

## **INFLUENCE OF SPECIALIZATION ON ECONOMIC RESULTS OF PIG FARMS<sup>1</sup>**

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**Abstract.** The aim of the research presented in the article was to determine an influence of specialisation on economic results of pig farms. The analysis included 80 pig farms with large-scale production located in eight voivodeships of the greatest concentration of these animals' rearing in Poland. In the economic and agricultural literature there are a number of specialisation's definitions, as well as different measurement methods and criteria are applied. This hinders comparability of the gained results. Specialisation is favourable to achieving advantages resulting from the growth in production scale. In the analysed farms, the higher level of specialisation was connected with the growth of land and labour productivity, as well as increased production profitability and return on equity. Only specialized farms of great production scale are able to cope with the growing competition on pig market.

**Key words:** specialisation, pig farms, productivity and profitability of farms

### **INTRODUCTION**

Specialization of farms and an increase in the scale of production connected to this issue is one of the most significant factors of the agricultural sector development; especially, in the conditions of fragmented agricultural structure and low economic efficiency of individual farms. The current conditionings of Polish farming development created by the European Union membership and a resultant pressure of sustainability of Polish agriculture and rural areas have caused that the analyses concerning the influence of specialization and scale of production on efficiency of farms in Poland are assuming the nature of multidimensional analyses. These analyses not only consider economic results but also the above-mentioned processes' consequences for social and environmental balance in rural areas. Still, the producers choose to first improve economic efficiency. And

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<sup>1</sup>The research study funded with budgetary resources for education between 2010 and 2012 as research project no N N112 156739.

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only if there is a significant improvement in this scope, the environment variables get a chance to become more important.

In Poland, there are both many-sided and simplified, as well as specialized productions functioning. The former production type constituted a large part and it is approximately 63%, while in Hungary it does not exceed 30%, and in Germany it reaches only 17%. These numbers indicate that a higher level of the particular state's economic development is conducive to a process of specialization of farms [Józwiak and Juźwiak 2007]. A short range of specialization visible in Poland results from a limited scale of business entities' agricultural activity, amount of resources, capital barrier, low profitability of production, and lack of farming stability [Grzelak 2007].

Pig rearing is an important part of the agricultural economy of Poland. Pig livestock sales constituted 15% of agricultural market output and 27.5% of animal market output in 2009. Pork constituted 56.7% of the general meat consumption and the consumption of this particular type of meat was 42.7 kg per capita on average in Poland. According to Polish Central Statistical Office data, Poland ranks third place in EU-27 with regard to a number of headage (after Germany and Spain), and ninth place in the world. In 2008, Polish pork constituted 8.6% of EU-27 output and 1.9% of world output [GUS 2011].

The objective of the research was to determine the influence of specialization on productivity and profitability of pig farms. The research used empirical data concerning 80 farms of great scale of production. Within the process of analysis of the collected data, regression and correlation analyses were used. The research results were presented in a form of descriptive, graphic and tabular statistics.

## RESEARCH METHODS

The research covered pig farms producing 1,000 and more porkers and/or maintaining 50 and more sows. These farms were located in eight voivodeships of the most considerable concentration of these animals' rearing in Poland (Opolskie, Wielkopolskie, Kujawsko-Pomorskie, Pomorskie, Warmińsko-Mazurskie, Łódzkie, Mazowieckie and Lubelskie). Data concerning these farms for 2006 was gained on the basis of a guided interview questionnaire.

The level of specialization was determined on the basis of share of pigs in the market output value. The ratio calculated in the above-mentioned way was in the range from 56.5 to 100% in the analyzed sample and that showed a domination of pig livestock production in the examined farms. The assessment of effectiveness of the farms was conducted on the basis of the selected profitability and productivity ratios (Table 1).

