
Impact of Investment Support and Activity on Farms Economic Performance in Bulgaria

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Summary

Support for investment in agricultural holdings – an undivided part of the Common Agricultural Policy. During 2015–2016 IAE developed scientific project “Impact of investment support on the economic viability of farms”. One of the aims of the project was to quantification of this influence and to prepare ex-post and ex-ante analysis. Investment aid cover part of the total cost of the programs related to investment activities in a farm. Support for investment in Europe is priority since the Treaty of Rome in 1957. EU member states under Regulation 1257/1999 and 1698/2005 may include support for investment in its plans for rural development. The objectives of investment support are different in different stages of development of the CAP. Since 2000, especially in 2014–2020 investment support aims at building high-performance farms in the sustainable management of resources and reduce environmental risks. The aim of this paper is to present the results from the analysis of the investment support and activity impact on farms’ economic performance.

Key words: investment support, economic efficiency, farms, CAP

Въздействие на инвестиционната подкрепа и дейност върху икономическата ефективност на фермите в България

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Резюме

Подкрепата за инвестиране в земеделските стопанства е неразделна част от ОСП. През периода 2015–2016 г. Институтът по аграрна икономика разработи научен проект „Влияние на инвестиционната подкрепа върху икономическата жизнеспособност на земеделските стопанства”. Една от целите на проекта е да се даде количествено измерение на това влияние и да се направят ex-post и ex-ante анализи. Инвестиционната подкрепа покрива част от общите разходи на програмите, свързани с инвестиционната активност във фермата. Инвестиционната подкрепа в Европа е приоритет от Римския договор от 1957 г. Страните членки на ЕС могат да включат инвестиционна подкрепа в своите планове за развитие на земеделието според Регулации 1257/1999 и 1698/2005. Целите на инвестиционната подкрепа са различни в различните етапи на ОСП. От 2000 г. насам и особено през периода 2014–2020 г. инвестиционната подкрепа цели изграждане на ферми с висока производителност, с устойчиво управление на ресурсите и намаляване на рисковете за околната среда. Целта на статията е да представи резултатите от анализа на инвестиционната подкрепа и въздействието на дейността върху икономическата ефективност на фермите.

Ключови думи: инвестиционна подкрепа, икономическа ефективност, ферми, ОСП

1. Introduction

Farms investment support is indispensable part of EU CAP. The most direct expression of investments support policy are the measures encouraging structural investments; investments improving the environmental quality; investments improving the livestock well-being; investments stimulating the diversification and investments, related to costs for new farms building from young farmers.

The investment support usually covers a part of the total costs for the realization of programs with different durations (single, short, medium or long term), related to investment activity in a farm (Dwyer, 2005). Investment subsidies are often related to criteria, subordinated to the requirements for environment protection and sustainable development of agriculture. As a result of the made investments it is expected to improve the productivity in agriculture as a whole and in particular of the different agricultural producers (Dwyer, 2005).

In Europe the investments support for the farms has been a priority after the Treaty of Rome in 1957. One of the purposes of this Treaty is to increase the agricultural productivity through support of technical progress and increase of labour productiveness. In 1972 the Mansholt plan has led to the elaboration of European directive for farms' modernization. Thereafter have been introduced the Directives EU 2328/91 and EU 950/97 for agricultural production efficiency and competitiveness improvement and to maintain European presence on the world market. Since 2000 the support of farms modernization is included in the CAP second pillar. The member – states can include the investment support under pillar 1 of their rural development plans for the implementation of Regulations 1257/1999 и 1698/2005. The most direct expression of the investment support policy for agricultural producers within CAP, in the period 2007–2013 have been the following measures: Measure 121 for farms modernization; Measure 112 for young farmers establishment and investments support, related to the diversification and to non-agricultural activities (Measure 311). The different kinds of investments could be classified conditionally

in five groups: structural investments (Measure 121); investments improving environment quality (or decreasing unfavourable external factors) (Measure 121); investment improving livestock welfare (Measure 121); investment stimulating diversification (Measures 121 or 311); investments related to the taking of costs for farms establishment by young farmers (Measure 112). Diversified investments are all investments leading to farmer income from non-primary agricultural activities (Measure 121) or non-agricultural activities (Measure 311). Ecological investments consist of investments diminishing risks for the environment, as technologies for emissions decrease in livestock buildings and manure spreading; technologies for diminishing of energy consumption; fertilization and water use. Investments in animal welfare presuppose the insurance of alternative systems for livestock buildings and conditions for their inhabitation.

During the actual program period 2014–2020, Measure 4.1 „Investments in agricultural holdings” from the RDP 2014–2020, as the maximal budget per project is 1.5 million EUR. Investments include building, repairs and plantations creation. It is previewed all investments in North-West Bulgaria to benefit of priority, as well as investments in livestock breeding perennial crops, vegetable growing and investments for young farmers, beneficiaries under the Measure from the past program period. There is a contract signed with the World Bank from 2014 for the elaboration of Strategy for hydro melioration development. Under this strategy it is envisaged, from the part of EC, an authorization of different investments in hydromeliorative equipments and infrastructure. The other Measures under RDP in the new period related to investment activity support are: Measure 6.1. “Support for starting of young farmers” and Measure 4.2. “Investments in processing / marketing of agricultural products”.

2. Methodology and data

The research is based on methods of descriptive analysis and econometric modeling. Three multifactor models have been built and analyzed

through the method of consecutive exclusion of factors, not responding to conditions of statistic significance. These three models correspond to the following three dependent economic indicators: gross production; net income and total costs in BGN. All these three indicators refer to 2012. The included factors are related separately for 2010 and 2011. These are the values of dependent variables in the precedent 2011, the values of investment costs and of investment support in 2010 and 2011. Initially, in the multifactor regression model for the supposed relation between the dependent variable and the chosen factors have been included all predictors. On the second step some of these factors have been eliminated, which does not contribute sufficiently for the obtainment of higher degree of model and regression coefficients adequacy, per preliminary chosen criterion. Such criterion is used $POUT = 0.10$ and is compared to the empiric characteristics α . The factor J is excluded from the model if for it $\alpha(J) \geq POUT$.

On the base of obtained results has been realized a complementary econometric analysis using the same variables and two factors: value of made investments and amount of received investment support for all the period 2007–2012. The main reason for using information from all this period, not separately for each year, is the small number of farms, received investments subsidies annually. Moreover, such approach serves the aims of the prospective analysis (ex-ante), which refers for all the period 2014–2020. Additionally, it has been taken in consideration the fact that the different investment support measures within RDP are presented in the framework of all the period, not for each year separately. Thus, three econometric models more have been obtained. As a result of this complementary analysis has been elaborated an assessment of the expected impact of the investment support on farms economic state in the period 2014–2020.

