

[DOI: 10.20472/BMC.2016.003.009](https://doi.org/10.20472/BMC.2016.003.009)

JUSTYNA GÓRAL

Institute of Agricultural and Food Economics National Research Institute, Poland

FARM MANAGEMENT IN A CONTEXT OF THE COMMON AGRICULTURE POLICY FINANCIAL SUPPORT

Abstract:

This paper examines differences in the management styles of Polish farms. The Common Agricultural Policy has a significant impact on structure of production and decisions of farmers. The impact is visible in the financial analysis of farms. Author studies a few changes in structure of assets and many changes of economic indicators. Subsidies have an impact on value of farmland. The financial support influences on flexible management of farms. Farmers need to know all possibilities and instruments of the CAP. They ask about future draft, rules and programmes of this policy. The results demonstrate that farmers make decisions following diverse management strategies.

Keywords:

farm management; the Common Agriculture Policy; subsidies; Polish farms

JEL Classification: H20, Q10, Q18

1. Introduction

Farm management and implementing of the decisions involved in organizing and operating a farm for maximum production and profit. It draws on agricultural economics for information on prices, markets, agricultural policy, and economic institutions such as leasing and credit. In making his decisions, a farm manager thus integrates information from the biological, physical, and social sciences. Farm management specifics vary all over the world.

Stage of planning and goal setting in a company or a farm is one of the key management issues. This also applies to individual farms. It is the primary success factor (Sulewski, 2007). The complexity of the conditions of the process of setting objectives in agricultural shows, among other things Errington and Garson (1994), Rehman and Perkin (1994), Wallace and Moss (2002). Robinson (2000) shared goals farmers into three groups: economic, social and personal. The objectives of an economic nature does not occupy the top positions in the rankings of farmers (Sulewski, 2007). Olson (2004) describes farm management as having four main components: resources, markets, institutions and technology. We adopt his classification for the purpose of characterising the farm environment below.

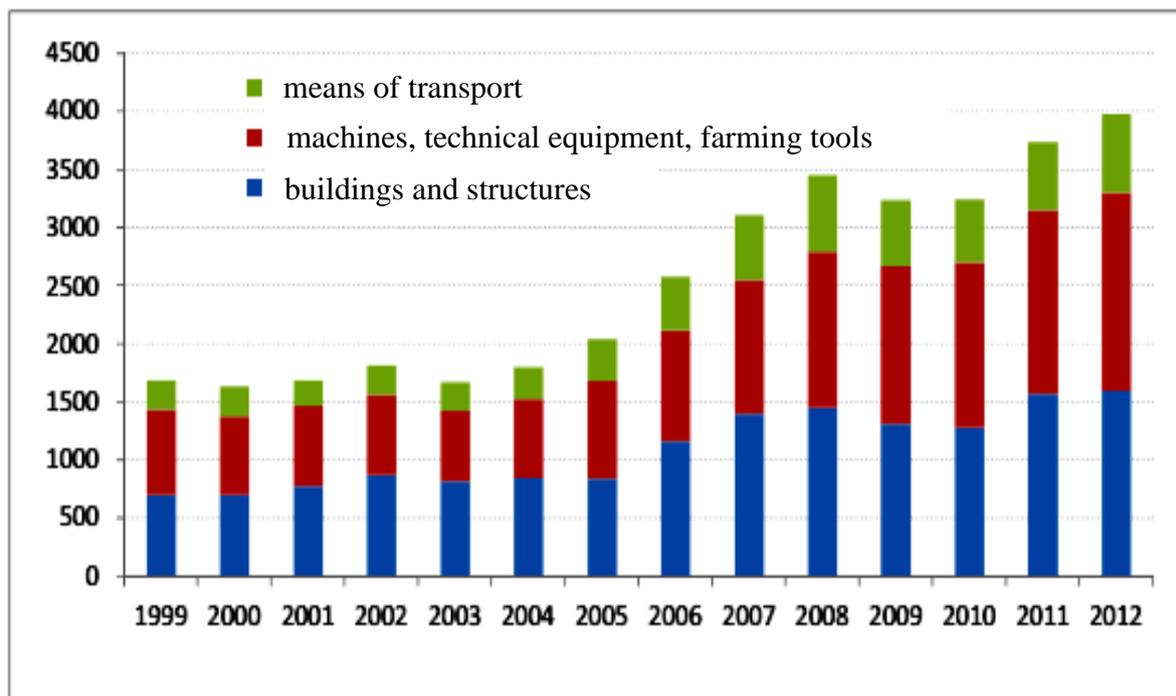
In Poland, a detailed analysis of the objectives of farm management Majewski and Ziętaara proposed dividing the group of 25 goals in four categories motifs (development and expansion, security, socio-psychological and organic). Aspect of the relationship between the motives and objectives of the system are moving Majewski and Ziętaara (1997), specifying the motives as the primary targets. A very important observation made by Stępień, who rightly said that companies should, in addition to fetching benefits for the owners continue to market, and this can be ensured by ensuring the solvency (Stępień 2005). This statement clearly shows the relationship of the main (in theory of businesses) in the form of maximizing value for the owners of the objective of the implementation of current benefits (with its dimension in payments of dividends).