Productivity ratios enable to assess the use of resources of factors of production: land, labour, and capital. The changing economic conditions and growing competition on the market force business entities to rationally manage owned resources, and the assessment of their use is indispensable for getting to know the actual earned income and defining development possibilities of farms. The calculations also took profitability ratio under consideration, which made evaluation of borne costs' transformation into production value possible. In the literature, this ratio is used in order to evaluate economic efficiency of management [Ziętara and Olko-Bagieńska 1986]. Still, as Manteuffel indicates [1981],

Table 1. The indicators proposed for the observation  
Tabela 1. Wskaźniki zaproponowane do obserwacji

Indicator	Shortcut	Mass unit	Formula
Land productivity	LP	PLN·ha <sup>-1</sup>	value added/utilised agricultural area
Labour productivity	LBP	PLN·person <sup>-1</sup>	value added/number of full-time employee
Productivity of fixed assets	PFA	PLN·PLN <sup>-1</sup>	value added/value of fixed assets
Productivity of total cost	PTC	%	production value/total cost
Return on sales	RS	%	agricultural income/value of sales
Return on assets	ROA	%	agricultural income/total assets value
Return on equity	ROE	%	agricultural income/value of equity
Return on direct costs	RDC	%	direct surplus/direct costs

Source: Own elaboration.

Źródło: Opracowanie własne.

when calculating this ratio, one should bear in mind that the considered costs must be strictly connected to production, which profitability is being assessed. In this study, total costs were related to the value of gained production.

Profitability ratios give the basis for an assessment of individuals' ability to generate agricultural income and a quality of management. These are considered to be one of the most important factors in relation to evaluation of a farm by any party interested with its condition. Sales profitability corresponds with a trade dimension and assesses efficiency in executing the main tasks of enterprises. Return on assets enables to evaluate the use of business assets, while return on equity reflects financial efficiency; that is, in the dimension of profits gained by capital donors; in other words, owners. In order to assess effectiveness of current management of enterprise, a return on direct costs ratio was also used, which is the relation between a direct surplus and direct costs. This ratio shows effectiveness of the use of working capital in pig farms.

## SPECIALIZATION IN THE THEORY OF AGRICULTURAL ECONOMICS

Farm specialization or production specialization consists in a clear focus on one, at most two production activities. This facilitates gathering information rationalising economic decisions. According to Manteuffel [1981], the smaller is a farm the bigger is the need for specialization.

Specialization is treated as a specific phenomenon of distinguishing and selecting certain fields, dividing labour, and gaining proficiency in the selected scope of activity. In the literature on the subject there are two approaches to the issue of production specialization. The first one implies that specialization consists in limiting or eliminating particular branches from the production, as well as increasing other branches, which are subjects of specialization [Jerzak 1974, Manteuffel 1981]. According to this approach, specialization is identified with defining a direction of production. The second approach shows the essence of specialization as a growth of production process from the particular production branches (products), also including a market output in a quantitative sense. What is more, proficiency in the selected activity is of greater importance here, and this is reflected in

higher productivity and quality of products. However, this approach does not consider a certain branch' share in the structure of production.

Still, in the economic literature, the specialists harmoniously agree on the fact that the growth of production is an essential condition and aim of specialization. Simultaneously, specialization is a path to growth of scale of production and, in this way, to benefits resulting from economies of scale [Runowski 1994]. However, specialization cannot solely mean quantitative changes. It must be also accompanied with qualitative changes.

Prandota divided specialization into natural and economic one [quoted by: Manteuffel 1981]. The first one results from natural conditions of farms. On the other hand, economic specialization is caused by especially competitive prices for the particular products when the basic goal is maximization of profit from a farm. Jerzak [1974] distinguished technical, production, and function specialization. The first one is an effect of development of technological progress thanks to which it is possible to replace labour with machine work. Production specialization concerns quality improvement and increase in quantity of products. This is the expression of horizontal concentration. And function specialization results from the particular nature of development of social labour division; therefore, it is determined by labour specialization or vertical concentration.

Manteuffel [1981] distinguished farm, section, branch, as well as so-called narrow specialization that is present inside one production activity; whereas, the last mentioned type is only encountered with animal output. It is found when a part of final output of farm is not an end product but one of technological groups in a closed cycle. According to the above-mentioned author, one can also consider extensive and intensive specialization; however, specialized farms should be only those, in which intensity exceeds certain minimum. Furthermore, the condition that a specialized production should be carried out by a specialist of certain field is justified. The issue of specialization became the subject of interest in Poland in approximately 1960. It was connected with an influence of Anglo-Saxon economic and agricultural literature and with international contacts of Polish farmers in the countries of Western Europe, where development of economy created favourable conditions for agricultural specialization. According to Runowski [1994], specialization of production, especially in family farms, is an indispensable process for their development and a source of increase in labour efficiency and earning capacity. This is confirmed by experience of highly developed countries.

