

## FARM OWNERS' INTERVENTIONS DURING ECONOMIC CRISIS

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### ABSTRACT

This paper covers the issue of the effect of the economic crisis on farms organization. Research was conducted in the south of Poland, of which a certain portion has been presented to demonstrate the interventions undertaken by farm owners in light of the deteriorating economic situation. The research indicates that the choice of strategy for surviving the crisis, which shows in deteriorating management conditions, was determined by the farm type. Nevertheless, the most common decisions were about lowering consumption of current production assets and reducing capital-intensive investments. The spectrum of intervention measures undertaken by respondents in periods of economic crisis was therefore based mainly on temporary yet significant reduction of production costs in order to improve (or safeguard) short-term financial performance of a farm.

**Key words:** economic crisis, interventions, farms

### INTRODUCTION

Free market economy, which is influenced by opposite forces, develops in cycles. The processes of economic life do not usually advance in a consistent, peaceful or stable manner, economic indicators do not grow evenly, and the rates of their changes are periodical [Czech-Rogosz et al. 2009]. Increasing globalization and broader opening to international exchange strengthen the exposure to cyclical market fluctuations that have a significant effect on the activity and condition of the economy as a whole as well as its particular components, including agriculture [Idzik 2007]. Impulses of the general economy, in view of increasing integration of agriculture with the market environment, tend to affect the economic situation of agriculture more and more intensively, and therefore to affect the development conditions of that sector [Grzelak 2013].

At the moment, free market economies usually tend to undertake various attempts at preventing cyclical fluctuations, particularly economic losses (also in the agricultural sector) occurring in the course of downturn in the economy. However, these attempts are usually not capable of effectively driving elimination of negative processes, although they certainly affect the advancement of these processes [Płonka 2015]. State interventionism, particularly undertaken as an anti-crisis measure, mainly leads to decreasing the amplitude of cyclical fluctuations in agriculture and partial mitigation of inconvenience caused by crisis occurrences [Płonka and Musiał 2012].

The downturn which was particularly intensified during 2008–2012 led to multiple changes defining the agricultural sector. With deteriorating stability of agricultural/food markets, decreasing agricultural produce prices, increasing prices of production resources and therefore deteriorating pricing relations in agriculture, have forced agricultural producers to face the difficult task of adapting to new management conditions [Runowski 2009].

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The consequences of economic recession have exerted pressure on interventions to be undertaken not only by the government but mainly by farmers, who decide about the status of their agricultural establishments, their development opportunities, and in frequent cases their chance of survival. Agricultural producers were left to decide about such matters as effective responding, taking strategic decisions, and adapting skillfully to the variations of the overall economic situation. Resolution of the problems which occur with regard to the varying growth rate, emphasized by Marciniak [2002], would usually lead to specific and significant economic losses emerging from continuously decreasing reasonableness behind the management model.

## MATERIAL AND METHOD

The background presented above has become the basis for defining the research objective related to recognition and thereafter evaluation of interventions undertaken by farm owners in response to deteriorating economic situation. The scope of research covered the farms located in Małopolskie voivodeship that were active on the market. The paper presented a fragment of the research outcome concerning 50 farms located in two targeted sub-regions of the voivodeship, namely the Wadowice powiat and the Tarnów powiat. These sub-regions are characterized by weather and soil conditions beneficial for farm production, as well as a significant group of relatively large farms in the region, and significant incomes derived from operating a farm by farmer families' budgets. The following criteria were applied in the process of selecting farms for the research: involvement in commercial production and participation in the production resources market; involvement in activities adapted to the local environment, i.e. representing the most commonly applied field system or animal production system, representing diverse directions and intensity of production.