Sustainable development is possible if farmers include in their decisions, both economic objectives, personal as well as environmental. The concept of sustainable development, determines the direction of socio-economic development throughout the world. The inspiration for its creation was conscious increasingly negative for the environmental consequences of rapid economic development, making continuously in the second half of the twentieth century (Majewski, 2008). Even more, these problems have been noticed in Poland as a result of our membership of the European Union. The Common Agricultural Policy is evolving in the direction of sustainable development (development based on farm competitiveness while respecting environmental requirements). This makes it necessary to take into account in managing the environmental aspect (Zegar, 2015).

2. Theoretical Framework and Data Analysis

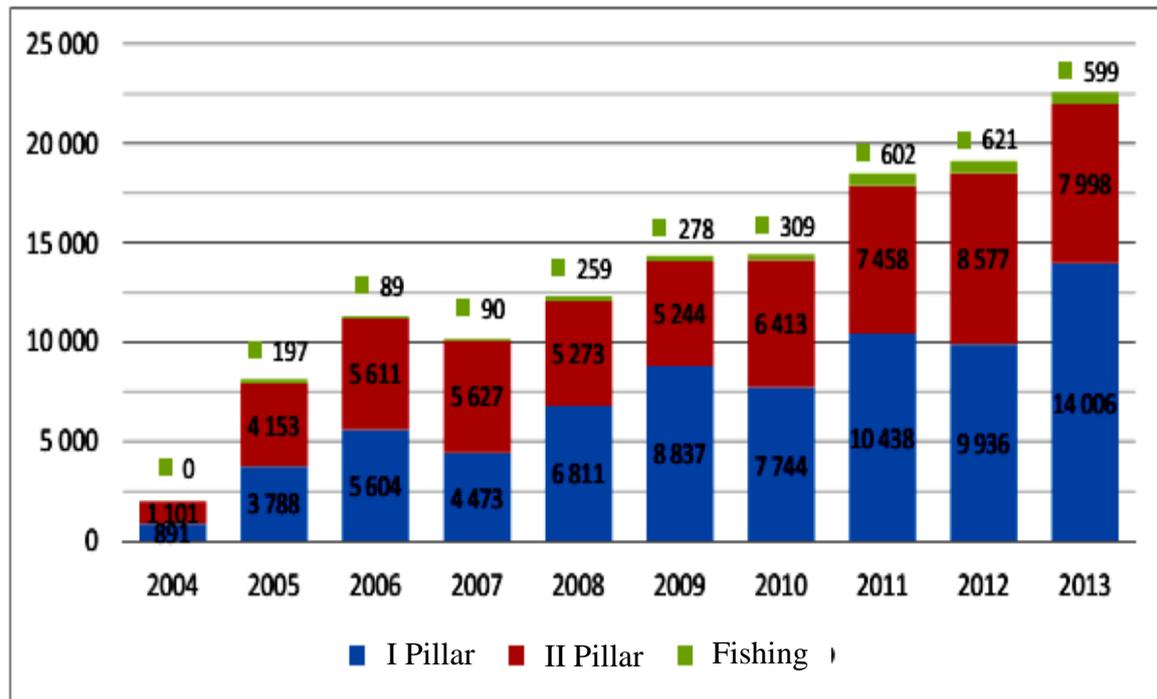
Polish accession to the European Union had a significant impact on management styles and objectives of agricultural producers. Besides environmental aspect (increasingly being taken into account), it has become an important issue to take into account a grant of planning agricultural production and investment activities (figures 1-2). The accession of intensified increase in demand in the market of farmland. Often, the purchase of the land was not due to the small scale of production and intend to increase it, but it was speculative activity and goal. This caused a phenomenon of capitalization (Góral, 2013, 2014). By integrating our country into the Community of the EU, Polish agriculture as the sector has become much more attractive to investors (a financialization of agriculture).