The increase in number of specialized farms is promoted by a beneficial economic situation or, at least, stabilization of the particular agricultural markets. A factor that dynamizes specialization processes is a growth of agriculture integration with food industry; for instance, through contract award procedures, which limit transaction costs and risk borne by these farms in connection to specialist assets. What is more, producer groups, which influence specialization of the particular regions, as well as concentration of food processing industry adapted to the particular specialization, are also important for processes of specialization [Grzelak 2007].

Previously, the opinions suggesting that specialization is a consequence of economic development were prevailing. Currently, they seem to be more and more often questionable with regard to environmental and social threat concerning these processes. Since there is a situation where consumers and taxpayers bear costs of agricultural producers'

support, and simultaneously, because of intensive agricultural production, the environment is polluted [Floriańczyk 2003].

## **ADVANTAGES AND DISADVANTAGES OF FARM SPECIALIZATION**

Specialization promotes rationalization of animal output. This process involves a number of advantages; still, it can be also connected with negative phenomena. As the result of specialization, the following processes take place [Runowski 1994]:

- Increase in scale of uniform production and improvement of its quality, which enables to gain higher sale prices,
- There is a possibility of effective use of modern production technologies, and therefore, decreasing labour input and costs per a unit of output,
- Specialization facilitates mastering of production process, and; as the result, there is a growth in animal unit efficiency.

Specialization leads to the improvement in using productive resources, and therefore, it causes achievement of better production effects, reduction of unit costs, and better economic effects. The research of Józwiak and Juźwiak [2007] showed that specialized farms in Poland function more effectively than farms of many-sided production organization. After 2004 there have appeared favourable conditions defined by the Common Agricultural Policy of European Union. Therefore, one can expect a growth of share of this type of farms in population of Polish farms. According to Grzelak [2007], increasing the scope of specialization caused stronger involvement of farms in the market processes, growth of this involvement's formalization as the result of vertical and horizontal integration, and more frequent use of credits or specialist services. Simultaneously, these processes impose a capital-intensive type of agricultural intensification.

Specialization is connected to the growth of management risk that is related to price fluctuation; especially, on the pig market, as well as to increased possibility of diseases. This is visible in great fluctuations of farmers' income earned in the subsequent years in connection to the presence of the so-called pig cycles. Together with specialization of farms there is the increase in threat to natural environment. The animal output is often connected with creating great herds and that causes problems with removing and rational using of animal excrement. However, a considerable part of negative results of specialization can be eliminated through implementation of technical progress effects.

## **MEASUREMENT METHODS OF SPECIALIZATION**

A level of specialization is defined in the economic literature in a number of ways. The most often it is determined on the basis of share in the structure of final output (or market output) of the branch or production activity, which considerably predominates over others. According to Manteuffel [1981], specialization is found when a share of one section, one branch, or one production activity in the structure of final or market output is sufficient (e.g. 50, 65 or 75%).

The notion of specialization is similar to the notion of economic or production course. According to criteria established by Wojtaszek [1965] a specialized (single-course) farm is a farm in which one branch constitutes over 40% in the structure of final output, and others constitute less than 30%. Klepacki [1996] has got the same opinion and he, additionally, differentiates levels of farm specialization. According to this author, farms where one branch' share is more than 50% are defined by a higher level of specialization. And the highly specialized farms are those which have one branch' share of more than 66%. Fully-specialized farms are defined as those which have a clearly dominating branch and their other branches are marginal or existing only thanks to the dominating branch. Ziętara and Olko-Bagieńska [1986] implemented specialization ratio in order to assess a level of specialization, and that ratio considered a percentage share of the particular branch in the structure of final or market output, as well as an ordering number of branch in accordance with decreasing share. This shows a level of production concentration. On the other hand, Juszczak [2005] offered specialization depth ratio which is calculated as a quotient of value of potentially market output of the main product, and a sum of value of potentially market output of the main product, products created through the main product' processing and products coupled in percentage terms. According to the author' opinion, this ratio can play more and more significant part; especially in farms of small area that have got relatively considerable and not entirely used, labour force resources.

In other European Union states, the measurement of farm' specialization is a share of standard gross margin (SGM) of the particular activity in the sum of standard margins from the whole farm. The farm is considered as specialized if this share is above 2/3. Higher share enables to distinguish specialization levels.