Data generated in FADN (Farm Accountancy Data Network at the Ministry of Agriculture and Food). From the primary information is elaborated a combination of the so-called “panel data”, which consist of the farms participated in the collection of statistic and accountancy information

in all years of the period 2007–2012. Their number amounts 572. The sample includes farmers from all the planning regions, with different size and production specialization. Some results were used from empiric research of farms, regarding their future intentions for investment measures use, led in 2005–2016 from an IAE team with leader Prof. Dr. D. Nikolov and in collaboration with NAAS.

3. Results

3.1. Results of (ex-post) analysis on the farms economic state

• Descriptive analysis

In different years of the past program period a big part of farmers have not received any investment support. For Bulgaria this is the first stage of its EU membership and the lack of experience and traditions in this relation did not have negative influence on the investment support process under the CAP and RDP (2007–2013). Obtained results for the scope of farmers without investment support could be seen on Fig. 1.

The analysis of the chart above shows that there are a big number of farms without investment support in the first program period. Their relative share compared to their total size, on average for the period, amounts the huge number of 97.5%. Even in 2012, when there is a little decrease, this share remains extremely high – 95.5%. Obviously, big part of farms did not benefit the opportunities of past investment measures for financial support for their activity. This fact corresponds to the results related to the received investment support size in the total value of made investments (Fig. 2).

The farms that did not use investment support are small, with economic size from 2000 to 8000 EUR. Regarding these farms, for all the period, one farm has made average investments amounting 33 250 BGN. The big farms with economic size over 8000 EUR have the biggest investments activity and investment support, as the average value of put investments for all the period amounts to 981 377 BGN.

The value of made total investments in the period 2007–2012 on average, per farm, has increased

of approximately 40% (from 107 thousands BGN in 2007 to 150 thousands BGN in 2012). In significantly bigger degree has increased the average investment support size per farm – 3.2 times, or from 2558 BGN in 2007 to 10852 BGN in 2012. The relatively higher investment support increase

rate, compared to the investment value increase rate, shows three times' increase of its share in total investments amount (from 2.4% in 2007 to 7.2% in 2012). It must be noticed that despite the positive trend of investment activity development trend and of the received investment support, big

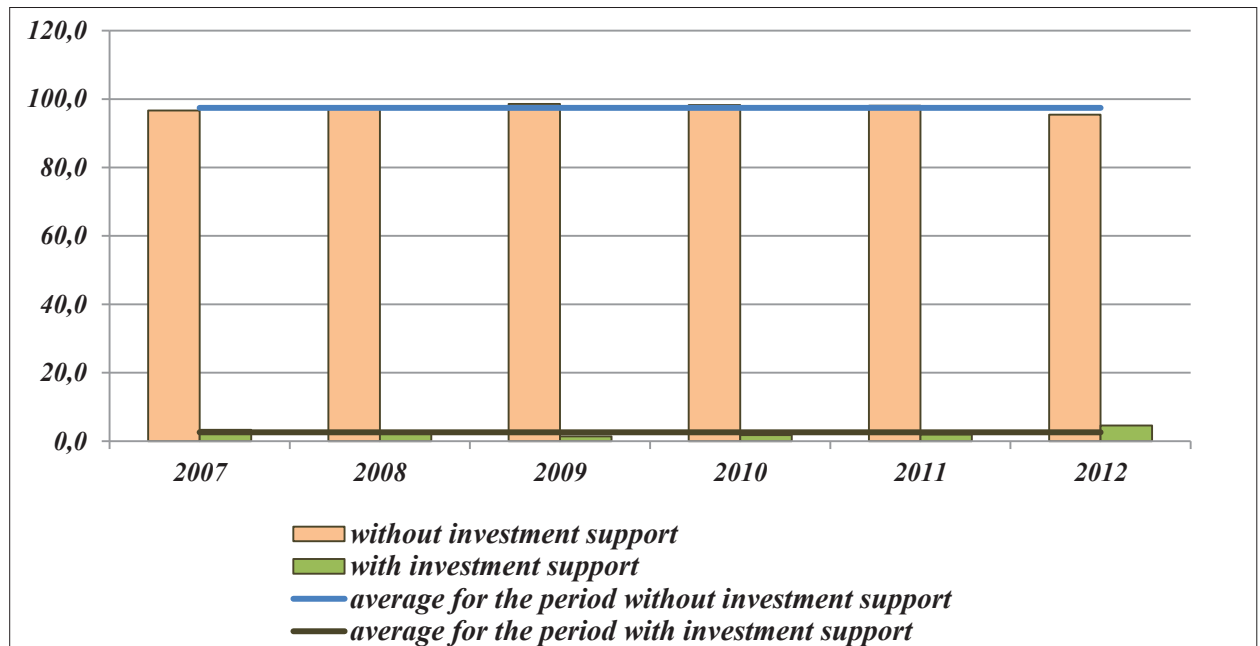


Fig. 1. Relative share of farms with and without investment support, per years, in the period 2007–2012 (%)
Source: Own calculations and FADN data.