Acquisition of full and adequate source data and selection of the right indicators and measures for proper and reliable representation of variations in global processes is important in analyzing the economic situation. It is common knowledge that tracing the key macroeconomic values is sufficient to determine the actual state of the economy, such as: GDP, unemployment rate, inflation rate, export and import volumes, investment outlays, prices, consumption. However, it seems reasonable to build appropriate synthetic measures which are sensitive to economic fluctuations and composed of sub-factors. Therefore, in order to recognize the history of the economic fluctuations in the agricultural sector during the last few years, one of the economic situation assessment methods for farming has been applied, namely the synthetic indicator developed by the SGH Warsaw School of Economics, Institute of Economic Growth<sup>1</sup>. The data obtained through systematic long-term research illustrate the history of cyclical changes in agriculture; furthermore, certain additional arguments support the use of such data, namely [Adamowicz 2013, Grzelak 2013, Grzelak and Seremek-Bulge 2014]:

- these ratios apply both to the actual business area and to the financial area of operations;
- the events are presented on a dual basis, i.e. for each variable, the assessment of the events is presented (as-is state) along with the anticipated directions of future changes (forecasts);
- the data is considered expert information, as the farmers and their farms are the immediate sources of information;
- the information provided is not registered as quantitative statistics, i.e. the forecasts for the immediate future, opinions about the condition of the sector, operating barriers, investment goals;

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<sup>1</sup> Another method applied to determine the economic changes in agriculture in Poland is the method used by the Institute of Agricultural and Food Economics, National Research Institute – Synthetic Indicator of the Business Outlook in Agriculture – SWKR; in addition, there is the method in use by the Central Statistical Office of the Republic of Poland since 2012 (assessment of economic situation at farms). According to Grzelak and Seremek-Bulge [2014], the Synthetic Indicator of the Business Outlook in Agriculture (SWKR) is a reference indicator relating to the Overall Indicator of the Business Outlook (OWK).

In addition, the so-called price scissors have been determined, defining the proportion of prices of agricultural products (typically produce) sold by farmers to the prices of products they buy, which constituted the partial indicator of changes of the economic situation in agriculture.

The results of studies conducted at farms were analyzed on the basis of the farm type criterion, defined by the proportion of the standard production value (SO) from specific agricultural activities groups within the overall standard production of the farm concerned. Among the studied establishments, there were farms specializing in field crops (cereals, oil seeds, high protein crops and root crops), production of bovine animals for slaughter and milk, production of swine, and “mixed-type” farming establishments involved in various types of crops and animal production.