Therefore, the fact that specialization is a conventional notion and its criteria are changing in time is worth emphasising. Empirical research practically decides on quantity of share of one section, branch, or production activity in the value of final or market output in order to define the particular farm as a fully specialized farm.

## CHARACTERIZATION OF THE ANALYZED FARMS

The analyzed farms were specialized in pig livestock production; still, they were different in a level of specialization. On the basis of share of pig livestock in the analyzed sample of entities, three groups were distinguished. The first group included farms of specialization ratio lower than 90%, the second one consisted of units which pig livestock share in market output was between 90 do 99.9%. While the third group included fully specialized farms of specialization ratio of 100%.

The farms of the first group were characterized by the most considerable agricultural area, which on average was 151.2 ha (Table 2). In the second group, the average utilised agricultural area was over twice smaller. And the fully specialized farms had got the smallest agricultural area – 40.1 ha. The similar diversity was found within the scope of labour input. In the first group the average yearly labour input was 12,491 h. On the farms of the second group the labour input was lesser by 1/4, while in the third group it was lesser by 1/3. On the farms of the lowest specialization ratio the value of fixed assets was the highest as it was PLN 1,496. In other two groups the value of these assets was

similar (approximately PLN 1,238). A different situation was observed in connection with a debt margin, which was quite low. The lowest foreign capital share in enterprise' assets characterized the farms of the first group. And in other groups the overall debt ratio was respectively 17.3% in the second group and 16.5% in the third group.

Table 2. Selected characteristics of the surveyed farms by level of specialization  
Tabela 2. Wybrane cechy badanych gospodarstw według poziomu specjalizacji

Variable	The share of pigs in market production (%)			Total
	< 90.0	90.0–99.9	100.0	
Number of farms	25	27	28	80
Utilised agricultural areas (ha)	151.2	71.7	41.0	85.8
Labour input (h·year <sup>-1</sup> )	12,491	9,335	8,276	9,951
Value of fixed assets (PLN thous.)	1,496	1,238	1,237	1,318
Overall debt ratio (%)	12.6	17.3	16.5	15.6
Stocking density of pigs (LU·100 ha <sup>-1</sup> UAA)	142.2	524.4	1641.4	797.0
Pig livestock production (ton·year <sup>-1</sup> )	145.8	196.3	219.2	189.0

Source: Own research.

Źródło: Badania własne.

In the analyzed sample of farms there were also differences in the scope of herd concentration and production scale of pig livestock. On the farms of the lowest specialization ratio; on average, there were 142 livestock units (LU) of pigs per 100 ha. In the second group, a stock of this kind of animals was greater by 382 LU. And on the fully specialized farms there were as much as 1,641 LU of pigs per 100 ha. Definitely less considerable differences were visible in the scope of the production scale. In the first group 145.8 tons of pig livestock were produced. On the farms of the second group the production was greater by approximately 50.5 tons, while in the third group pig livestock production was above 219.2 tons.

## PRODUCTIVITY AND PROFITABILITY OF PIG FARMS

Productivity and profitability ratios in the analyzed sample of farms were of different levels. Their statistical description is presented in Table 3. The most considerable diversity was within the scope of land productivity. This resulted from the fact that pig rearing is less connected to the land in comparison with ruminants. A part of farmers using purchase fodder in pig livestock feeding, had small agricultural areas. The sample also included those farms, which based feeding doses for pigs on own fodder, which required a great agricultural area. What is more, the considerable differences were visible within the scope of labour productivity and fixed assets. This was connected with a level of mechanization of works and different systems of pig livestock production. The most of the farms used a closed rearing cycle as a dominating one; still, with regard to the advantages of deepened specialization, in 24 units there was an open rearing cycle used. The smallest differences were visible within the scope of return on assets, equity and sales since these were farms of great production scale which most often entered into

Table 3. The level of productivity and profitability ratios in the surveyed farms  
Tabela 3. Poziom wskaźników produktywności i rentowności w badanych gospodarstwach