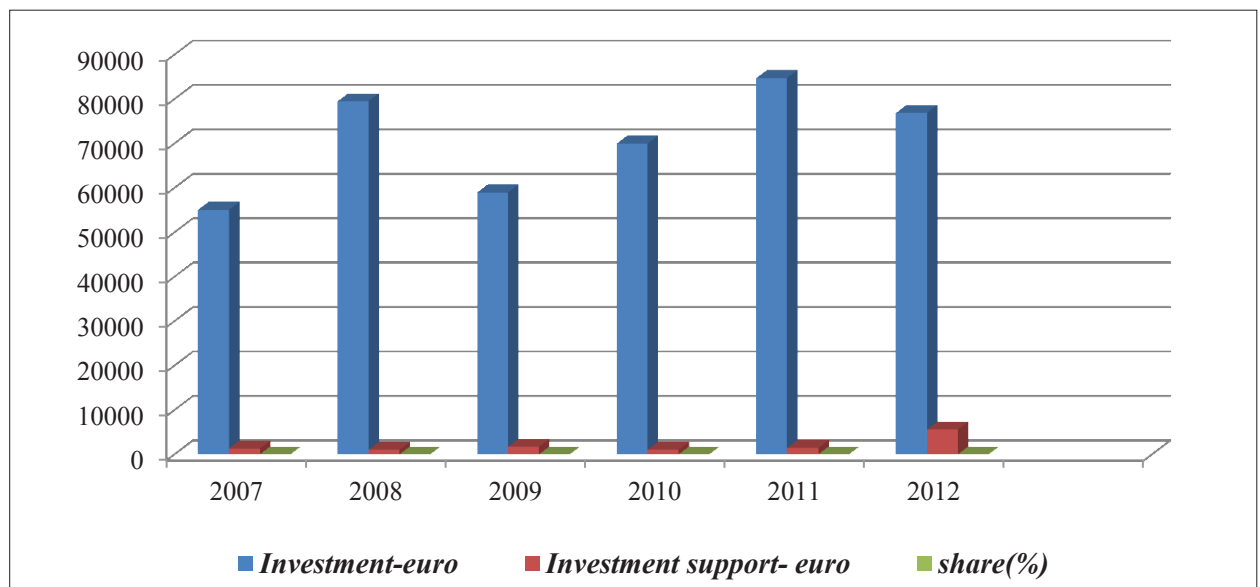


Fig. 2. Value of investments (BGN), of investment support (BGN) and range of investment support per farm, on average, by years (%)

Source: Own calculations and FADN data.

part of farmers did not realize any investment activity and the number of farmers realized their investment intentions have relied on investment support measures in much smaller degree, for the period 2007–2012.

The significance of different kinds of investments for the farmers could be seen on Fig. 3 and 4.

The data analysis indicates that priority importance have investments in machinery and equipment. They occupy the highest relative share in all years of the analyzed period. The dominant place of these investments, compared to other kinds, is increasing. From 61% in 2007, their range has increased in 2012 to 73%. The awareness of the ne-

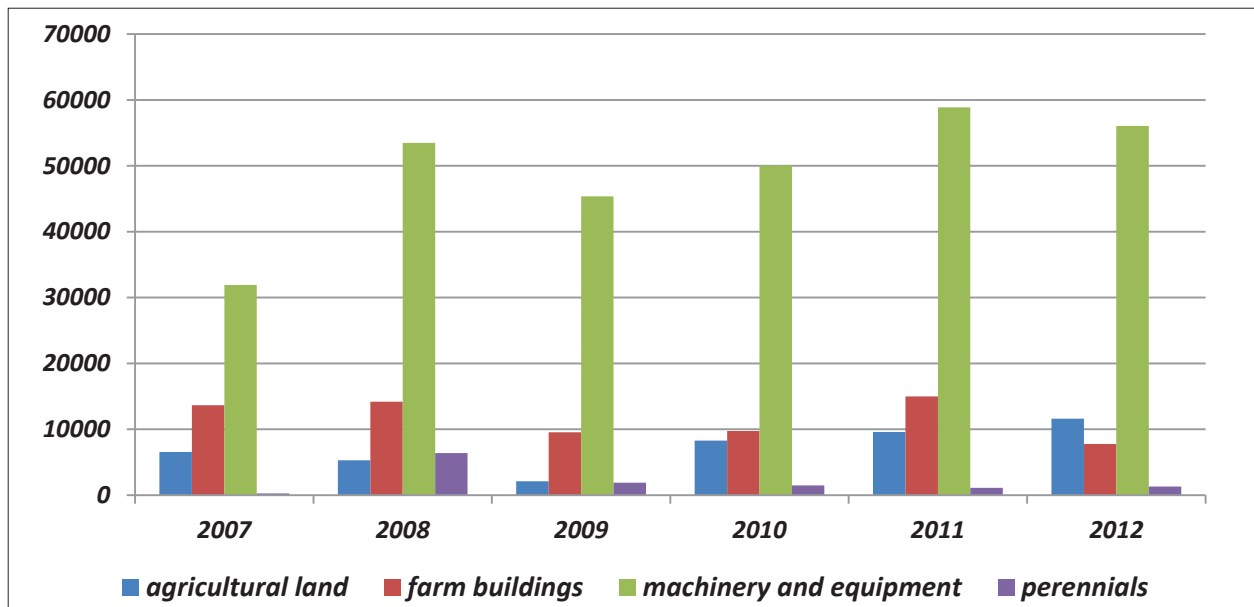


Fig. 3. Dynamics of change of investment costs value, per kinds, per farm, by years in the period 2007–2012 (BGN)
Source: Own calculations and FADN data.

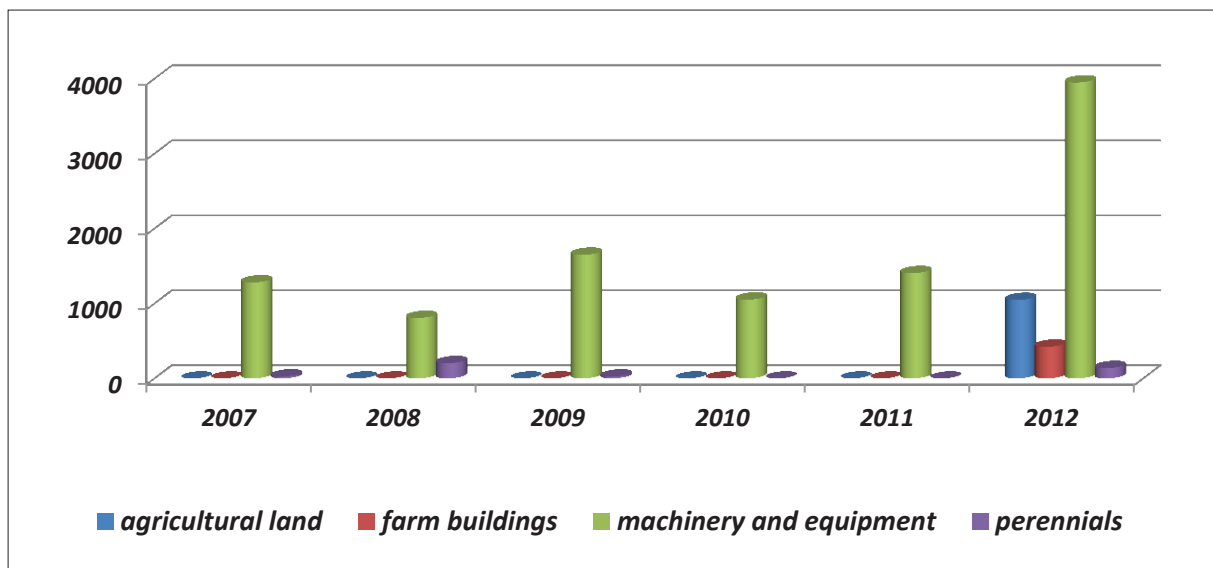


Fig. 4. Dynamics of change of investment support value, per farm, per kinds, by years, for the period 2007–2012 (BGN)
Source: Own evaluations with FADN data.

cessity of this kind of investments from the side of farmers is related to the direct positive impact on their production and economic results after the implementation of new, high-productive agricultural machinery and equipment. The direct and faster impact of the innovations in the sphere of technical production infrastructure has decisive importance for the preferences of farmers to this kind of investment.