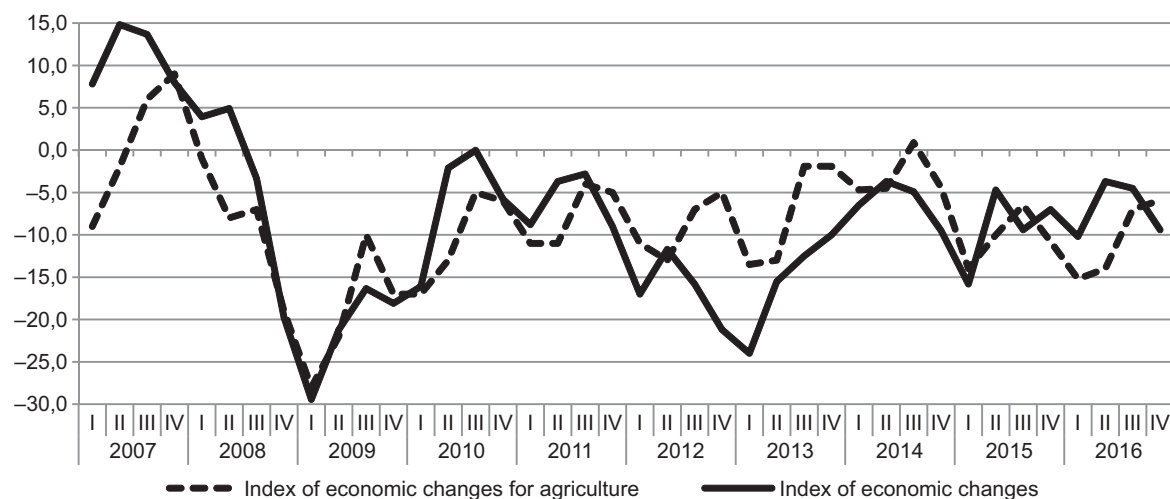
## RESEARCH RESULTS

The globalization process and broader opening to international exchange strengthen the economy's sensitivity to activity fluctuations [Kieniewicz and Lorenowicz 2003, Idzik 2007]. The fluctuations of the economy are represented in specific sectors, not excluding farming, as emphasized by Kowalczyk [2010]. With the variability of the economic environment, farms are being more and more strongly affected by the changes occurring in their more or less distant environment [Griffin 1999, Runowski 2009]. Moreover, these transformations are largely determined by administrative and legal regulations applied both that the national and the European Union level. The latter largely affect the final shape of the agricultural system, the condition of specific farms, or the scale and structure of produce generated by farmers [Płonka and Musiał 2012]. These measures, particularly in the form of interventions, become particularly important during periods of economic downturn. Among the sector-specific fluctuations of the economy, as illustrated by examples known from history, agriculture and farms have been among the sectors to most strongly experience the effects of the major economic crises [Płonka and Paluch 2015]. This theory has been confirmed, for example, by the 1930's Great Depression, or the crisis associated with systemic reforms, where the consequences – particularly in the agricultural industry – have not yet been fully overcome [see e.g. Idzik 2007, Musiał 2009, Wilkin 2009, Zieliński 2012, Adamowicz 2013].

The contemporary transformation processes within the agricultural sector, including farms, occur during economic downturn, recession or crisis periods. Since 2008, rapid deterioration has been recorded for the economic standing of agriculture and the economy as a whole, demonstrated by negative values of economic indicators (Fig. 1). Intensification of crisis occurrences on the financial market, particularly including the U.S. commercial banks' system, has become global and affected all the areas of the economy, not only in the majority of the EU Member States but also in Poland<sup>2</sup>. Therefore, the business cycle indicator has dropped from the maximum of the last decade, i.e. from 13.7 to –29.4 pts. The poor economic standing was also perceived in the field of agriculture and farms, and its negative consequences have been observed by the present day. Within a period as short as one year, the synthetic business cycle indicator in agriculture decreased by as many as 37 points (from 9.0 registered in 2007 to –28.0 in 2009, which was one of the lowest levels since 1999). The downturn that showed in negative values of indicators was maintained for the subsequent years (excluding Q3 2010, and 2014), until 2016 as the final year of the analysis.

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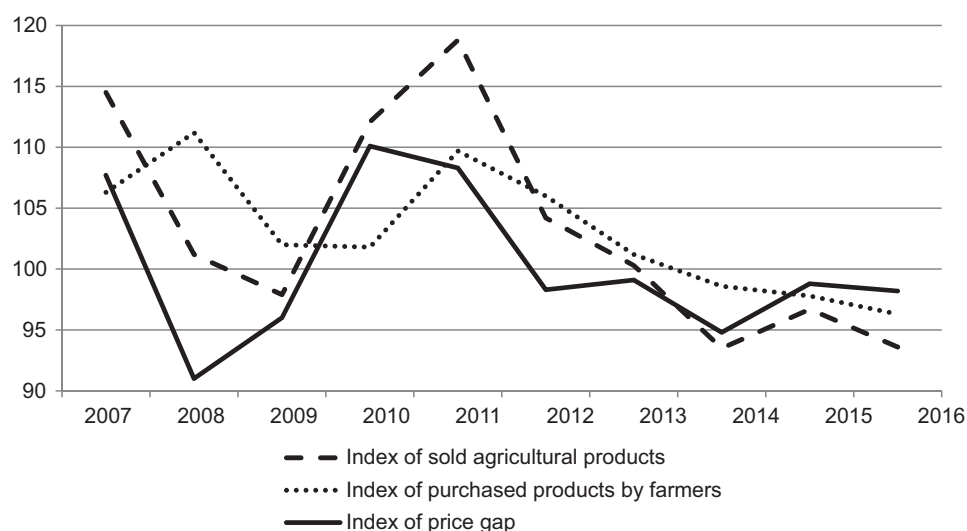
<sup>2</sup> According to Lewandowski et al. [2013], despite the maintained positive GDP values, the domestic economy growth rate has decreased significantly below the long-term trend – this was no different in Poland than in the other European economies.



**Fig. 1.** Economic situation in Polish economy and agriculture during 2007–2016

Source: Own study based on the economic situation of agriculture [2007–2017].