Figure 1: Investment expenditures in Polish agriculture and hunting (current prices, in PLN millions)



Source: www.stat.gov.pl.

Figure 2: Subsidies from the Common Agricultural Policy and Fisheries in 2004-2013 in Poland (in PLN millions)



Source: www.stat.gov.pl.

In 2007-2013, the European Union budget for the Polish Common Agricultural Policy was 28.6 billion euros (at current prices). The budget for the Common Agricultural Policy for the years 2014-2020 will amount to 32.1 billion euros. Poland is the biggest beneficiary of the second pillar of the CAP and the cohesion policy. In terms of direct payments is ranked 6th in front of us were countries such as France, Germany, Spain, Italy and the United Kingdom.

The most of Polish farms allocates EU subsidies for current expenditure on the purchase of inputs (Czubak, 2008, 2013). These smallest farms (social farms) often spend the money on household expenses, for current consumption. In the case of the largest-scale farms, EU subsidies are a cheaper alternative to bank credit. These farms spend EU funds for investment and further development (Góral, 2015). The function of the management of the largest farms is usually multiply the value of ownership.

The multiplicity of goals to be achieved through subsidies (especially direct payments), make it a universal tool. It is difficult to fully determine all the effects of the impact of this form of aid. Analyses of these interactions should lead both in terms of micro as well as macro. In addition to the stabilizer function of income (Rembisz, 2008, 2013) you can evaluate the level of implementation of the environmental and social functions of these payments (Zegar, 2015; Góral, 2015). The impact of subsidies on agricultural production, the allocation of capital and the distribution of income is often analyzed in

the literature. This interaction is multidirectional or multichannel (Góral 2013, 2015). In the light of the literature subsidies affect:

1. Agricultural land market (demand, prices and rental rate)¹;
2. Cost of capital in agriculture (its reduction);
3. Improvement in the creditworthiness of farmers (better credit scoring);
4. Smaller aversion of farmers towards risk and greater motivation for undertaking long-term investments;
5. Mechanisation (equity replacement rate, modernity, efficiency, etc.);
6. Financial situation of farmers (income level, financial liquidity);
7. Agricultural markets, marketing and processing (integration, producer groups);
8. Trade (export of agri-food products);
9. Scientific and technical progress (new technologies, innovations);
10. Labour market in rural areas (creation of job offers);
11. Generation change in agriculture (slowing down)².

The above-mentioned effects of the EU significantly changed the way of farm management. Farmers began to look for more information on future agricultural policy and the announcement of its change. They make their decisions largely subject the decision of the European Commission. The information and knowledge management plays an increasingly important role in rural areas.

