above mentioned, of course, can also be referred to investment support if it is not purposefully targeted to increase the revenue of groups of farms with lower revenue or, especially, if it is allocated to rural farms that already have high revenues.

In contrary, the OECD authors admit direct revenue support payments as the most effective way of increasing the revenue, especially, if they are completely separated from agricultural operations. The advantage of such payments is also that they can be purposefully targeted at those farms which policy makers consider to be necessary to offer support.

Although, in Latvia, there is no direct research about the end users of support, the analysis of revenues indicates that the revenue of rural farms is significantly and immediately affected by direct payments (from 2004 to 2011 the revenues of rural farms have increased by almost precisely the same amount the direct payments have increased (Veveris A., 2013)) but the impact of the investment support cannot be determined so easily because it cannot be observed within one year. Yet, there are indications about a positive correlation between the investment price and the amount of investment; thus, opening wide support programmes facilitates rise in the resource price (Database of Agricultural …, 2013).

2. Analysis of the results of the agriculture modernisation support

A significant part of the RDP 2007-2013 resources is assigned to investment in agriculture, forestry as well as enterprises of other industries. Considering that 94% of support for agricultural investment is done through the Measure 1.2.1 *Modernisation of Agricutural Holdings*, the particular measure was selected for this research.

The distribution of support beneficiaries and public funding by the groups of the size of the farms was summarised, dividing all farms into seven groups according to standard output (from Group 0 to 6), based on the methodology used by the CSB. This division was performed by the CSB using the data of the RSS about the support beneficiaries. For part of the farms, the standard output (SO) is not indicated (including the non-agricultural enterprises, societies etc. but they are only 3.6% among the participants of Measure 1.2.1). The data reveal a significant support concentration in two groups of larger farms - 942 farms (or 88%) have received support in the group of 1073 farms whose economic size increases EUR 100 thou. SO but the share of support beneficiaries decreases fast with every smaller group and in the group which comprises the largest number of farms – 76 thou. or 92% of total number of rural farms – only 858 or 1% of farms have received this support (Table 1).

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Table 1

Intensity of the Measure "Modernisation of Agricutural Holdings" in the groups of farm size (projects 2008-2012)

Group of economic size (thou.EUR standard output)	**Total number of farms (CSB, 2010)**	**No of support benefi-ciaries**	**Public funding in Measure 1.2.1. (thou.EUR)**	**Share of public funding in the farm group**	**Average public funding per beneficiary (EUR)**
0 to 1 (to 14.9)	76 499	858	22 866	6.3%	26 650
2 (15 to 24.9)	2 630	501	12 608	3.5%	25 166
3 (25 to 49.9)	2 117	813	30 674	8.5%	37 730
4 (50 to 99.9)	1 067	684	33 943	9.4%	49 624
5 (100 to 499.9)	924	803	149 157	41.3%	185 749
6 (500 and more)	149	139	111 777	31.0%	804 147
SO is not determined	x	144	23 025	x	159 895
Total	**83 386**	**3 942**	**384 049**	**100.0%**	**97 425**

Source: CSB and RSS data (2010-2012)

Calculating both the hectares of the utilised agricultural area (UAA) and the unit of livestock, the large farms (Group 6) have received the largest support, which are closely followed by medium size farms (Groups 3-5), while the situation is the worst in small farms (Groups 0-2). Whereas, in the very large farms (Group 7), the support level is slightly lower than in the large farms (Group 6) which is related to the structure of the property.

The analysis of the business indicators was performed to evaluate and compare the significance of the investment in the operation of farms, grouping the projects according to the type of investment, as well as the size of the farm. Taking into account that the time period that can be covered using the RSS data is very short, mainly the FADN information was used for data analysis, as their data are offered across the farms, and the time row about 2007-2011 is available. It can be added that the obtained indicators regarding changes of turnover in 2011 against 2010, using the FADN data, are comparable with the data obtained in the RSS database.

Comparing the farms that have received and that have not received the support, it has been stated that the performance results of the supported farms are better. On average, the turnover has increased by 23% in all supported farms from 2007 to 2011 but it has increased by 11% in the farms that have not received the support. However, in 2011, the average GVA in the supported farms reached 90% of the 2007 level and only 77% in the farms that were not supported. Comparing different types of investment, the differences among trends are not significant in most cases. Other potential factors that could significantly affect the results of each studied group were also evaluated during the analysis but significant deviations from the average were not observed (taking into account specialisation, structure of the farm size, amount of the received support against the annual turnover etc.).