With the deteriorating pricing tendencies, both on the global and the domestic market, agricultural producers have been facing the difficult task of adapting to the new and more difficult economic conditions. The decrease of demand for agricultural produce, which was evoked as early as at the end of 2007 as a consequence of the global demand breakdown, has led to a major extension of the pricing scissors (Fig. 2). With the value decreasing below the 100 threshold, the relationship of farm produce threshold compared to the basic prices of production resources necessary for production deteriorated. According to the research by Plonka [2015], the nearly 20% decrease of procurement prices of agricultural produce during 2007–2009 was associated with the approx. 18% growth of production resource prices. It should be added here that the pricing scissors' indicator value of 2009 at 91 represented ca. 70% of the 1989 status; therefore, the value decreased by as much as 30 percentage points



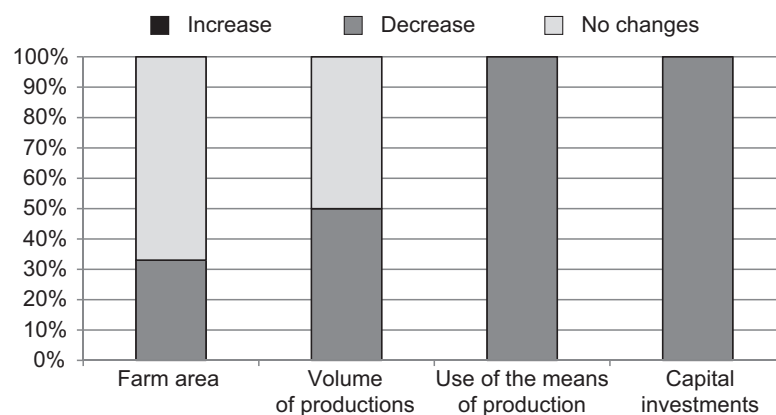
**Fig. 2.** Index of price gap in the years 2007–2016

Source: Own study based on Statistical Yearbook [2013, 2016].

during the period of nearly 20 years. For comparison, according to Mundlak [1988], more than 80 years had passed in the agricultural system of the United States for that decrease to reach as deep.

The consequences of economic recession have exerted pressure on agricultural producers deciding about the status of their agricultural establishments, their development opportunities, and in frequent cases their chance of survival. In response of the downturn in agriculture, farm owners have faced the necessity to adapt their farms to the changing conditions, which were disadvantageous for them. These farm owners would then undertake certain interventions to prevent their farms against the negative (and usually costly) consequences of economic downturn. These activities were usually within the area of the primary farming aspects, such as: changing the farm land area, changing the production volume, changing the consumption of necessary production assets, changing the extent of capital investments.

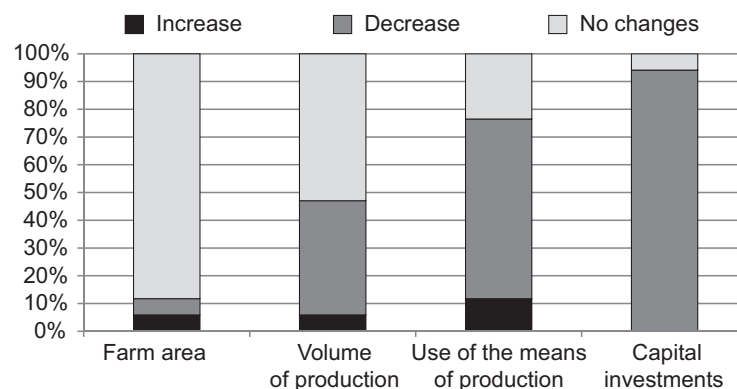
The analysis of study results on farms specializing in field crops has demonstrated that certain efforts would be undertaken in these farms during economic downturn period to adapt them to the deteriorating conditions, primarily regarding reduction of investment outlays and consumption of production assets (Fig. 3). All the respondents pointed to these interventions as the primary strategies for survival during the period of downturn in agriculture. Moreover, for half of all the farmers in this group, another intervention measure was to reduce their present production volumes, by 20% on average as compared to the level preceding the change period. None of the farm owners specializing in farm crops would increase their farm land resources in response to the economic downturn. One could suspect that this was largely due to limited supply of land, and therefore to the nearly expired trading in farm land in the respective region [Płonka and Musiał 2012]. Nevertheless, the respondents perceived the reasons of their decisions in this area as the shortage of funds for increasing the land area through buying land or acquiring land through paid lease.



**Fig. 3.** Interventions at farms specializing in field crops

Source: Own study.