In the light of the literature increasing dependence of farms on subsidies it was reflected positively on their liquidity, solvency and investment activity (Kulawik, Płonka 2014). This means that improving the financial potential of farms, so they can consider more ambitious strategies for the restructuring, adaptation and development. It is easier to cope with various types of risks. Highlights, therefore, the effect wealth effect and the safety of the uncertainty and risk, desire to remain in agriculture and the degree of alleviating credit constraints. It is worth noting that the subsidies affect the market for factors of agricultural production, but they must also be analyzed in the context of changes in the value of agricultural assets. Perhaps without this support, many farmers do not lead their activities, which could in turn adversely affect the environment, the rural community and the labor market. Although at the same time it should also be noted that it slows down the generational exchange and structural changes in agriculture. To assess these effects undoubtedly the best use of the data in the form of time series, although we can not completely ignore the static analysis.

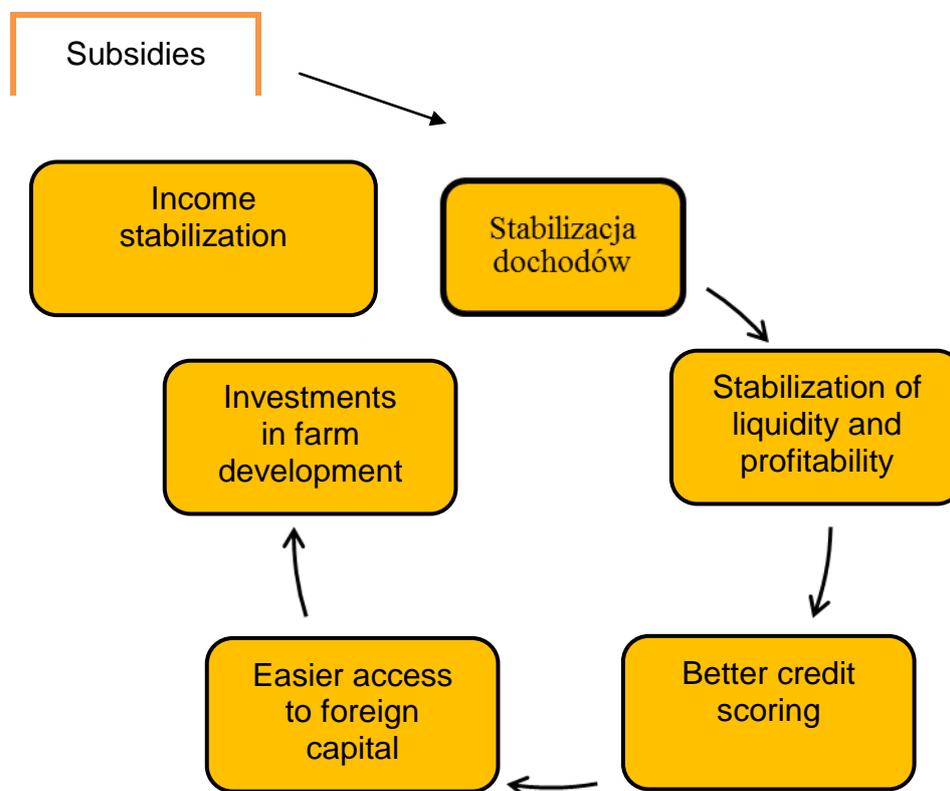
¹ Here we should mention the phenomenon of the capitalization of financial support for agriculture.

² It should be noted that early retirement were designed to speed up the process. Early retirement in the framework of the Rural Development Plan for 2004-2006 were granted for a period of 10 years, and as part of the Rural Development Programme for 2007-2013 to achieve the beneficiary of 65 years. The new regulations of March 2015. Oblige the beneficiaries of structural pensions for retirement after reaching the statutory retirement age. It is anticipated that the payment of structural pensions will end in 2020.

Static and dynamic approach described phenomena is part of a sensitivity analysis, which in turn is to confirm stability and immutability of the impacts of the nature of the relationship of a phenomenon. In the case study based on the effects of social, environmental or economic size of the financial support for agriculture, such a sensitivity analysis, and meta-analysis are essential.