The summarised data allow concluding that the impact of the support on the employment in rural farms has been explicitly positive because the average number of the employed in the reporting period has decreased by 20% in the farms that have worked without the support while it has decreased only by 6% in the support beneficiary farms. Among various types of investment, significant differences of these indicators were not observed, although, farms that have invested in buildings exhibit a better balance if compared with the farms that have only purchased machinery and equipment.

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One of the most controversial issues when setting conditions for receiving support is the allowed amount of support (public funding) per beneficiary. In the current period (2007-2013), it has been one of the highest (EUR 4 million eligible costs in agriculture) in Latvia. The RSS data reveal that the support amount paid per beneficiary has been rather large - EUR 97 425 on average. The newly created value of the farms (GVA) from the received support is presented in Table 2. Taking into account the rapid decrease of GVA in 2008 as well as the fact that the decrease in 2008 was more strongly expressed in the farms producing grain, the data about the period from 2008 to 2011 were used for comparison.

The performed analysis reveals that the best results are achieved in the farms whose support amount in Measure 1.2.1 does not exceed EUR 28 thou. within 3 years (2008-2011), the amount of value added has increased by 20-25% in these farms, which is significantly more than in the farms working without the support, and also in those farms that have received larger support. In addition, calculating the increase of value added against the amount of support, the largest coefficient is in these groups – around 0.45 which means that every euro of the received support has created additional value added increase by 45 euro cent.

Table 2

Gross value added and its changes on average per FADN farm depending on the support amount received within the RDP Measure 1.2.1 (2008-2011, EUR)

Amount of suport	No of farms in sample	2008	2011	2011/ 2008	Average support amount	GVA change / support
Without support	321	28 027	28 251	1.01	0	x
Support up to 14 thou. EUR	56	20 412	24 353	1.19	8 094	**0.46**
Support from 14 to 28 thou.EUR	77	38 910	48 794	1.25	21 811	**0.44**
Support from 28 līdz 71 thou.EUR	77	83 486	89 846	1.08	43 228	**0.14**
Support from 71 to 142 thou.EUR	31	195 756	210 490	1.08	96 719	**0.15**
Support above 142 thou.EUR	27	402 258	344 129	0.86	268 862	**-0.22**

Source: author's calculations based on the FADN data (2008-2011)

It can be concluded that the obtained results still encourage to evaluate more carefully the public need to assign large support amounts to one beneficiary, especially, in agriculture where many manufacturers operate.

The initial part of the analysis of the support measure revealed that the absolutely largest part of investment support beneficiaries had been received by large farms (with the standard output above EUR 100,000 per year). Such a situation could be justified if the received support was used effectively. According to the EU evaluation methodology (Lukesch R., Schuh B. et al., 2010), the main criteria for support effectiveness in this period are economic growth (measured as an additional gross value added), increase of work productivity (additional gross value added per labour unit), and enhancement of employment (number of net additional newly created workplaces). Taking into account that the above mentioned indicators are interrelated (additional value added creates either increase of productivity or workplaces but in Latvia both these aims are important), the GVA was selected as a summative indicator in the present analysis. Table 3 summarises the differences between the yield from investment in the

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groups of farms with various size, using the above mentioned criterion – changes in the gross value added.

It can be observed from the obtained data that there are significant differences in the groups of farm size regarding gaining the additional value added. First, the farms working without the support exhibit a trend – the larger the farm, the better the dynamics of the value added in the reporting period. In small farms, it has decreased from 2008 to 2011, in medium farms – decreased but less; however, in large farms – increased without even receiving this support.

Whereas, these are exactly the small farms, together with medium small up to EUR 25,000 SO, among the support beneficiaries where the fastest GVA increase has been observed – by 37%.