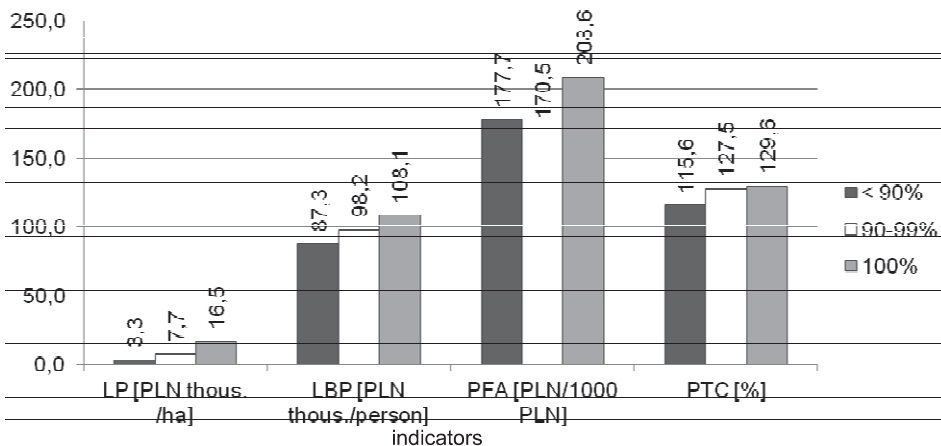
Indicator	Average	Minimum	Maximum	Standard deviation
Land productivity (PLN·ha <sup>-1</sup> UAA)	9,396	1,277	126,852	17,260
Labour productivity (PLN thous./full-time employee)	98,253	25,334	288,732	51,708
Productivity of fixed assets (PLN·1,000 PLN <sup>-1</sup> )	186.1	73.98	490.0	91.9
Productivity of total costs (%)	124.5	85.74	184.4	21.0
Return on sales (%)	29.3	4.99	70.3	15.3
Return on assets (%)	12.2	2.80	34.1	7.4
Return on equity (%)	15.7	3.04	79.7	12.6
Return on direct costs (%)	82.5	24.55	171.5	29.7

Source: Own research.

Źródło: Badania własne.

agricultural procurement contracts with meat processing plants. Furthermore, these were characterized by low debt margin.

Depending on a level of specialization, a level of the particular productivity and profitability ratios was different. More considerable productivity of land characterized more specialized farms (Fig. 1). Admittedly, they did not have a higher level of agricultural income in relation to others; still, they had got smaller agricultural area. In the first group, from 1 ha of agricultural area there were 3.3 thousand of value added gained on average and in the third group it was 5 five times more.



Explanation of indicators as in Table 1.

Fig. 1. Selected indicators of productivity on farms of varying degrees of specialization

Rys. 1. Wybrane wskaźniki produktywności w gospodarstwach o różnym stopniu specjalizacji

Source: Own research.

Źródło: Badania własne.



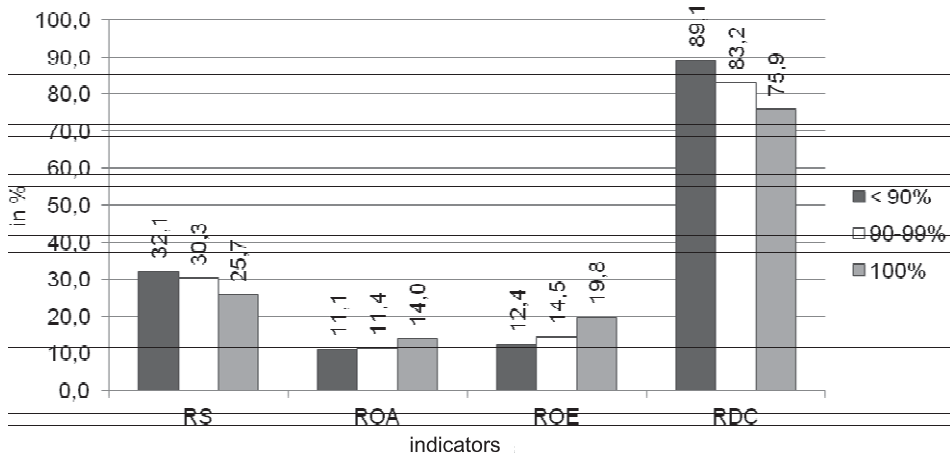
Higher labour productivity was also visible on the farms of higher level of specialization. In the units of the less considerable share of pig livestock in the value of market output per a full-time employee it was PLN 87.3 thousand, and in the third group it was higher by PLN 20.8 thousand. Productivity of fixed assets was different, although the subsequent groups of farms were characterized with lesser value of these fixed assets. The highest productivity of fixed assets was in the third group, the lowest in the second group. Productivity of total costs, similarly to land and labour productivity, was higher in more specialized farms although in the subsequent groups of farms, greater and greater production costs were borne. In the first group, the average cost effectiveness of production was 15.6%, and in the subsequent two groups it was respectively 27.5 and 29.6% since more specialized farms took greater advantage of economies of scale.