Similar adaptive reactions to the changing conditions were also declared by the owners of so-called mixed-production farms. They would most commonly respond through limiting investments in fixed assets and more extensive investments in resources necessary for production. Only one person took the effort to maintain the investments they decided to implement at their farm, as they were required to pursue certain investment activities specified in their application for EU aids under the Rural Areas Development Programme (Fig. 4). Among the representatives of this group of farms, minor intervention attempts were also observed, in the form of increasing the farm land area and therefore the extent of production (particularly animal production). However, in light of the remaining measures, these attempts did not play a significant part.

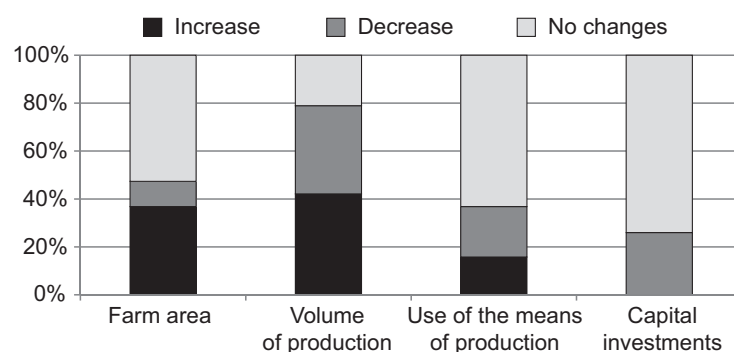


**Fig. 4.** Interventions at mixed-production farms

Source: Own study.

Gradual withdrawal from production in response of the deteriorating conditions were least experienced by farms specializing in cattle breeding (Fig. 5). The owners of these farms would decide to increase the production volume (42% of respondents) or to maintain the current number of cattle (21% of respondents) in response to the economic downturn. For more than half of the respondents who declared certain efforts to intensify their production, these measures were tantamount to a change of their management organization as regards the increase of arable land area. Specifically, farmers were forced to produce more feed as a consequence of the increasing number of animals, and therefore they had to expand their land resources [Plonka 2015].

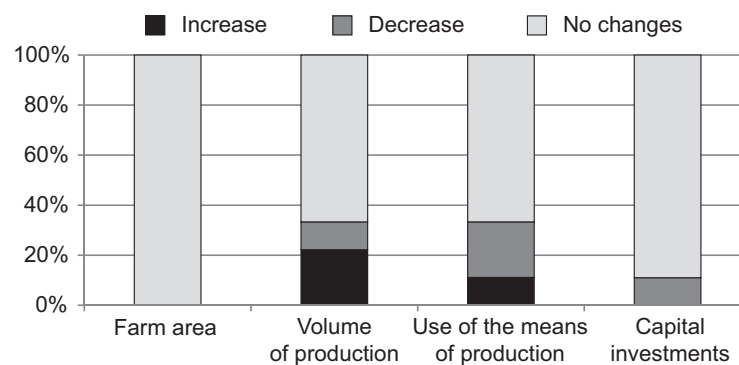
Another aspect which merits attention is that, despite the deteriorating management conditions, most commonly demonstrated in disadvantageous pricing relations for farmers, over 60% of respondents from that group of farms would maintain their present consumption of current production assets. The situation was similar for capital investments. Over 70% of farm owners specializing in cattle breeding would declare that the economic downturn did not have a negative effect on their investments. The efforts undertaken to maintain the existing investments were mainly due to the fact that they were mandatory under the selected Rural Areas Development Programme measures and the financial aid obtained thereunder. It should be added that, compared to the other parties under review, these farms were considered economically strong organizations, capable of developing their production assets on the basis of their own funds, as a result of the value of their incomes.



**Fig. 5.** Interventions at farms specializing in cattle breeding

Source: Own study.

The research indicates that the interventions aimed at protecting the organizations under review against the negative consequences of downturn in agriculture were least commonly undertaken by farm owners focusing on swine production (Fig. 6). The vast majority would not make any changes in the organization of their farms within the aspects under consideration, as they maintained their present farm land volume (100% of respondents), production volume (67% of respondents), or investments (89% of respondents). The causes of such behaviours can be seen in the prices per 1 kg of slaughter animals, which were relatively advantageous during that period for pork producers. Specifically, these prices realistically increased in 2008 to reach 5.05 PLN·kg<sup>-1</sup>, i.e. approx. 22% higher than the prices of the preceding year<sup>3</sup>, which used to be considered one of the least beneficial years in terms of live swine sales prices [Płonka and Paluch 2016].