Kropp and Katchova (2011) analyze the impact of subsidies separated from production on farmers' access to the offers of the financial sector. They highlighted the significant positive impact of aid on the perception of the owners of farms as safe and of solvent banks' customers. Direct payments improve liquidity and creditworthiness. This allows easier access to credit, which in turn determine plans and actions for the development potential of farms. It was found a positive correlation solvency ratios (repayment) of loans and grants received by US farmers. This effect is shown in figure 3.

Figure 3: Impact of subsidies on finances of agricultural holdings and farms



Source: prepared by the author.

The impact of subsidies and their capitalisation are also reflected in the economic indices of agricultural holdings (Kulawik, Góral, 2014). Analysing their financial performance based on the Value Creation Index (VCI), allows more precise insight into this impact. This index is a ratio of return on equity (ROE) and the cost of its acquisition (KE):

$$VCI = ROE / K_E.$$

Higher return on equity than its cost is the expected value of this ratio. Depending on the VCI value, an enterprise may experience three situations:

- $VCI > 1$ – value creation for its owner and his enrichment – capitalisation;
- $VCI < 1$ – generated value is consumed and its owner suffers impoverishment – in this case, we can observe a depreciation process;
- $VCI = 1$ – no changes in value creation for its owner.

To illustrate this phenomenon in practice table 1 present the VCI values for large-scale farms.

Table 1: The index value creation and the subsidy rate by targeting agricultural production (The list of the best Polish agricultural holdings in 2011-2014)

Type of agricultural production	Years	Value creation index*	Subsidy rate (%)**
plant	2014	2,05	13,41
	2013	1,98	12,78
	2012	2,56	7,76
	2011	1,96	8,69
animal	2014	0,68	7,45
	2013	1,68	6,66
	2012	2,03	3,89
	2011	1,83	5,01
mixed	2014	2,16	12,00
	2013	1,93	11,89
	2012	1,73	6,65
	2011	2,01	7,37

* – unitless value; ** – quotient of the sum of subsidies and revenues in total.

Source: <https://www.ierigz.waw.pl/prace-badawcze/ranking-300/wyniki-2014> ("Ranking 300").

Promoting crop production, the CAP provides it with more support (higher subsidy rate). Higher subsidies increase the VCI values, i.e. asset and wealth creation for owners. The multiplication the value of ownership is often the primary goal of large-scale farms in Poland. The owners of mixed farms received increasing amounts of subsidies in the past 3 years, which resulted in an increase in the value of VCI.

Also significant impact of subsidies on the profitability ratios shown in table 2. In this case, it was negative impact.

Table 2: The correlation between the analyzed indicators and the rate of subsidy (2011)

Item	Return on equity	Return on assets
Subsidy rate (%)	-0,56	-0,78

Source: own calculation on large-scale farms data base.

Subsidies affect the market of agricultural production factors and they must also be analysed in the context of changes in the value of agricultural assets.

Let us assume that the maximum income is the basis of the objective function agricultural producer:

$$\max_R E(D_t) \quad (1)$$

where:

- R - production (supply),
- $E(\cdot)$ - expected value,
- D_t - income for t^{th} period.

The first way to its maximize is increasing production efficiency (new technologies, cost reduction). It is the economical rent. The second way is maximization of the financial support from the programmes of the CAP. It is a political rent. Farmers benefit from both of these possibilities. In their rational behavior, they are based on the easier way (Rembisz et a., 2012, 2013).

The objective function after the inclusion of these two possibilities looks like this:

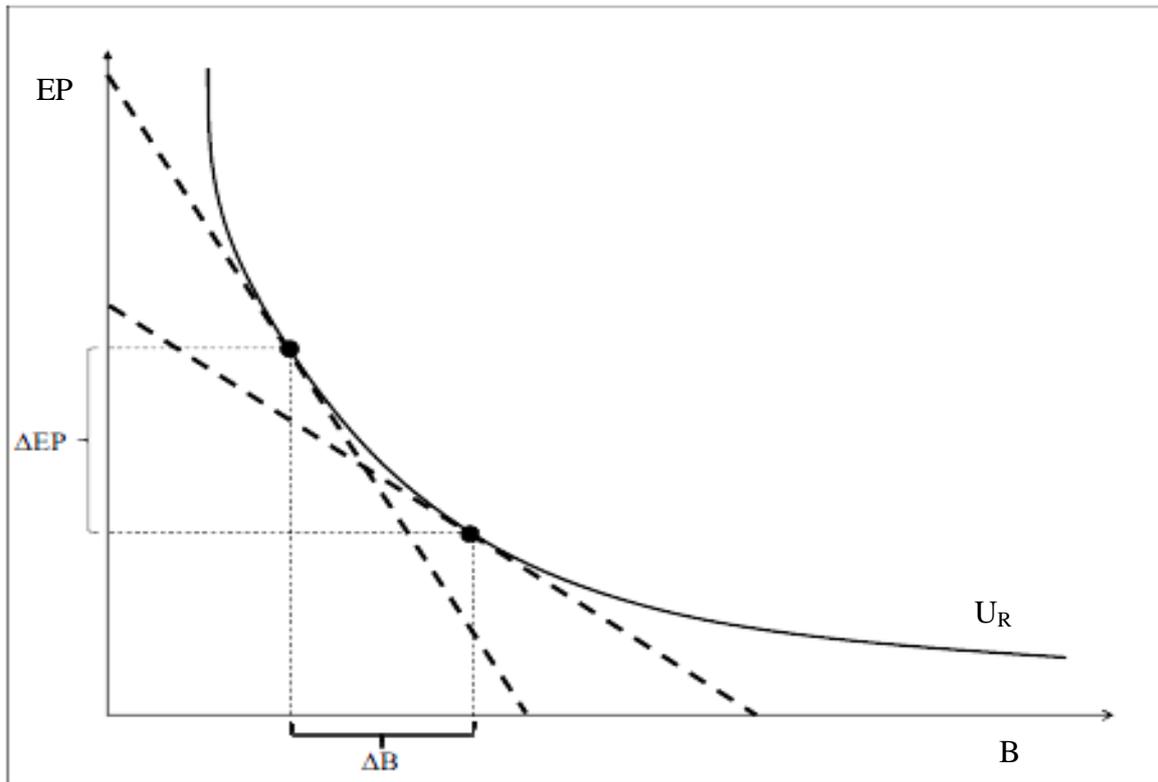
$$D_t = \max_R f\{(EP) + g(B)\} \quad (2)$$

where:

- EP - efficiency of production,
- $g(\cdot)$ - function of income effect of the CAP suport,
- B - income effect of the CAP suport.

The research conducted by W. Rembisz'a and his team (2012, 2013) confirmed, that the political rent dominated in the creation of income of Polish farms. If it was not the effect of crowding-out the economic rent by the policy rent, the share of subsidies in income would be fixed. The negative marginal rates and elasticity of substitution of economic and policy rent may indicate a crowding-out effect. The isoquant of production (figure 4) shows the combinations of the economic and political rents.

Figure 4: The level of efficiency (EP) and the level of financial support (B) – isoquant of production (U_R)



Source: Rembisz et al., 2012, s. 90.

3. Results and Discussion

In recent 20-30 years, the impact on Polish agriculture have three important factors: (1) improving the trends in agriculture, (2) subsidies of the Common Agricultural Policy, (3) improving the efficiency of production and operation of farms (due to formal and legal requirements from the European Union and social change occurring simultaneously in the Polish countryside). In such a turbulent environment Polish farmer managed:

1. Risk,
2. Structure and scale of production,
3. Finances,
4. Oriented environment (concern about the state of public goods),
5. Sustainable development,
6. Investment and technological development,
7. Knowledge and information (Góral, 2013; Judzińska, Łopaciuk, 2012; Kulawik, 2014; Rembisz, 2008; Wigier, 2011; Zegar, 2015).

After 2004, all of these factors exert a strong influence EU agricultural policy.