On the level of statistical significance  $\alpha = 0.05$ , statistically significant relations were found between specialization level and land, labour, and total costs productivity. The higher level of farm specialization was connected with a greater value of these indexes. On the other hand, statistically significant relations were not found between a level of specialization and productivity ratio of fixed assets. Most probably, it resulted from the fact that these farms were highly specialized and well-equipped with fixed assets. The present relations were described with regression equations:

- |     |                                     |             |             |
|-----|-------------------------------------|-------------|-------------|
| (1) | $LP = -17,474.10 + 297.79 \times S$ | $r = 0.249$ | $p = 0.023$ |
| (2) | $LBP = 28,921.95 + 768.38 \times S$ | $r = 0.213$ | $p = 0.056$ |
| (3) | $PFA = 153.11 + 0.37 \times S$      | $r = 0.057$ | $p = 0.612$ |
| (4) | $PTC = 74.10 + 0.56 \times S$       | $r = 0.384$ | $p = 0.000$ |

Within the scope of profitability ratios, different relations were found. Return on sales was lower in more specialized farms (Fig. 2). In the first group that was 32.1%, and in the third group that was 25.7%. This was connected to a smaller increase in agricultural income in relation to sales value  $n$  the subsequent groups. In the farms of the first group, an average sales value was PLN 814 thousand and in the third group that was higher by almost PLN 286 thousand. The similar relations were noticed within the scope of return on direct costs. The relation between direct surplus and direct costs was less considerable in more specialized farms. This resulted from a considerable difference in the level of borne costs between the particular groups. In the farms of the lowest specialization ratio, the direct costs were PLN 336 thousand on average and in the fully specialized farm units they were PLN 752 thousand.

Different relations were found within the scope of return on assets and equity. In the first two groups, return on assets ratio was approximately 11%, while in the third group it was 14%. This was connected with the higher value of assets in the more specialized farms. In the first group, the average assets value was PLN 2,193 thousand, in the second group it was higher by PLN 319 thousand, and in the third group it was over PLN 436 thousand. Even greater differences between the distinguished farm groups were found within the scope of return on equity. In the first group an average value of this ratio was 12.4%, and in the second group it was higher by 2.1 p.p. While in the fully specialized farms, return on equity was on average 19.8%. This kind of relations was connected with a higher level of debt margin of more specialized farms.



Explanation of indicators as in Table 1.

Fig. 2. Selected indicators of profitability on farms of varying degrees of specialization

Rys. 2. Wybrane wskaźniki rentowności w gospodarstwach o różnym stopniu specjalizacji

Source: Own research.

Źródło: Badania własne.

Within the scope of profitability ratios, on the level of statistical significance of  $\alpha = 0.05$ , the statistically significant relations were only found between the level of specialization and return on equity ratio. A correlation coefficient for these variables was 0.224.

- |     |                                |              |             |
|-----|--------------------------------|--------------|-------------|
| (5) | $RS = 32.56 - 0.04 \times S$   | $r = -0.035$ | $p = 0.761$ |
| (6) | $ROA = 3.62 + 0.09 \times S$   | $r = 0.186$  | $p = 0.099$ |
| (7) | $ROE = -1.99 + 0.19 \times S$  | $r = 0.224$  | $p = 0.045$ |
| (8) | $RDC = 99.51 - 0.189 \times S$ | $r = -0.092$ | $p = 0.419$ |

When assuming significance of  $\alpha = 0.10$  a statistically significant relation was found also between the level of specialization and return on overall assets ratio. In case of other ratios, these relations were not found.

## SUMMARY AND CONCLUSIONS

The study reviewed the literature concerning farms specialization and presented results of research on pig farms. On the basis of conducted analyses one can formulate several conclusions concerning the issue of specialization and results of this process in farms of great production scale.

1. In the economic and agricultural literature there are a number of definitions of specialization and there are different methods and criteria of its measurement. This hinders comparability of the gained results and objectivization of drawn conclusions. However, the researchers agree on the fact that a more considerable share of certain branch or activ-

ity in the production structure means a higher level of specialization and this process is economically justified.