**Fig. 6.** Interventions at farms specializing in swine breeding

Source: Own study.

Only one in five owners of swine farms would decide to engage in intervention measures during periods of deteriorating market conditions, while at the same time increasing their present production volumes. However, these measures would not affect the sizes of farms, as it was the case for nearly half of the farms that decided to increase cattle production. The respondents argued that the increase of the prices of slaughter animals was the reason of non-existence of the positive correlation between these aspects of farm organization, as it encouraged the increase of the number of animals kept at the specific farm. They would also point to their farms' capability of own production of animal feed, not previously utilized to the maximum, which did not involve the necessity of increasing the land resources.

## CONCLUSIONS

During the last 25 years, the economic situation on the farming market in Poland was highly volatile. The boom/downturn periods occurring in alternation (or the periods of high/low economic activities) used to determine the shape of contemporary farming, its state, competitive edge and development perspectives. With the intensive changes in the environment, agricultural producers were often facing the difficult tasks of adapting to the new management realities which, primarily during downturn periods such as deteriorating agricultural production profitability, required adequate measures to mitigate the negative and typically costly consequences of economic

<sup>3</sup> In terms of fixed prices determined according to the yearly prices of consumer goods and services published by the Central Statistical Office of the Republic of Poland.

downturn. The right decisions and changes determine the ultimate operating efficiency of farms and their growth opportunities, as well as their chances of survival in many cases.

It has been determined on the basis of field study results that, in response to the impairment of the economic standing, farm owners were pursuing certain interventions, such as changing farm land areas, production assets consumption and capital investments. The actual choice of strategies for surviving the economic recession depended on the type of farming establishment, i.e. on the type of production pursued by the specific farm. The most common adaptation strategy undertaken by owners of farms focused on plant or mixed production was to withdraw from fixed assets increasing by reduction or elimination of capital investments. The other way to protect farms from the consequences of the deteriorating production profitability was to withdraw from maintaining the current levels of consumption of current production assets and a transition towards extensification of production. The interventions undertaken by owners of animal production farms were slightly different, as they were more prone to decide to increase their current production volume<sup>4</sup> or – for cattle growing farms – to multiply their land resources.

However, pursuant to the completed research, it can be noted that the spectrum of intervention measures undertaken by respondents in periods of economic crisis was based mainly on temporary yet significant reduction of production costs in order to improve (or safeguard) short-term financial performance of a farm. The primary cause thereof should be the increase of production resources' price increases during 2008–2012 which, according to the research by Płonka [2015], were systematically increasing by over 7% per annum, unlike the prices of farm produce.

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<sup>4</sup> However, these measures differed from those known from the past, i.e. from the Great Depression period of 1929–1933. At that time, many countries where agricultural activities prevailed would artificially increase their production volumes (surpluses) through reduced consumption by farmers (even below their actual needs). These measures were defined as *hunger-driven supply* [Musiał 2009].



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## **DZIAŁANIA INTERWENCYJNE WŁAŚCICIELI GOSPODARSTW ROLNYCH W OKRESIE KRYZYSU GOSPODARCZEGO**

### **STRESZCZENIE**

W opracowaniu podjęto problem oddziaływania dekonunktury gospodarczej (kryzysu) na organizację gospodarstw rolnych. Przeprowadzono badania w południowej Polsce, z których fragment zaprezentowano w artykule, ukazując działania interwencyjne właścicieli gospodarstw rolnych wobec pogarszającej się koniunktury gospodarczej. Z badań wynika, iż wybór strategii przetrwania kryzysu przejawiającego się w postaci pogarszających się warunków gospodarowania uzależniony był od typu gospodarstwa. Najczęściej podejmowane decyzje dotyczyły jednak zmniejszania zużycia obrotowych środków produkcji oraz ograniczania inwestycji kapitałochłonnych. Spektrum działań interwencyjnych podejmowanych przez respondentów w okresie kryzysu gospodarczego bazowało więc głównie na doraźnej, lecz znaczącej redukcji kosztów produkcji, mającej na celu poprawę (lub też ochronę) krótkoterminowych wyników finansowych gospodarstwa.

**Słowa kluczowe:** kryzys gospodarczy, działania interwencyjne, gospodarstwa rolne