The impacts of agricultural policy on farmers' decisions are widely analyzed in the literature. An example is the development of the OECD or IAFE-NRI. The agricultural policy influences and affects not only the decisions of farmers and their behavior, but also on agricultural markets. Referring to the Porter's five forces analysis, we can find there the impact of the CAP in each of its components. The phenomenon of capitalization of financial support in farmland prices makes very difficult accession new farmers into the sector. The capitalization creates a barrier to entry into the sector. On the other hand, subsidies motivate many farmers (especially owners of small and social farms) to stay in the sector, despite the unprofitable and small-scale production. Providers are a strong group of large (often global) companies with high-impact on the agribusiness. Due to the subsidies received by farmers raise their prices of their products, which capture a significant part of EU support for farmers (outflow of the CAP subsidies to the providers). Generally, we can say that farmers have to deal with a form of monopsony both the suppliers as well as purchasers (dairies, sugar factories, slaughterhouses, etc.). Farmers are example of perfect competition. However, since Polish accession to the EU, the number of producer groups growing rapidly. On the side of substitutes we can see the impact of the subsidies, too. Farmers often decide to substitution of labor by capital expenditures.

4. Conclusions

Decisions taken in the context of farm management relate both to the organization and its activities. It is possible to yet another split decision in the management of the farm, on the following decisions: „what?“, „how much?“, „how to produce?“ and „for whom to produce?“. The European Commission facilitates the answers to these questions thanks of the CAP instruments. Producers adapt flexibly (to maximize their objective function) to changes in policy and regulations for their own economic benefits. This refers to the theory of rational expectations Lucas and Sargent from 70th years. Polish (and EU) farmers want to maximize political rent and we can see it in their decisions and strategies of farms. In this case, the CAP has a significant impact on farm management. The agricultural policy (current and future) is the key information for farmers. Direct payments have a complex, positive and certainly sometimes negative effect on the agricultural sector. This effect is multilateral or multi-channel. In general, these channels include impacts of the wealth and protective effects on uncertainty and risk, the desire to remain in agriculture as well as the degree of improvement of access to credits. In the financial perspective of 2014-2020, direct payments are supposed to be an important tool for achieving the EU goals relating to sustainable natural resource management as well as for ensuring food security. It should be noted that effective management of limited resources is a requirement not only for farmers, but also administrators of public funds.

The farmer managing the commodity farm should not make decisions according to the pattern formed by his predecessors. In the altered reality it is flexible unnecessary procedures and decision-making. It can be argued that having the

opportunity to obtain the right time the right information is a prerequisite for making the right decisions on the farm. One of the most important areas of information, is the financial and economic results of the farm. Here, an extremely important role played by agricultural accounting. Assessment of the impact of state aid without access to accounting data is not fully correct.