Table 3

Gross value added and its changes on average in a FADN farm as a result of the RDP Measure 1.2.1, distributed across the groups of economic size (2008-2011, EUR)

Farm groups (by Standard Output)	No of farms in sample	2008	2011	2011/ 2008	Average support amount	GVA change / support
With support of 1.2.1. measure						
Small and medium small (4-25 thou.EUR)	36	6 550	8 943	1.37	16 604	**0.19**
Medium (25-100 thou.EUR)	124	25 425	33 034	1.30	31 019	**0.28**
Large (above 100 thou.EUR)	108	223 226	217 015	0.97	104 395	**-0.17**
Without 1.2.1. measure support						
Small and medium small (4-25 thou.EUR)	180	5 695	4 971	0.87	0	x
Medium (25-100 thou.EUR)	112	18 784	17 615	0.94	0	x
Large (above 100 thou.EUR)	29	202 339	213 833	1.06	0	x

Source: author's calculations based on the FADN data (2008-2011)

The next group of farms does not lag behind much – increase by 30%. Though, the GVA has even decreased in the large farms, irrespective of the support. The GVA change coefficient (net GVA changes in the respective farm group against the received support amount) is the largest in the group of medium farms (0.28), slightly lower in the group of small farms (0.19) but it is negative (-0.17) in the group of large farms, which indicates that the GVA increase has been bigger for the ones working without support in this group.

Obtained results correspond with findings of some other research done in Latvia, where important role of small and medium enterprises in Latvian economy and necessity to increase the number of companies, including farmers in all Latvian regions is highlighted (Kantane I., Sloka B., Vilcina A., 2010). Of course, such companies should be competitive. The investment support could be one of the tools to reach this goal, if to use it more targeted.

To plan further support, it is important to investigate the reasons that caused the reduction of the GVA in the supported large farms. One of the reasons, which is revealed in the summarised data, is that these farms have been slower recovering from the recession in 2008-2009. The number of farms comprised in the sample (108) and the case study do not allow attributing the obtained results only to the failure of

certain farms (the sample does not comprise farms with the annual turnover above EUR 14.2 million). It has to be added that the summarised results of 2012 were not available during the research.

Conclusions, proposals, recommendations

1. The analysis revealed significant differences of economic indicators based on the following two criteria:

1) amount of support per beneficiary;
2) economic size of the supported farms.

The available data revealed that farms the support to which within the Measure 1.2.1 did not exceed EUR 28,000 had attained the best results. Comparing the economic performance based on the size of the farm, similar results were obtained − the group of medium farms (with SO from EUR 25,000 to 100,000 per year) demonstrated higher yield; the results were close also in the group of small farms (with SO from EUR 4,000 to 25,000), while the data obtained in the group of large farms did not approve that the support would have facilitated the creation of additional value added.

2. The results of the analysis indicatively revealed that it was rational to limit the amount of public support to be allocated per beneficiary within one period to EUR 142,000 because the performance results of the farms which received support exceeded this amount were worse than those of the farms with a smaller support. Exceptions could be allowed in certain cases when the public significance of a larger support was justified (for cooperatives, rural development centres etc.). However, the analysed data do not offer an exhaustive answer to the causes why large support beneficiaries showed worse performance results, thus, additional research would be useful.

3. The objective of rural support should be support first those that would not be capable of investing without the support. First of all, those are farms with the economic size (SO) up to EUR 25 000. In addition, the development of these farms would require support for developing cooperation, development of the market of agricultural services (enterprises renting specialised equipment or its service etc.), and availability of consultations.

4. Taking into consideration that with similar opportunities for support use, economically strong farms use it more actively, support quotas can be divided based on the farm size, with the goal to balance the distribution of support flow among the farm groups. Allocating the support amount within the quotas, the present provision with fixed assets and the real need also have to be taken into account. The farm size before taking the decision can be taken into account not to encourage artificial division of farms to obtain support.

5. At the same time, the development of large farms into rural economic centres with diverse operations (to provide work places for the entire year) into service providers to other farms; development of cooperatives and extension of the existing ones involving small farms in them etc. should be supported. These activities should have a separate support, evaluating the contribution of the particular project to the territorial development.

Such solutions would help attain complex rural development goals, including the overall goal "a prosperous man in sustainable populated rural areas of Latvia" (Ministry of Agricultureof the Republic of Latvia, 2012), not only the development of single economically strong enterprises.

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