The main indispensable natural resource in agriculture, the land, has also more increasing significance. Despite some hesitations regarding investments in agricultural land in different years, there is a trend of increase and this is the second type of investments for farmers, according to their importance. Investments in buildings have rather inconstant character. As an absolute value, in 2011, they have had a drastic increase compared to the past two years (by about 50–60%), but as a relative share in the total investments structure they show a decrease from 26% to 10%.

Data analysis shows categorically the presence of some relation between investment costs, per kinds, and European and national support for them. The most indicative in this regard is the growth of investment subsidies in agricultural lands, which have been in 2012 about 1/5 of the total investment support structure. This result corresponds to the outlined trend of increase of interest in this production resource from the farmers' side. In practice, for all the analyzed period, there is a predominance of subsidies in machinery and equipment, which corresponds to results for investment costs, showing the dominant of these investments, in relation to other investments kinds. For some years (2010, 2011) the investment support is only for this investment kind and it is almost equal to 100% in 2007 and 2009. These results correspond to the high farmers' activity in the past program period to Measure 121 of RDP for agricultural holdings modernization. This measure implementation was related to the preferences of farmers – applicants for investments in agricultural machinery and techniques. Regarding the investment support in perennial plants, it could be said that excluding 2008, in other years it was extremely little (2% of the total investments subsidies structure).

The made descriptive analysis of investment support and investment activity in the period 2007–2012 gives reason to make some conclusions. There is a big number of farmers without investment subsidies in the analyzed period. There is a positive trend of increase of the absolute value in investment support and of investment costs, on average per farm. The relative share of investment support in the total value of made investments indicates a slight increase, but remains very low. The investment support is concentrated in the biggest farms, having over 15 000 EUR standard production. Investments and investment support in machinery and equipment have priority for all the period.

• *Econometric models with independent variables for different years.*

According to the obtained results, the concrete analytic form of the three models could be presented as follows:

$$1. Y_{\text{gr.output}} = 104999.64 + 1.057 \times \text{Gr. Output (11)} - 0.722 \times \text{I.V. (11)} + 0.346 \times \text{I.V. (10)} + \varepsilon,$$

where:

$Y_{\text{gr.output}}$ – gross output value in 2012;
 Gr. Pr. (11) – gross output value in 2011;
 I.V. (11) – investments' value in 2011;
 I.V. (10) – investments' value in 2010.

The correlation coefficient (0,915) shows a very strong dependence between the dependent variable and the chosen factors. The determination coefficient defines 84-percent dependence of the gross production in 2012 regarding its level in 2011 and the made investments in 2010 and 2011 respectively. The economic interpretation of regression coefficients shows that as a result of the gross output increase in 2011 by 1000 BGN, the average gross output level of farms in 2012 has grown by 1057 BGN. This statement is true with 95% guaranteed probability. Analogically, at the investments' value increase in 2010 by 1000 BGN the average gross farms output has increased of 346 BGN. The minimal and maximal values of this increase are respectively 160 BGN and 531 BGN.

Contrary to the positive impact of examined two factors on the gross output size in 2012 is the significance of investment costs in 2011. With the increase of their size by 1000 BGN, the gross output size decreases by 722 BGN. The reason for the unfavourable investments impact in the previous year could be explained by the brief lag period (1 year only) between the time of the made investment and the moment of gross output size determination. Obviously, the short time horizon is not sufficient for the necessary return of the investment costs. As it is known, farmers rely in a small degree on own investment funds, they use credits and their servicing requires particular time.

The mathematic expression of factors on the net income level is presented by the following equation:

$$2. Y_{\text{net income}} = 61788.434 + 0,446 \times Y_{\text{net income}}(11) - 0,207 \times \text{I.V. (11)} + 0,245 \times \text{I.V. (10)} + \varepsilon,$$

where:

$Y_{\text{net income}}$ – net income value in 2012;

$Y_{\text{net income}}(11)$ – net income value in 2011;

I.V. (11) и I.V. (10) have the same significance as in equation 1.

The concrete economic interpretation of regression coefficients values show the positive impact of the net income in the previous year and of made investments in 2010. At these factors increase of 1000 BGN, this could lead to net income increase, per farm, on average, of 446 BGN and of 245 BGN respectively. We should notice that these values are average; the individual magnitudes are in the respective confidence level, with guaranteed probability equal to 95%. Investment costs, made in the previous year, have had negative effect on the net income. There is an average drop of its level by 207 BGN, at investments increase of 1000 BGN in 2011. Obviously, they have not reached the necessary return degree.

The analytic aspect of the regression relation between the total costs in 2012 and the determining factors is the following:

$$3. Y_{\text{total costs}} = 1,267 \times Y_{\text{total costs}}(11) - 0,596 \times \text{I.V. (11)} + \varepsilon,$$

where:

$$Y_{\text{total costs}} - \text{total costs value in 2012}$$

$$Y_{\text{total costs}}(11) - \text{total costs value in 2011.}$$

Total costs amount increase in the previous year of 1000 BGN has led to total costs increase in 2012 by 1267 BGN per farm, on average, while the investments' increase in 2011, by 1000 BGN, has decreased the total costs by 596 BGN in 2012. The last result shows that despite the costs, accompanying investments process, total costs decrease with the investments increase. The achieved economy of the total costs level as a result of investments oriented predominantly to agricultural machinery and equipment implementation could be connected to fewer costs of the current funds for their exploitation. For example, the high-production energy-saving technique requires fewer costs for fuel, electricity etc., compared to the old production resources.

From the led analysis of the impact of the made annual investments and investment support for the main economic indicators of the farms, the following conclusions could be made. The investment support in different years does not have significant impact on investment results from farmers' activity. Obtained results in the three variants of economic indicators are similar from the point of view of included main factors in the respective models. In the three cases the values of made investments in the previous year are included in the models as factors with main importance. The other important factor, included in all three models is the value of the respective economic indicator in the previous year. Regarding the power and the impact degree of these two factors, they have different directions, at the same way for the three examined cases. The made investments' amount has negative impact on the respective economic indicator in the previous year. Positive impact has the value of the corresponding economic indicator in the previous year

• *Econometric models with independent variables for all the period 2007–2012*

Obtained results from the supplementary analysis, where the independent variables are related

to all the period 2007–2012, are given in the table below.