Reference

- CZUBAK, W. (2008) Rozdysponowanie dopłat bezpośrednich w gospodarstwach rolnych korzystających z funduszy UE w Wielkopolsce, *Problemy Rolnictwa Światowego*, no. 4 (317), 2008, s. 118.
- CZUBAK, W. (2013) *Rozwój rolnictwa w Polsce z wykorzystaniem wybranych mechanizmów Wspólnej Polityki Rolnej Unii Europejskiej*, rozprawy naukowe nr 458, 2013, s. 225-257.
- ERRINGTON, A.; GASSON, R. (1994) *Farming system and the farm family business*. [in:] Rural and farming system analysis. European Perspectives. CAB International. 1994, s. 19-46.
- GÓRAL, J. (2013) *Kapitalizacja wsparcia finansowego rolnictwa*, [in:] Dopłaty bezpośrednie i dotacje budżetowe a finanse oraz funkcjonowanie gospodarstw i przedsiębiorstw rolniczych (3), KULAWIK, J. (ed.) Program Wieloletni 2011-2014, no. 82, 2013, s. 107.
- GÓRAL, J. (2015) *Oddziaływanie dopłat bezpośrednich na wyniki ekonomiczne gospodarstw rolniczych*, IERiGŻ-PIB Seminar, Warsaw, 4.12.2015.
<https://www.ierigz.waw.pl/prace-badawcze/ranking-300/wyniki-2014>.
- JUDZIŃSKA, A.; ŁOPACIUK, W. (2012) Wpływ Wspólnej Polityki Rolnej na zmiany w rolnictwie, Program Wieloletni 2011-2014, no. 38, 2012, s. 29-102.
- KROPP, J. D.; KATCHOVA A. L. (2011) The Effect of Direct Payments on Liquidity and Repayment Capacity for Beginning Farmers, *Agricultural Finance Review*, no. 71, 2011, s. 347-365.
- KULAWIK, J.; GÓRAL, J. (2014) *Capitalisation of agricultural subsidies*. [in:] Achievements and challenges in the food sector and rural areas during the 10 years after EU enlargement. Kowalski, A.; Wigier, M. and M. Bułkowska (ed.), Multi-Annual Programme, no. 123.1, 2014, s. 40-54.
- MAJEWSKI, E. (2008) *Trwały rozwój i trwałe rolnictwo – teoria a praktyka gospodarstw rolniczych*, Wyd. SGGW, 2008, s.29-46.
- MAJEWSKI, E.; ZIĘTARA, W. (1997) *System celów w rolniczych gospodarstwach rodzinnych*. KEIOGR SGGW, maszynopis, 1997, s. 5-20.
- OLSON, K. D. (2004) *Farm Management – principles and strategies*. Iowa State Press, Ames, Iowa, 2004, s. 26-35..
- REHMAN, R.; PERKIN, T. (1994) *Farmers. objectives and their interaction with business and life styles: evidence from Berkshire, England*. [in:] Rural and farming system analysis. European Perspectives. CAB International, 1994, s.47-52.
- REMBISZ, W. (2008) *Rynkowe i wspomagane przez rządy instrumenty zarządzania ryzykiem cenowym i dochodowym w rolnictwie*, [in:] Zarządzanie ryzykiem cenowym a możliwości stabilizowania dochodów producentów rolnych. Stańko, S.; Hamulczuk, M. (ed.) Program Wieloletni 2004-2009, no. 113, Warsaw 2008, s. 28-59.
- REMBISZ, W.; SIELSKA, A.; BEZAT-JARZEMBOWSKA A. (2012) *Wybór polityki i jej wpływ na decyzje producentów rolnych w ujęciu analitycznymz elementami weryfikacji empirycznej*, Program Wieloletni 2011-2014, no. 49, 2012, s. 49-99.
- REMBISZ, W. (2013) *Kwestia interwencji i stabilizacji dochodów producentów rolnych [in:] Kwestie ryzyka, rynku, interwencji i stabilności dochodów w rolnictwie*, Vizja Press&IT, Warsaw, 2013, s. 75-120.
- STĘPIEŃ, K. (2005) Nadrzędne cele działalności jednostek gospodarczych, *Zeszyty Naukowe Akademii Ekonomicznej w Krakowie*, nr 674, 2005, s. 61-72.
- SULEWSKI, P. (2007) Cele rolników z rodzinnych gospodarstw towarowych. *Roczniki Naukowe SERiA*. 2007, T. 9; Z. 1, s. 481-487.

WALACE, M. T.; MOSS, J. E. (2002) Farmer decision-making with conflicting goals: a recursive strategic programming analysis. *Jurnal of Agricultural Economics*, vol. 53, no 1.

WIGIER, M. (2011) (scientific ed.), *Analiza efektów realizacji polityki rolnej wobec rolnictwa i obszarów wiejskich*, Program Wieloletni 2011-2014, no. 26, 2011, s. 105-122.

ZEGAR, J. St. (2015) (scientific ed.), *Wpływ WPR 2014-2020 na zrównoważenie polskiego rolnictwa, [in:] Z badań nad rolnictwem społecznie zrównoważonym (31)*, Program Wieloletni 2015-2019, no. 6, 2015, s. 89.

www.stat.gov.pl.