2. In Poland there are both many-sided farms and farms fully specialized; among others, in pig livestock production. Still the share of the former is very considerable. This results from fragmented agricultural structure of the farms and great variability of the economic situation on the market of pig livestock. Simultaneously, farms of small production scale contribute to change in profitability of pig livestock production to a great extent.

3. Specialization is favourable to achieving advantages resulting from the increase in production scale. It also leads to improvement in taking advantage of productive resources. In the analyzed farms, the higher level of specialization was connected with the increase on land and labour productivity. More specialized farms also showed higher profitability of production and return on equity. These relations were statistically significant.

4. Only specialized farms of great production scale are able to cope with the growing competition on European and international market of pig livestock. Still, great concentration of herds leads to threat to natural environment and reducing welfare of animals. It can also trigger reducing economies of scale. Therefore, specialization should not be a goal in itself but rather it should be chosen on the basis of certain advantages that it can bring to a farm.

## REFERENCES

- Floriańczyk Z., 2003. Kwestia dochodów osób zatrudnionych w rolnictwie w krajach Unii Europejskiej. IERiGŻ, Warszawa.
- Grzelak A., 2007. Wybrane zagadnienia procesów specjalizacji gospodarstw rolnych w Polsce. Roczniki Naukowe SERiA IX, 1, 146–151.
- Jerzak M., 1974. *Ekonomika i organizacja produkcji zwierzęcej*. Wydawnictwo Naukowe PWN, Warszawa – Poznań.
- Józwiak W., Juźwiak J., 2007. Rolnictwo wielostronne czy wyspecjalizowane. *Więś i Rolnictwo* 4 (137), 9–19.
- Juszczyk S., 2005. Uwarunkowania ekonomiczno-organizacyjne opłacalności produkcji mleka w gospodarstwach wyspecjalizowanych. Wydawnictwo SGGW, Warszawa.
- Klepacki B., 1996. *Wybrane pojęcia z zakresu organizacji gospodarstw, produkcji i pracy w rolnictwie*. Wydawnictwo SGGW, Warszawa.
- Manteuffel R., 1981. *Ekonomika i organizacja gospodarstwa rolniczego*. PWRiL, Warszawa.
- GUS, 2011. *Rocznik Statystyczny Rzeczypospolitej Polskiej 2010*. GUS, Warszawa.
- Runowski H., 1994. *Koncentracja produkcji zwierzęcej*. Fundacja „Rozwój SGGW”, Warszawa.
- Wojtaszek Z., 1965. Kryteria i mierniki klasyfikacji gospodarstw indywidualnych według kierunków i stopni wielostronności produkcji. *Roczniki Nauk Rolniczych seria G* 78, 1, 15–24.
- Ziętara W., Olko-Bagieńska T., 1986. *Zadania z analizy działalności gospodarczej i planowania w gospodarstwie rolniczym*. PWRiL, Warszawa.

## WPLYW SPECJALIZACJI NA WYNIKI EKONOMICZNE GOSPODARSTW TRZODOWYCH

**Streszczenie.** Celem badań przedstawionych w opracowaniu było określenie wpływu specjalizacji na wyniki ekonomiczne gospodarstw trzodowych. Analizą objęto 80 gospodarstw trzodowych o dużej skali produkcji, położonych w ośmiu województwach o największej koncentracji chowu tego gatunku zwierząt w Polsce. W literaturze ekonomiczno-rolniczej występuje szereg definicji specjalizacji i stosuje się różne sposoby oraz kryteria jej pomiaru. Utrudnia to porównywalność uzyskiwanych wyników. Specjalizacja sprzyja osiągnięciu korzyści wynikających ze wzrostu skali produkcji. W badanych gospodarstwach wyższy stopień specjalizacji wiązał się ze wzrostem produktywności ziemi i pracy oraz większą opłacalnością produkcji i rentownością kapitału własnego. Jedynie gospodarstwa wyspecjalizowane o dużej skali produkcji mogą sprostać rosnącej konkurencji na rynku trzody chlewnej.

**Słowa kluczowe:** specjalizacja, gospodarstwa trzodowe, produktywność i rentowność gospodarstw rolnych

Accepted for print – Zaakceptowano do druku: 12.06.12