From the data analysis in the table above it is seen that the made investments and the received investment support in all the period 2007–2012 have had significant impact on the generation of the three economic indicators in farms in 2012: gross production; net incomes and total costs. The degree of established economic relation is strong at the gross output and total costs generation (respectively $R = 0,709$; $R = 0,694$), and moderate at the net income formation ($R = 0,414$). Despite the noticed differences, the direction of impact of both investment amount and investment support is positive at the generation of all three economic indicators. Investment subsidies have bigger impact on the economic results' level than the made investments in the period 2007–2012.

From the obtained analysis results, regarding both investment value and investment support impacts on farms economic results, in all the previous program period, the following conclusions could be made. The made investments and the received investment support in the period 2007–2012 have had big impact, from statistical point of view, on the generation of economic indicators in the farms in 2012: gross output, net income and total costs. Evidently, the expected investment support impact could be determined only on the condition that is taken in consideration the total amount of received investment subsidies for

all the period, and not per different years. The impossibility to establish their impact for each separate year has been proven on the previous stage of the analysis. The degree of determined statistic relation is strong for the generation of gross output and total costs and moderate for the net income formation. Despite the outlined differences, the direction of impact of investment amounts and investment supports is positive at the generation of the three economic indicators

3.2. Results from (ex-ante) analysis on farms economic state

The present analysis is carried out separately for the following farms groups: with economic size from 2000 to 8000 EUR (second and third class) and for farms having economic size over 8000 EUR (bigger than third class). The necessity to separate the farms per groups is related to the investment support measures in the period 2014–2020, which have been differentiated according their economic size.

• Farms with economic size from 2000 to 8000 EUR

The obtained results, related to the definition of the expected impact of investment support in 2014–2020 on small farms are given in Table 2.

Analysis of data above shows that the expected investment support impact on the net income is most expressed under Measure 6.4.2. The net

Table 1. Regression models values with dependent variables “Gross output”, “Net income” and “Total costs” and independent variables “I.V. (Investment values)” and “I.S. (Investment Support)” for all the period 2007–2012

Regression models parameters	Gross output	Net income	Total costs
Constant	266613.57	53842.804	249078.88
I.V.(2007–2012)	0.742	0.070	0.643
I.S. (2007–2012)	1.190	0.386	1.488
Correlation coefficient – R	0.709	0.414	0.694
Determination coefficient – R^2	0.503	0.168	0.481
F – value	287.730	58.855	263.829
Significance level – (α)	0.000	0.000	0.000

Source: SPSS with data from FADN.

Table 2. Net income change, on average, per farm with economic size from 2000 to 8000 EUR, in the period 2014–2020, compared to 2012, with the impact of expected investment support within the different CAP and RDP measures and sub-measures (%)

Measure and sub-measure	Relative financial support share against eligible costs (%)	Net income size in 2014–2020 as a result of the expected financial support – BGN		Net income per farm in 2012 – BGN	Net income change against 2012 with investment support impact (%)	
		Min.	Max.		Min.	Max.
M. 4.1.2	60	28	556	1679	1.66	33.10
	80	37	741	1679	2.21	44.13
M. 6.3.	100	x	556	1679	x	33.10
M. 6.4.2.	85	157	2204	1679	9.38	131.30

Source: Own calculations.

income will increase of 9.4% least and of 131.3% maximum, on average for this group of farms, compared to the basic 2012. This can occur in case of financial support within this measure for all the program period. In 2015–2016 the scientific team of IAE with the collaboration of National Agricultural Advisory System has led a survey related to intentions and activity of farmers to investment measures in the new program period. The results from this survey show low degree of farmers' activity regarding this Measure. From the interviewed small farms barely 11.2% manifest strong decision to make investments in non-agricultural activities within M. 6.4.2. Therefore, the positive effect of this sub-measure will affect one of 10 farms in the group having small economic potential. This result is expressive for the still unconscious and non-discovered need of diversification of economic activities as a reliable tool for their economic stability increase.

The future investments in farms under the Thematic program for small farms development (sub-measure 4.1.2.) will contribute to net income increase, per one small farm, on average, minimum of 1.7% and maximum of 33%, compared to 2012, provided that 60% of the costs, eligible for investments, are under this measure. In case that the financial support amount has increased to the maximal threshold of 80%, then the net income will grow from 2.2% to 44.1%. The farmers manifest much bigger interest in this thematic program. The relative share of these that have de-

clared strongly their intention to apply to this program is 36.2%. It is obvious that the significance of investments in tangible and intangible long-term investments, leading to improvement of the economic sustainability and of the farms results, has become aware as a real necessity from more number of small farmers.

The investment Measure 6.3. "Starting support for small farms development" has a high degree of positive impact on the net income change. The financial support within this measure is 100 % and this is the most probable reason for the manifested interest. The net income of the approved applicants under this measure would be increased by 33.1%, compared to 2012. Among the small farmers this is the most attractive investment measure in the second program period. 40% of respondents from small farms have the firm conviction to make attempt to use these opportunities. The obtained results, related to the comparative analysis of expected impact from different investment measures and sub-measures for the smallest farms could be seen on Fig. 5.

From the made analysis of investment measures and sub-measures on the net income change in small farms (with size from 2000 to 8000 EUR) the some conclusions could be made. The impact of all investment measures implementation in this group of farms is expected to be positive. The most attractive is the investment measure aiming the providing of startup support for small farms development (M. 6.3.). The expected impact of this

measure is close to the previewed impact of the maximally eligible support under M. 4.1.2. The investment sub-measure M. 4.1.2. is also enough attractive, as the maximal impact of this measure on the net income increase is about 30–40%.

• **Farms having economic size over 8000 EUR**

Obtained results from (ex-ante) for the farms with economic size over 8000 EUR are given in Tables 3, 4.

The percentage increase of the gross output at the end of the period 2014–2020, compared to 2012, within the expected investment subsidies under different measures and sub-measures could be illustrated on Fig. 6.

The analysis of data above shows essential differences between the various measures impact on the gross output level, at the upper limit of expected investment support. In this regard the following measures have been outlines: M.

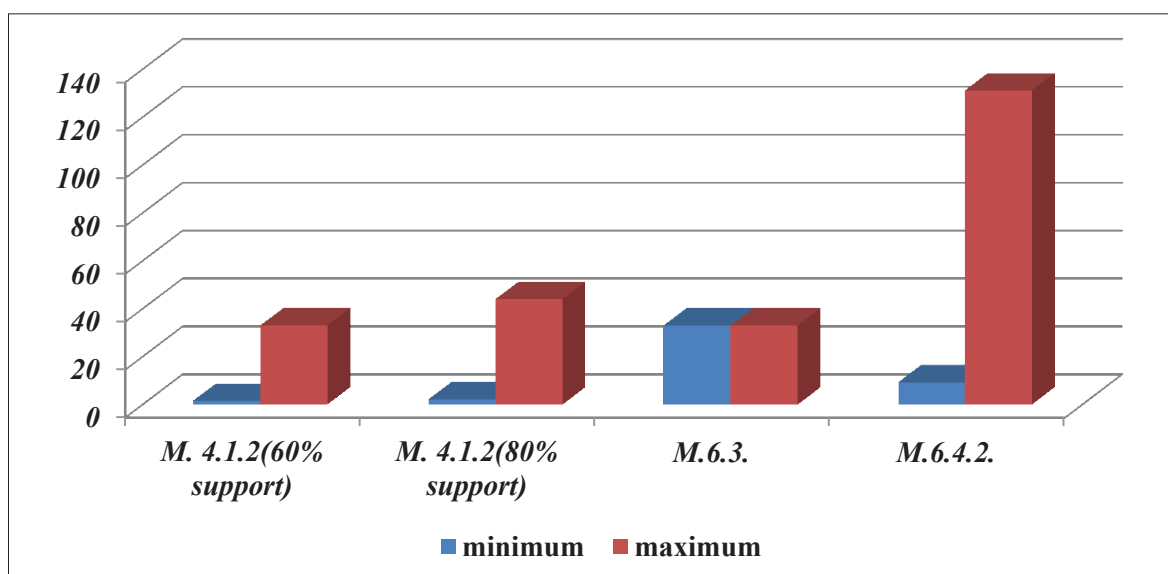


Fig. 5. Expected net income increase, on average, per farm with size from 2000 to 8000 EUR in the period 2014–2020, compared to 2012, within the different investment measures (%)

Source: Own calculations.

Table 3. Gross output change, on average, per farm with economic size over 8000 EUR in the period 2014–2010, compared to 2012 within the expected investment support under different CAP and RDP measures and sub-measures (%)

Measure and sub-measure	Relative financial support share against eligible costs (%)	Gross output size in 2014–2020 as a result of expected financial support – BGN		Gross output per farm in 2012 – BGN	Gross output change, compared to 2012 with investment support (%)	
		Min.	Max.		Min.	Max.
M. 4.1.	50	16819	1681875	1080392	2	156
M. 4.2.	50	16819	3363750	1080392	2	311
M. 4.4.	100	22425	22425	1080392	2	21
M. 6.1.	100	56062	56062	1080392	5	5
M. 6.2.	100	56062	56062	1080392	5	5
M. 6.4.1.	75	16819	1009125	1080392	2	93

Source: Own calculations.

4.2, which is oriented to modernization of physical assets of enterprises processing agricultural products, aiming new and quality products, including these related to short delivery chains; M. 4.1, which will support investments, related to the main activity and the modernization of agriculture and M. 6.4.1., destined to investment support in non-agricultural activities. The maximal possible increase of the gross output as a result of the listed three measures is respectively: 3 times for investment support for processing agricul-

tural enterprises; 1,6 times for investment support for agriculture modernization and by 93% (or 0.93 times) as a result of financial support for tourism development, for services in all sectors (for example care for kids, for old people, for persons with disabilities, health services, accountancy and auditing, veterinary activity and services based on IT) etc.

The expected high growth of gross output increase is due to the big amount of maximally eligible costs and to the expected investment sup-

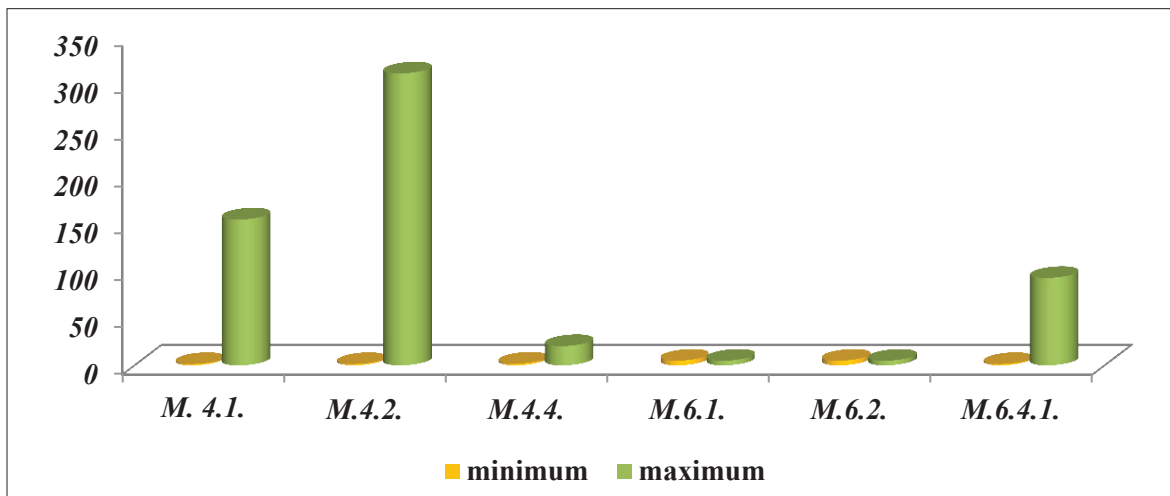


Fig. 6. Expected gross output increase, on average, per farm with size over 8000 EUR in 2014–2020, compared to 2012 within different investment measures (%)

Source: Own calculations.

Table 4. Changes of total costs, on average, per farm having economic size over 8000 EUR in the period 2014–2010, compared to 2012, within the impact of expected investment support under different CAP and RDP measures and sub-measures (%)

Measure and sub-measure	Relative financial support share against eligible costs (%)	Total costs amount size in 2014–2020 as a result of expected financial support–BGN		Gross output per farm in 2012 – BGN	Total costs change, compared to 2012, within the impact of investment support (%)	
		Min.	Max.		Min.	Max.
M. 4.1.	50	21206	2120625	971368	2	218
M. 4.2.	50	21206	4241250	971368	2	437
M. 4.4.	100	28275	282750	971368	3	29
M. 6.1.	100	70688	70688	971368	7	7
M. 6.2.	100	70688	70688	971368	7	7
M. 6.4.1.	75	21206	1272375	971368	2	131

Source: Own calculations.

port. It should be noticed that beneficiaries of the maximal investment support would be the biggest individual financially stable farms or different organizations of agricultural producers. Moreover, they should meet lots of general conditions and specific requirements. Taking in consideration these considerations, it could be supposed that the beneficiaries' group, which will receive the maximal investment support amount, will not be numerous.

The investment support amount for the biggest part of farms will be under the maximal value. It will be close to the minimal value or will be positioned slightly over this minimal threshold. Actually, the bigger part of beneficiaries would be oriented to this investment support value. The expected growth of the gross output, due to the receiving of the minimal investment support, is almost the same for all investment measures and sub-measures (Fig. 6). It is in the range from 2 % for M. 4.1., M. 4.2., M. 4.4. and M. 6.4.1. to 5% for M. 6.1. and M. 6.2.

On Table 4 are presented the results for the expected changes of total costs level, on average, per farm with economic potential over 8000 EUR, within the impact of the future investment support.

The presented total costs increase at the end of period 2014–2020, compared to 2012, within the impact of expected investment subsidies under different measures and sub-measures could be seen on Fig. 7.

As it is seen there are common elements between the last two graphs. The degree of expected influence of investment supports within different measures is almost the same on both economic indicators: gross output and total costs. This conclusion is valid regarding the minimal support, which could receive the farms from the analyzed group and in terms of the maximal eligible investment support. The reflections about the farms that could benefit of the maximal investment subsidies' threshold are the same as for the analysis of the expected gross output change. We do not mention this question here, to avoid repeating.

Although, despite the presence of a general trend for the expected growth of gross output and total costs change, there are differences related to this increase change. Clearly, the observed similarities and differences could be followed on Fig. 8, for the minimal and maximal investment support.

As it is seen, both lines expressing the expected growth rate of gross output and total costs, as a result of minimal subsidies implementation,

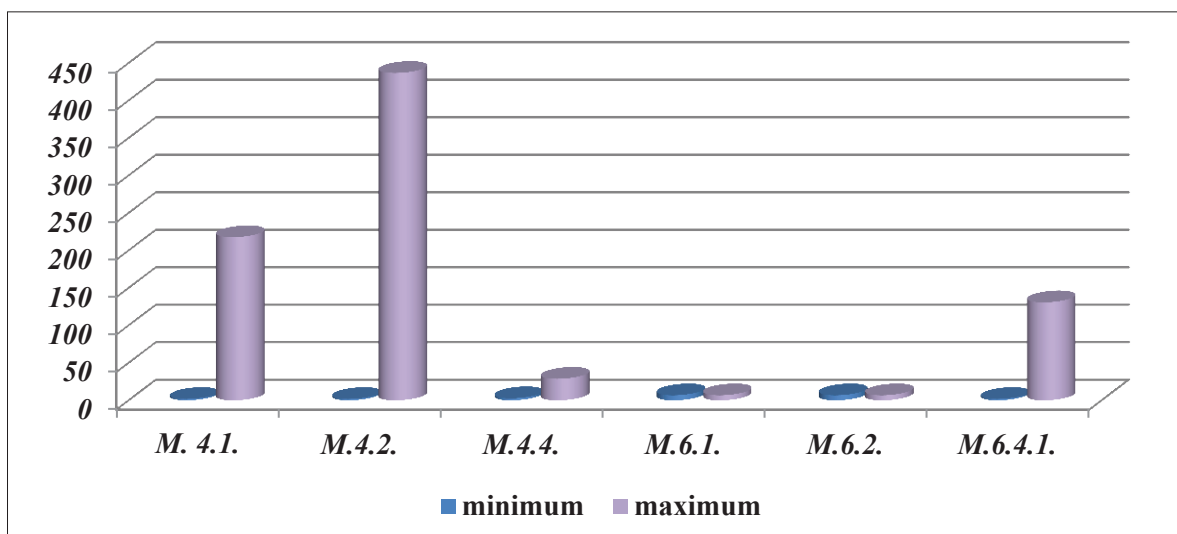


Fig. 7. Expected total costs increase, on average, per farm with size over 8000 EUR in the period 2014–2020, compared to 2012 within the impact of different investment measures (%)

Source: Own calculations.

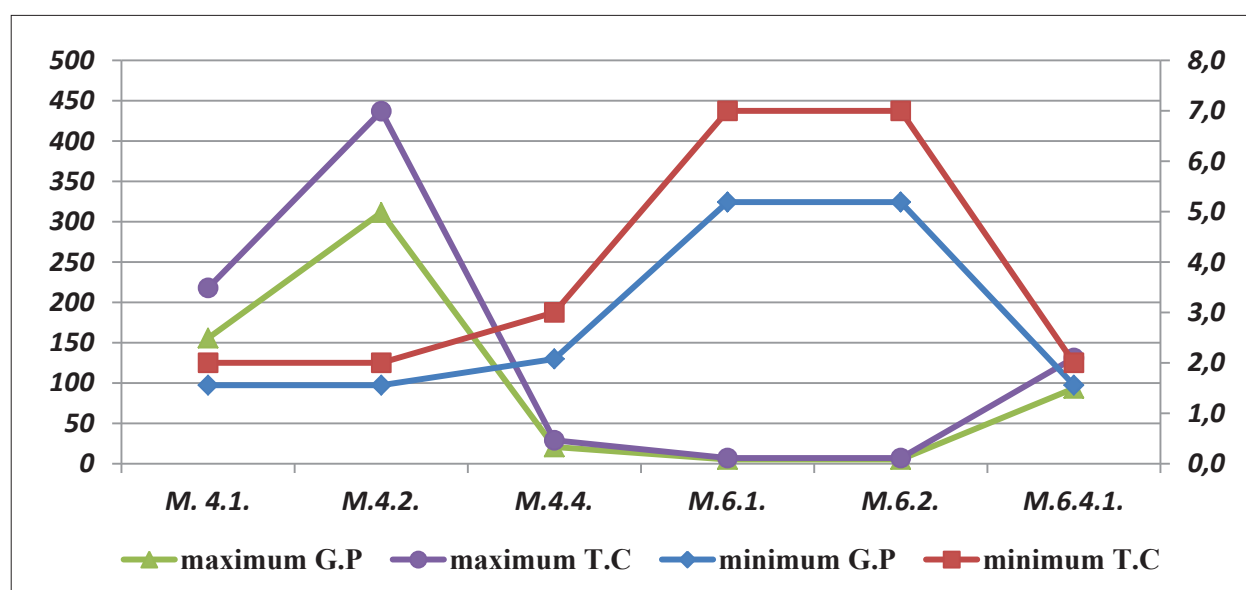


Fig. 8. Comparison between the expected increase rates of gross output and total costs, on average, per farm having economic size over 8000 EUR, within the impact of different investment measures and sub-measures in the period 2014–2020 (%)

Source: Own evaluations.

within all investment measures and sub-measures, are almost parallel. Regarding the lines reflecting the gross output and total costs increase, within the impact of maximal investment subsidies, it is clear that the expected impacts of three sub-measures are almost identical. These are M. 4.4., M.6.1. and M. 6.2. The two lines for the rest three sub-measures (M. 4.1, M. 4.2. and M. 6.4.1.) are parallel. This means that each measure has approximately the same impact power on both economic indicators.

From the Figure above it could be seen that despite the similar trends of expected impact of each investment sub-measure on the gross output and total costs change, the increase rate of total costs would be higher than the gross output rate. The bigger total costs growth in comparison to the gross output has been manifested under the impact of the maximal investment support within M. 4.2., M. 4.1. and M. 6.4.1. The total costs increase will be bigger than the gross output increase of respectively 126%, 62% and 37%. The difference in favour of total costs within the impact of the minimal threshold of investment support is in the interval from 0.4%

for M. 4.1., M. 4.2. and M. 6.4.1. to 1,8% for M. 6.1. and M. 6.2.

The made analysis reflects the expected investment support impact on the economic state in a farm with economic capacity over 8000 EUR, on average. To answer the question which part of farms will be subject to the action of different investment measures in 2014–2020 and therefore will have increased economic indicators with the already established rate have been used the obtained results from the survey. The expected range of this group of farms in different programs for investment support could be followed on Fig. 9.

The analysis of data in the last graph outlines clearly the much higher interest to the investment sub-measure for farms modernization in comparison to other measures, destined for investment support (M. 1.1.). In practice almost 60% of farmers, which farms have over 8000 EUR economic size, or every 2-nd farmer, would benefit from this measure M. 4.1. The average range of farms for all investment sub-measures counts 16%, as it is lowest for the sub-measures, related to the development of non-productive and non-agricultur-

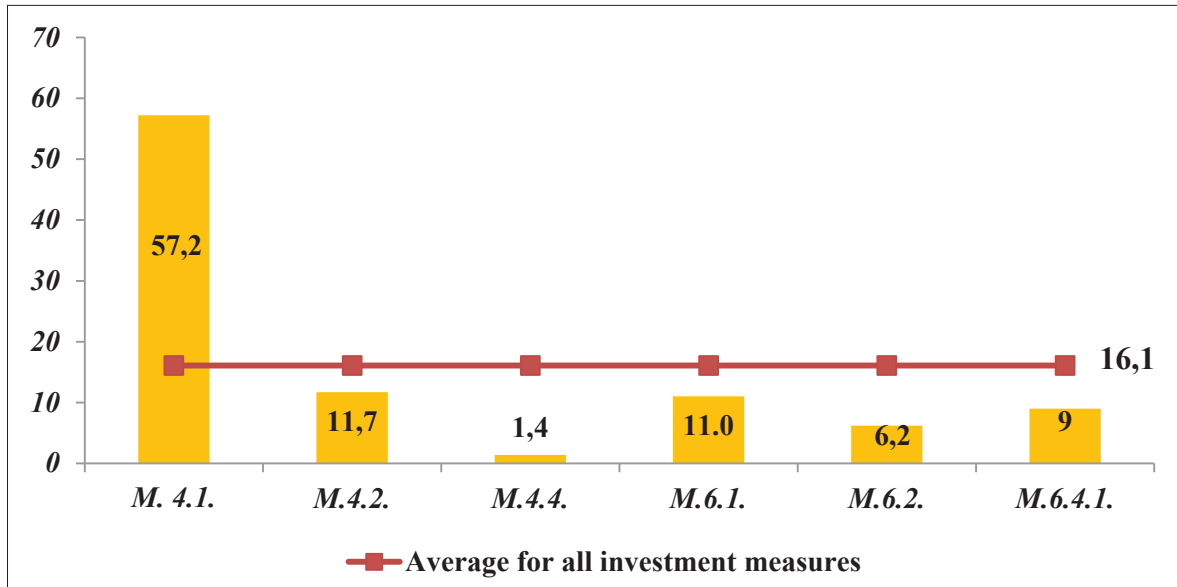


Fig. 9. Expected farms scope, having economic size over 8000 EUR in different investment measures and sub-measures in the period 2014–2020 (%)

Source: Own calculations.

al activities (M. 4.4 и M. 6.2.). Relatively low (under 10%) is the share of farms, which would apply for the sub-measure M. 6.4.1., also destined to investment support of non-agricultural activities. In case the farms have not been active to non-agricultural investments, the diversification process of their economic activities will be slow and hesitant.

From the analysis of expected impact on farms with size over 8000 EUR economic indicators as a result of investment support, the following conclusions can be mentioned. The expected impact of investment support under the different measures and sub-measures is almost the same on the gross output and the total costs. There is a big difference between the sub-measures impact on the gross output and total costs level, under the condition that beneficiaries receive the maximal value of investment support. The beneficiaries group, which will apply for the maximal size of investment support, will not be numerous. Bigger interest presents the group of beneficiaries oriented to the attainment of the minimal eligible investment support or to amount close to the previous – mentioned. This will be the most numerous practices at the application and granting of in-

vestment support. Gross output increase rates under the impact of different investment measures and sub-measures will be higher in relation to the gross output increase rate. The predominant part of this group of farms will be most active regarding the investment sub-measure related to investments in the main farm activity.

4. Conclusion

The realized survey about the impact of investment support and investment activity on the economic state of farms has proven the slight efficiency of the annual support in the period 2007–2012 for the economic farms potential consolidation. More significant is the impact of the total value of investment subsidies, received in the framework of all the previous period and predominantly on big farms. For small farms they did not have almost any role. Although, in the current program period the significance of investments in tangible and intangible fixed assets, leading to improvement of economic sustainability and economic results of the farm, has been appreciated as real necessity by increasing number of small farmers. The different investment measures in 2014–2020

would not have the same impact on farms economic level. The measures related to investments use in the main farms' activity have the biggest popularity. Farmers are still slightly oriented to investment measures, supporting non-agricultural activities development. This conclusion is valid for both small and big farms.

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